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Basildon Borough Council Ecology Surveys

Additional Sites 2017

Prepared by LUC
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1 Introduction

- 1.1 In 2015, LUC undertook ecological surveys of 29 potential strategic sites for Basildon Borough Council (BBC), to inform development of the Draft Local Plan. The aim of the surveys was to identify preferred sites for development. These surveys are reported in the report: Basildon Borough Ecology Surveys (LUC, 2015).
- 1.2 Following completion of the surveys and assessment, the Draft Local Plan was subject to consultation from January to March 2016. This consultation gave rise to additional sites being promoted to the Council as potential strategic sites for development purposes.
- 1.3 In August 2016, LUC was commissioned to undertake ecological surveys of an additional seven sites (numbers 30 – 36) arising from the consultation process. These surveys are reported in the report: Basildon Borough Council Ecology Surveys Additional Sites 2016 (LUC, 2016).
- 1.4 In January 2017, LUC was commissioned to survey a further three sites, taking the same approach adopted for the previous surveys. This report details the results and assessments for these additional sites (numbered from 37 – 39 for continuity, and from here on referred to as the 'Sites').

2 Method

- 2.1 The ecological assessments were **carried out at a 'high level' without consideration of any pre-existing design proposals** that may exist for some sites in order to ensure consistency of approach for all potential strategic sites. Therefore, the development of any design proposals for the Sites should be informed by updated ecology input to inform design development, enabling the identification of impacts associated with specific schemes and the incorporation of appropriate mitigation proposals.

Desk Study

- 2.2 Biological records were reviewed to inform the assessments of each of the additional Sites.
- 2.3 Data regarding designated sites and habitats was provided by the Council in December 2015, and obtained from publically available sources. Data provided by the Council included that regarding Local Wildlife Sites and the location of Habitats of Principal Importance (as identified in accordance with the Natural Environment and Rural Communities [NERC] Act, 2006, and formerly known as UK Biodiversity Action Plan Habitats) within the Borough, along with datasets reviewed including those with internationally and nationally designated sites (such as Special Protection Areas, Special Areas of Conservation, Ramsar Sites, Sites of Special Scientific Interest, National Nature Reserves and Local Nature Reserves) and notable habitats such as Ancient Woodland.
- 2.4 Records of protected and/or notable species, including those identified as Species of Principal Importance under the NERC Act, 2006, and as Essex Biodiversity Action Plan Priority Species within the Basildon Borough were provided by the Essex Wildlife Trust in December 2015, as well as further information regarding Local Wildlife Sites.

Phase 1 Habitat Survey

- 2.5 Phase 1 Habitat Surveys for each Site were undertaken in January and February 2017. Surveys were undertaken in accordance with current best practice guidance¹, and included the rapid classification of all habitats within the Site boundary, and the identification of dominant or characteristic flora and/or any notable species. Target notes were recorded, detailing species identified and a description of the habitats where appropriate (for example, signs of management, habitat structure or notable features identified). These are provided in **Appendix 1**.
- 2.6 In addition to the classification of habitats, the survey was extended to include consideration of protected and/or notable species (for example, species of principle importance or local BAP priority species); this included an assessment of habitat suitability. Current best practice methods for each species were followed when considering the suitability of habitats for species. This also enabled the identification of potential constraints and opportunities for mitigation associated with the site (see below).

Evaluation and Recommendations

- 2.7 For each Site, the ecological features and/or receptors (designated sites, habitats and/or species), were valued as far as possible given the extent of surveys. This included consideration of the condition of the feature, and its suitability for protected and notable species, including assessment of the quality of it where relevant. Where protected and notable species records exist within the

¹ Joint Nature Conservation Committee (1990). Handbook for Phase 1 Habitat Survey. JNCC, Peterborough.

Site, each record may represent more than one individual (i.e a badger sett or several individuals). The approach to this valuation was based on professional judgement, formed through experience and standard approaches, such as those produced by the Chartered Institute of Ecology and Environmental Management and the British Standards Institute. This included consideration of habitats and species identified as of Principal Importance under the NERC Act, 2006, as well as Essex Biodiversity Action Plan priorities where appropriate given the scope of the study.

- 2.8 This valuation was considered alongside the potential for development impacts. The impact assessment was a high level assessment given the absence of development area proposals / detailed design, and was informed by professional judgement to provide an indication of likely impacts and the potential significance of these. This identified potential requirements for avoidance measures or mitigation which may be required to enable development to proceed in accordance with planning policy and nature conservation legislation.
- 2.9 Consideration was then given as to what, if any, measures could be taken to either reduce the potential adverse effects identified. In addition, potential requirements for further ecological surveys were identified, for example should potential for protected species be identified or should more detailed vegetation surveys be required. Such requirements are identified in the assessments where appropriate.

Limitations

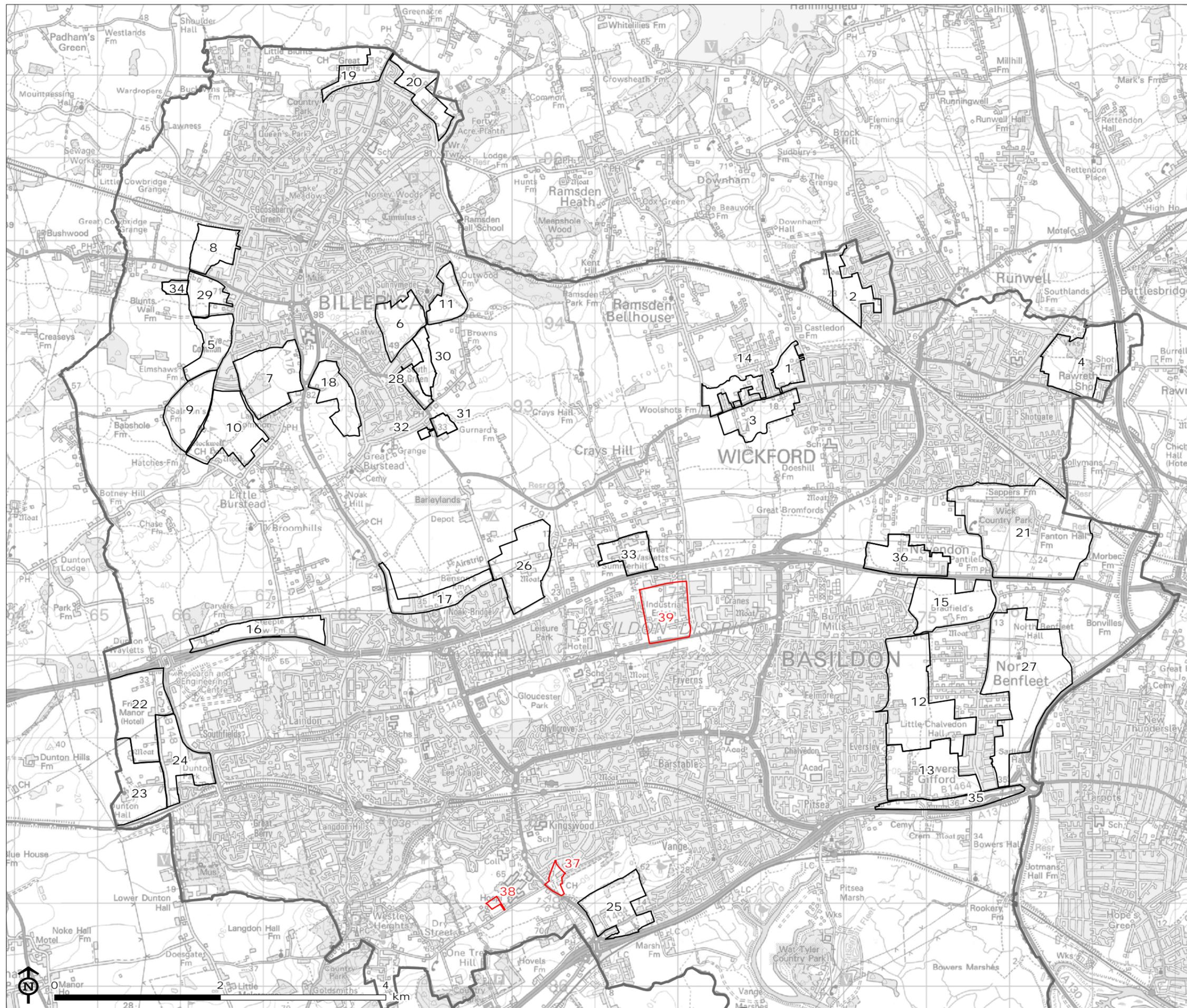
- 2.10 While every attempt was made to collect accurate baseline data and carry out thorough Site **assessments, all ecological surveys represent a 'snapshot' of activity, and changing habitat** conditions, including as a result of seasonal changes in vegetation or levels of habitat management, which may increase or decrease suitability for faunal species. This will also affect the potential to identify plant species. For example, at certain times of year when species are not flowering, or when management such as grazing is particularly intense, it may be necessary to undertake very detailed surveys (such as National Vegetation Classification surveys) to identify certain plant species. The level of survey undertaken for this study was appropriate to meet the objectives, but more detailed survey is likely to be required as development proposals come forward. The additional 2017 surveys were undertaken in January-February which reduced the potential for plant species ID, with management of grassland areas also hindering identification. However, this was taken in to consideration during the assessments, and is not considered a particularly significant constraint to the study, given the high level nature of the surveys required to inform policy development, and that more detailed surveys would be required at a later stage if Sites are taken forward for planning applications.
- 2.11 Wherever possible the entire Site was accessed for survey. However, this was not always possible given issues such as the presence of fencing, livestock or restricted/locked access. If direct access was not available, areas were viewed as much as possible from adjacent land, with surveys supported by aerial photography. In these cases a precautionary approach was adopted to ensure that potential issues were considered.

3 Findings and Assessment

- 3.1 The following sections provide an assessment for each Site, within a table format which can be used as a stand-alone document, in line with the assessments undertaken previously for Sites 1-36.
- 3.2 Each Site assessment comprises an overall description of the Site, baseline data including biological records for habitats and species, a description of the habitats present on the Site and suitability for protected species. Following this, an appraisal of the ecological data and recommendations and/or mitigation in the event that development is to take place within the Site is detailed.
- 3.3 Phase 1 habitat maps are provided in each section below the assessment form, and associated target notes in **Appendix 1**.
- 3.4 An overview map illustrating the location of the new strategic Sites in context with the previous Sites can be found in **Figure 3.1** below.

Figure 3.1: Overview map

-  Basildon district boundary
-  New Strategic Sites
-  Previous Strategic Sites



Map Scale @ A3: 1:45,000



4 Site 37 – Land East of Nethermayne

Survey Site	37	Location	Basildon
Site Overview			
<p>The Site is located south west of Basildon town centre, adjacent to Basildon Golf Course which extends from the eastern boundary of the Site, and is north of the A13. The Site comprised an area of amenity open space and a leisure facility with adjoining car park. The landscape is residential to the north and mostly arable or grassland to the south, with several small areas of woodland including as part of the golf course.</p>			
Ecological Baseline			
Biological Records			
Designated sites/notable habitats			
<p>There are no Natura 2000 sites (SPAs or SACs) or Ramsar Sites within Basildon Borough. However, three SPA designations have been noted in relatively close proximity to the borough boundary, including Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA, Benfleet and Southend Marshes and Thames Estuary and Marshes SPA.</p> <p>There are no Sites of national importance located within 1km of the Site.</p> <p>The following Local Wildlife Sites (LWSs) were identified within 1km of the Site:</p> <ul style="list-style-type: none"> • Vange Hill and Golf Course – lowland meadows, scrub and woodland supporting reptiles and 60 nationally scarce invertebrates, partially within south of the Site. 			
Species records			
<p>The following records for notable and protected species were identified within the Site boundary:</p> <ul style="list-style-type: none"> • Adder <i>Vipera berus</i>; • Waxwing <i>Bombycilla garrulus</i>. 			
Habitat Description (see Figure 4.1)			
Amenity Grassland			
<p>An area of amenity grassland was noted in the north of the Site. The sward was maintained very short, and the area was in use as a park with play equipment.</p>			
Hedges and Treelines			
<p>A species-rich hedge was present along the western boundary of the amenity grassland, along the south edge of an access road. This comprised dominant hawthorn <i>Crataegus monogyna</i>, blackthorn <i>Prunus spinosa</i> and bramble <i>Rubus fruticosus</i>, frequent ivy <i>Hedera helix</i>, occasional dog rose <i>Rosa canina</i> and poplar <i>Populus sp.</i> and rare willow <i>Salix sp.</i> with frequent oak trees <i>Quercus sp.</i> This may qualify as species-rich hedges in accordance with the Hedgerow Regulations. A species poor hedge was parallel with the above hedgerow, on the north edge of the access road. This was dominated by hawthorn with frequent ivy and oak trees.</p> <p>A scattered treeline extended along the southern boundary of the amenity grassland with mature willow, cherry <i>Prunus avium</i> and sycamore <i>Acer pseudoplatanus</i>.</p>			
Broadleaved Woodland (semi-natural)			
<p>An area of semi-natural broadleaved woodland was recorded in the southern part of the Site, adjacent to the main road west of the Site. The woodland had a dense understory dominated by ivy and bramble, occasional</p>			

elder *Sambucus nigra*, hawthorn and cherry. Mature trees included frequent oak and field maple *Acer campestre* with rarely noted poplar.

Scrub and Scattered Trees

An area of dense scrub with scattered broadleaved trees was noted in the southern part of the Site, between the woodland and the hard standing. The scrub was dominated by hawthorn, blackthorn and bramble, with frequent ivy, occasional dog rose and poplar, and willow rarely noted. The scrub bordered an area of grass / bare ground.

Improved Grassland / Bare Ground

Improved grassland with areas of bare ground was noted adjacent to the hard standing area primarily used for parking. The grass was very short with evidence of erosion in places. The grass was dominated by perennial rye grass *Lolium perenne*, with locally frequent mosses. Rarely noted dandelion *Taraxacum sp.* and white clover *Trifolium repens* was present in the borders of the Site where the sward was slightly longer.

Other Habitats

Hard standing and buildings were present within the central part of the Site.

Fauna

Potential was identified for the following protected species to be present within the Site:

Badger – The Site presented suitable habitat for badgers to forage and establish setts, particularly within the woodland and scrub in the south of the Site which forms part of the LWS. Opportunities were also provided in the wider landscape, across the Vange Hill and Golf LWS meadows, scrub and golf course.

Bats – The woodland, scrub and hedges and trees provided opportunities for foraging and commuting bats. More mature trees and buildings on the Site also have potential to support bat roosts. The Site is well connected to the wider landscape which provides similar opportunities for bats, including woodland, scrub and meadows in the LWS.

Great crested newt – There were no ponds within the Site itself, however three ponds existed within 500m. Although two of the ponds lacked connectivity with the Site due to the A176 trunk road, which presents a significant barrier for GCN, one pond was adjacent to the Site within the golf course, with good connectivity to the Site. Woodland, scrub and hedgerow within the Site presented suitable foraging, sheltering and hibernation habitat for GCN.

Reptiles – The majority of the Site has limited opportunities for reptiles, comprising regularly managed amenity grassland and hardstanding. However the scrub and grassland to the south of the Site which forms part of the LWS, provided potential foraging, basking, sheltering and hibernation habitat, in addition to the woodland and hedgerows providing opportunities for hibernation. The wider landscape and LWS provided optimal habitat for reptiles, with the presence of reptiles noted in the citation.

Dormouse – The woodland and species rich hedge has potential to support dormice. This habitat forms part of the LWS, which supports other areas of woodland and scrub suitable for dormice.

Birds – Woodland, hedges and trees within the Site provide suitable opportunities for nesting birds.

No invasive species were noted within the site.

Ecological Appraisal

Designated Sites

No internationally designated Sites are present within or adjacent to the Site. Given the habitats present on the site and the surrounding area, it is considered highly unlikely that wetland/wading bird species for which nearby international sites are designated would use the site, or at least not to such a degree that development proposals could impact on the integrity of the international sites.

No nationally designated sites were present within the vicinity. Vange Hill and Golf Course LWS lies partially within the Site to the south (**see Figure 4.2**). Therefore, there is potential for development to impact upon the LWS as a result of habitat loss and fragmentation, contamination and increased levels of recreational pressure as a result of an increase in visitor footfall or local

	population.
Habitats	The majority of the Site provides relatively low ecological value, comprising hard standing, buildings and amenity grassland. The woodland and scrub habitat which forms part of the LWS provide valuable habitat resources to an array of wildlife including protected and notable species. Other hedges and trees within the Site also provide valuable habitat. Hedges may qualify as 'important hedgerows' under the Hedgerow Regulations and may therefore be subject to specific protection, with hedges identified on Site as potentially species-rich. Hedges are listed as Priority Habitats in the Essex Biodiversity Action Plan, and a Habitat of Principle Importance under the NERC Act. Habitat loss or ground disturbance may impact on hedges/trees and associated wildlife. Hedges and treelines also provide ecological connectivity through the Site and to the wider landscape which could be fragmented as a result of development.
Species	<p>In the absence of detailed survey it is not possible to confirm the presence of protected and/or notable species within the Site. However there is potential for such species to be present throughout the Site, with the woodland, scrub and hedges with trees of highest value to a wide range of species.</p> <p>Development within the Site could result in habitat loss and disturbance, with associated impacts on a range of protected and notable species, including risk of killing and injury; loss of foraging, sheltering and/or hibernation habitat; severance of habitat connectivity affecting foraging and dispersal; and indirect impacts such as lighting rendering habitat unsuitable or increased recreational pressure resulting in an increased risk of persecution of species or predation by pets.</p> <p>Key potential constraints within the Site include:</p> <ul style="list-style-type: none"> • Badgers, particularly the presence of setts within woodland and scrub; • Bats roosting within trees and buildings, and utilising the hedges and woodland for foraging and commuting; • GCN particularly associated with the hedgerow, scrub and woodland if breeding within nearby ponds; • Reptiles within scrub, grassland and woodland habitats; • Dormice within the hedge and woodland habitats; • Nesting birds could also be affected by any removal of hedges, trees and buildings.

Ecological Avoidance, Mitigation and Enhancement Options

Further surveys

Detailed development proposals must be informed by an updated Phase 1 Habitat Survey and species surveys identified as necessary, and based on proposals to ensure that potential impacts and any appropriate mitigation is developed accordingly. In particular, species surveys may be required for badger, bats, GCN, reptiles, dormice and birds.

Avoidance, Mitigation and Enhancement Options

Any development proposals should seek to retain the woodland, scrub, trees and hedge habitat, particularly those which lie within the LWS, as they provide the highest value habitats on Site. These habitats also provide connectivity to valuable habitats in the wider landscape. The hardstanding, buildings and amenity grassland provide few opportunities for wildlife, and should be the focus of any development on this Site.

Best practice construction methods as detailed within a Construction and Environmental Management Plan (CEMP), or similar, should be followed to protect habitats and sites of value within the Site.

If notable or protected species are confirmed as present, mitigation requirements may include (all to be in accordance with relevant best practice guidance):

- Timing of works to avoid impacts on nesting birds, and potentially other species (dependent on the

works);

- Habitat manipulation to deter animals such as GCN, reptiles, dormice and badger from the area of works and to potentially avoid impacts;
- If bat roosts are found, where possible they should be retained. If they cannot be retained, an NE licence would be required, with suitable mitigation measures including provision of replacement roosts and timing of works;
- Measures to prevent harm to GCN, reptiles and dormice, may involve sensitive methods and/or translocation from the potential development area to a receptor site which has been suitably enhanced to support the translocated population (ideally within the wider site). This may require a NE licence for GCN and dormice;
- Measures to prevent impacts on badger including sensitive timing of works in the vicinity of setts, best practice construction measures and possible sett closure, potentially under NE licence;
- Sensitive design of any external lighting to minimise lightspill to adjacent habitats;
- Enhancement of habitats / habitat creation within the Site, including areas outside of the development footprint, to compensate for any habitat loss;

Enhancement opportunities may include:

- Green infrastructure incorporated into development design to provide opportunities for wildlife, such as green walls or roofs;
- Planting of wildlife-friendly species, such as pollinator friendly and/ or native species;
- Incorporation of nesting and/or roosting opportunities for birds and bats.
- Enhancement of the LWS

Any mitigation or enhancement options would require a management plan to ensure viability of the methods and techniques. This may involve long term habitat management, detailed in a Landscape and Habitat Management Plan (LHMP). This should also include remedial measures should monitoring record divergence.

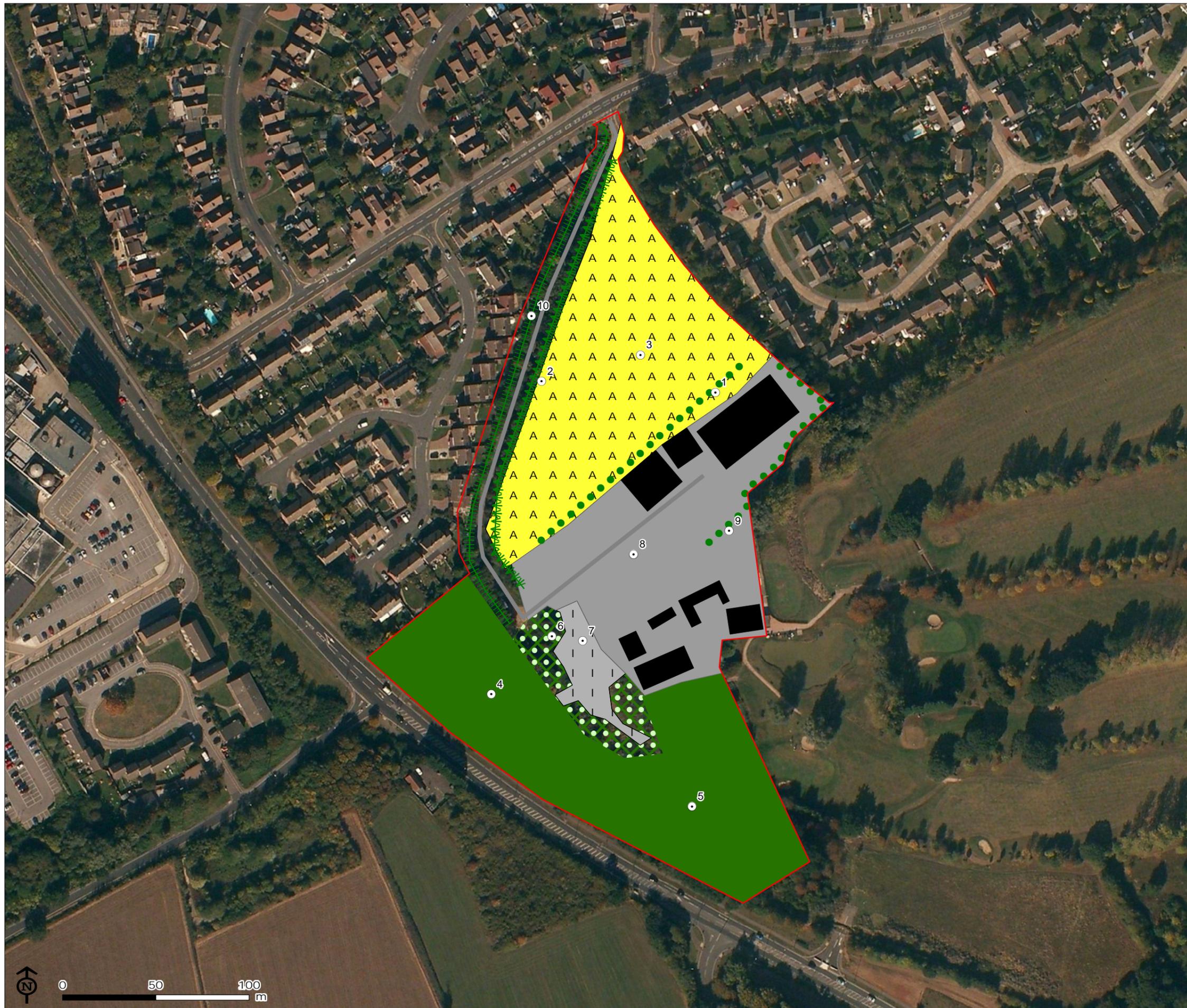
Overall Conclusion

Approximately two thirds of the Site is considered to be of low ecological value, comprising buildings, hard standing and amenity grassland in the northern part of the Site. However woodland and scrub in the south of the Site (partially within the LWS), and hedgerows within the Site are of greatest value given the habitat they provide and contribution to habitat connectivity.

In conclusion it is considered that residential development may be delivered at this Site without significant adverse ecological impacts, on the assumption that:

- Development is focused on the less sensitive parts of the Site, avoiding habitats including the LWS in the south.
- Any proposals are informed by detailed ecological survey, to inform impact assessment and the avoidance and mitigation of impacts;
- Mitigation measures are developed to address any identified impacts on protected and notable species, as informed by the above surveys;
- Proposals should seek to retain ecological connectivity through the site, in particular as provided by hedges;
- Incorporation of green infrastructure within the development, and ensuring habitats are managed to benefit wildlife in the long-term.

Figure 5.1: Phase 1 Habitat Survey - Site 37



- Site boundary
- Target note
- Hedge with trees (native species-rich)
- Hedge with trees (species-poor)
- Road
- Tree line
- Amenity grassland
- Broadleaved woodland (semi-natural)
- Building
- Hardstanding
- Improved grassland/ Bare ground
- Scrub (dense/continuous)/ Broadleaved scattered trees

Map Scale @ A3: 1:2,000

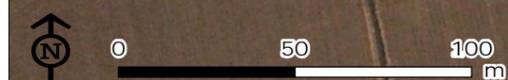
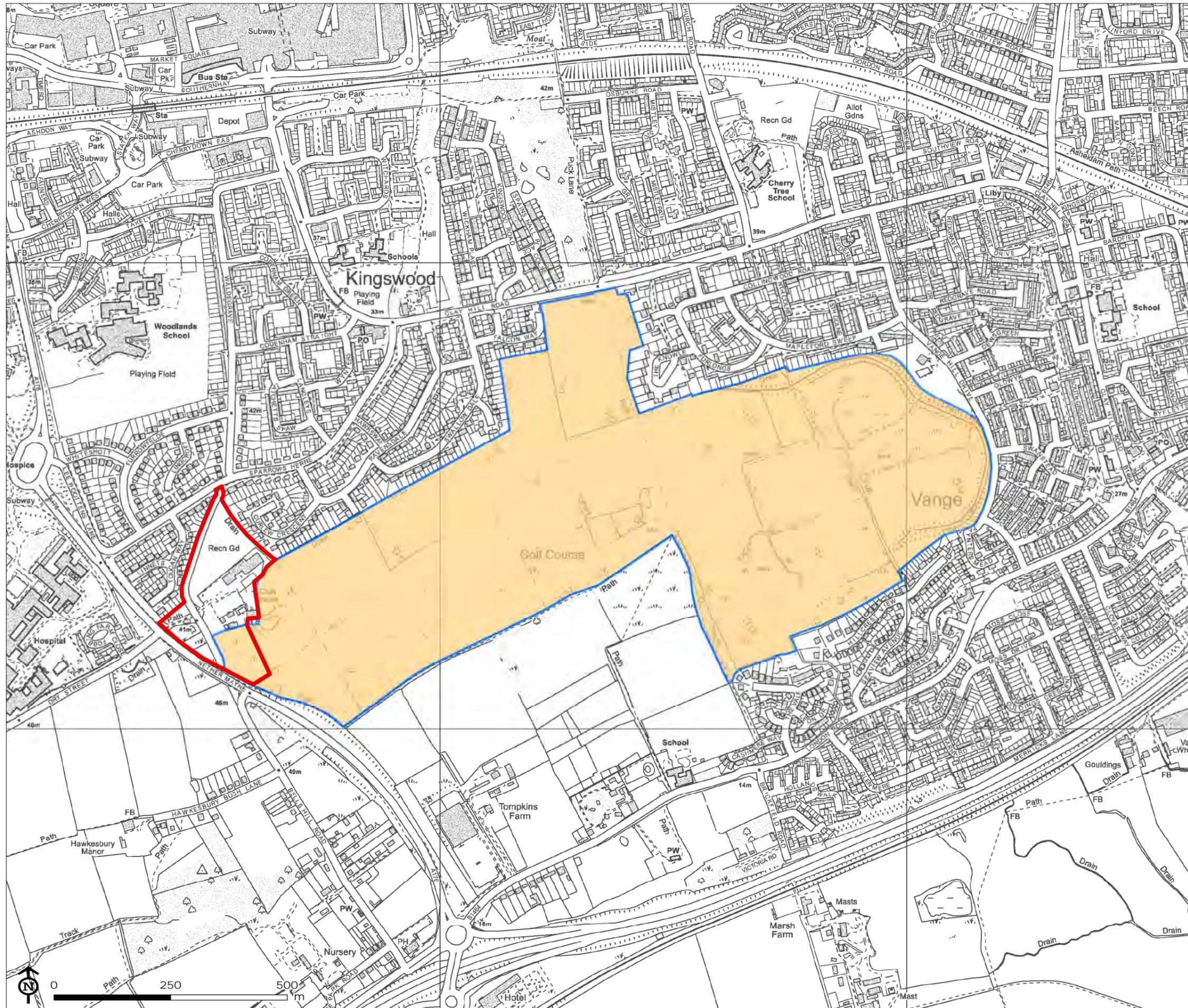


Figure 4.2: Vange Hill and Golf
LWS

- Site boundary
- Local Wildlife Site



Map Scale @ A3: 1:8,000



5 Site 38 – Land West of Nethermayne

Survey Site	38	Location	Basildon
Site Overview			
<p>The Site is located south west of Basildon town centre, immediately west of Basildon Hospital. The Site comprised a grass field used for grazing horses. The surrounding landscape is primarily residential to the north east (beyond Basildon Hospital), with mixed use agricultural land and fields surrounding the remainder of the Site, and several areas of woodland particularly to the west. Immediately adjacent to the land to the south west lies a swale, also owned by Anglia Water (as it the Site).</p>			
Ecological Baseline			
Biological Records			
Designated sites/notable habitats			
<p>There are no Natura 2000 sites (SPAs or SACs) or Ramsar Sites within Basildon Borough. However, three SPA designations have been noted in relatively close proximity to the borough boundary, including Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA, Benfleet and Southend Marshes and Thames Estuary and Marshes SPA.</p> <p>There are no Sites of national importance located within 1km of the Site.</p> <p>The Site comprises the southern part of the following Local Wildlife Site:</p> <ul style="list-style-type: none"> • Dry Street Pastures - species rich grasslands supporting scarce plants including adder's tongue fern and important invertebrate assemblages. 			
Species records			
<p>The following records for notable and protected species were identified within the Site boundary:</p> <ul style="list-style-type: none"> • Common lizard <i>Zootoca vivipara</i>; • White-letter hairstreak butterfly <i>Satyrrium w-album</i>; • Bluebell <i>Hyacinthoides non-scripta</i>; 			
Habitat Description			
Improved Grassland			
<p>Improved grassland was recorded across most of the Site. Species present were dominant perennial rye-grass, and occasional ground ivy <i>Glechoma hederacea</i> and herb robert <i>Geranium robertianum</i>.</p>			
Hedges and Treelines			
<p>Hedges were noted along the majority of the field boundaries. Hedges varied across the Site including native species-rich hedges, with and without trees (including species such as blackthorn, hawthorn, oak, elm, dogwood and poplar), to species-poor defunct hedges dominated by bramble and with large gaps in areas.</p>			
Scrub			
<p>An area of scrub was noted along the south border of the Site, encroaching from the adjacent land. Species included hawthorn, blackthorn, poplar, bramble, cherry, willow and oak.</p>			
Other habitats			
<p>Bare ground was recorded in the south east corner of the Site. This area had the remains of a fire, and some of the ground / vegetation was scorched.</p>			

Fauna

Potential was identified for the following protected species to be present within the Site:

Badger – The scrub, hedge and grassland habitat on Site provided foraging habitat for badger, however due to the fluctuating water levels it is unlikely habitats would be used for sett building. There is potential for setts to be present within adjacent land.

Bats – The hedges and treelines provided suitable foraging and commuting habitat for bats. Trees were of a size and age unlikely to have features to support roosting bats.

GCN – No ponds were present within the Site, however several ponds and ditches were present within 500m of the Site. Although the Site itself did not provide breeding habitat for GCN, the field boundaries grassland and scrub habitats had potential to provide suitable foraging, shelter and hibernation habitat for GCN if present in the wider vicinity.

Reptiles – The grassland, scrub and hedge habitats on Site provided suitable opportunities for common and widespread reptile species (such as slow worm, common lizard and grass snake) to forage, bask, shelter and hibernate, although the grassland had low potential due to its low structural and species diversity.

Dormice – There were hedges and scrub habitats within the Site, well connected to large areas of woodland in the immediate landscape, which had potential to support dormice.

Nesting birds – Hedge habitat and trees within the Site provide suitable opportunities for birds to nest.

Invertebrates – The Site provides suitable habitat for the white-letter hairstreak butterfly, a Species of Principle Importance in the NERC Act. There are records for this species within the Site, and their food plant Elm was recorded within the hedgerows.

Ecological Appraisal

Designated Sites

No internationally designated Sites are present within or adjacent to the Site. Given the habitats present on the site and the surrounding area, it is considered highly unlikely that wetland/wading bird species for which nearby international sites are designated would use the site, or at least not to such a degree that development proposals could impact on the integrity of the international sites.

No nationally designated Sites are located within the vicinity, however the entire Site falls within Dry Street Pastures LWS, which extends to the north of the Site (**see Figure 5.2**). Although the Site partially forms Dry Street Pastures, habitats for which the LWS has been designated (species-rich grassland) were not recorded within the Site during the survey. Grassland was species-poor and heavily grazed, and did not appear to be species-rich. However, there is potential species mentioned in the LWS citation to remain on **the Site, such as adder's tongue fern**, but not be visible at the time of the survey.

Development of this Site would therefore result in the loss of an area of the LWS, although potentially an area of reduced ecological value given the grassland quality. Development could also lead to contamination (run-off, smothering and dust deposition) of other areas of the LWS, and increased levels of recreational pressure and associated urban effects (such as trampling, erosion and flytipping) due to an increase in the local population.

Habitats

Habitats within the Site were generally widespread and common, in particular improved grassland which comprises a majority of the Site. As above, there is potential for more valuable grassland habitat to be present and this would require further survey at a more suitable time of year and ideally following relaxed grazing.

The habitats of greatest value on the Site comprised the hedges, scrub and trees around the Site perimeter. Hedges are listed as Priority Habitats in the Essex Biodiversity Action Plan, and a Habitat of Principle Importance under the NERC Act. **Hedges may also qualify as 'important hedgerows' under the Hedgerow Regulations** and may therefore be subject to specific protection, with some hedges on Site identified as species-rich. Proposals could result in

	loss of hedgerow habitat, or ground disturbance may impact on hedges, scrub and trees and associated wildlife. Hedges also provide ecological connectivity through the Site which could be fragmented as a result of development.
Species	<p>In the absence of detailed survey it is not possible to confirm the presence of protected and/or notable species within the Site. However there is potential for such species to be present throughout the Site, with the hedge, scrub and trees providing the greatest opportunities for species. In addition, the Site forms part of a LWS designated for rare plants and invertebrates, with white-letter hairstreak identified within the Site in biological records, and elm (the foodplant of the butterfly larvae) recorded within the Site during the survey. Although the Site does not appear to support species-rich grassland, rare or notable species could be present within the Site, the identification of which would require focused survey during summer.</p> <p>Development within the Site could result in habitat loss and disturbance, with associated impacts on a range of protected and notable species, including risk of killing and injury; loss of foraging, sheltering and/or hibernation habitat; severance of habitat connectivity affecting foraging and dispersal; and indirect impacts such as lighting rendering habitat unsuitable or increased recreational pressure resulting in an increased risk of persecution of species or predation by pets.</p> <p>Key potential constraints within the Site include:</p> <ul style="list-style-type: none"> • Badger using the Site for foraging, and setts being present within 50m of the Site (adjacent land); • Bats using hedges and scrub for foraging and commuting; • GCN and reptiles within grassland, scrub and hedges; • Dormice within the species-rich hedge and scrub habitat; • Nesting birds could also be affected by any removal of hedges, trees and scrub. • Invertebrates and in particular white-letter hairstreak which could be affected by removal of hedgerows and in particular elm.

Ecological Avoidance, Mitigation and Enhancement Options

Further surveys

Detailed development proposals must be informed by an updated Phase 1 Habitat Survey and species surveys identified as necessary, and based on proposals to ensure that potential impacts and any appropriate mitigation is developed accordingly. In particular, species surveys may be required for badger, bats, GCN, reptiles, dormice and birds. Surveys should also be undertaken to confirm the value of the Site for white-letter hairstreak butterfly. In addition, vegetation surveys will be required to confirm the presence/absence of notable and protected plant species, and to confirm the quality of the grassland.

Avoidance, Mitigation and Enhancement Options

Development of this Site would result in the loss of an area of the LWS, although evidence to date suggests this to be habitat of low quality. This may be deemed acceptable if proposals included for the enhancement of the remaining areas of the LWS, through habitat creation or management, and confirmation this would be delivered in perpetuity. This should also seek to address potential recreation impacts, through the control of recreational access, protection of valuable habitats and enhancement of other areas in compensation.

Any development proposals should also seek to retain hedge habitat, scrub and trees. These habitats provide opportunities for wildlife value in their own right, including white-letter hairstreak butterfly, and connectivity to the wider landscape.

Best practice construction methods as detailed within a Construction and Environmental Management Plan (CEMP) or similar, should be followed to protect sensitive habitats on Site.

If notable or protected species are confirmed as present, mitigation requirements may include (all to be in accordance with relevant best practice guidance):

- Timing of works to avoid impacts on nesting birds, and potentially other species (dependent on the

works);

- Habitat manipulation to deter animals such as GCN, reptiles and badger from the area and potentially avoid impacts;
- If bat roosts are found, where possible they should be retained. If they cannot be retained, suitable mitigation measures would be required including provision of replacement roosts and proceeding with works under a NE licence;
- Measures to prevent harm to GCN, reptiles or dormice may involve sensitive methods and/or translocation from the potential development area to a receptor site which has been suitably enhanced to support the translocated population (ideally within the wider site), this would require a NE licence for GCN and dormice;
- Measures to prevent impacts on badger including sensitive timing of works in the vicinity of setts, best practice construction measures and possible sett closure, potentially under NE licence;
- Specific measures to address impacts on white-letter hairstreak, such as hedgerow management and planting to encourage elm.
- Sensitive design of any external lighting to minimise lightspill to adjacent habitats;
- Enhancement of habitats / habitat creation within the Site, including areas outside of the development footprint, to compensate for any habitat loss;

Other enhancement opportunities, other than associated with the wider LWS, may include:

- Green infrastructure incorporated into development design to provide opportunities for wildlife, such as green walls or roofs;
- Planting of wildlife-friendly species, such as pollinator friendly and/or native species;
- Incorporation of nesting and/or roosting opportunities for birds and bats.

Any mitigation or enhancement options would require a management plan to ensure viability of the methods and techniques. This may involve long term habitat management, detailed in a Landscape and Habitat Management Plan (LHMP). This should also include remedial measures should monitoring record divergence. This would be particularly important to ensure long-term enhancement of the LWS to compensate for loss of area.

Overall Conclusion

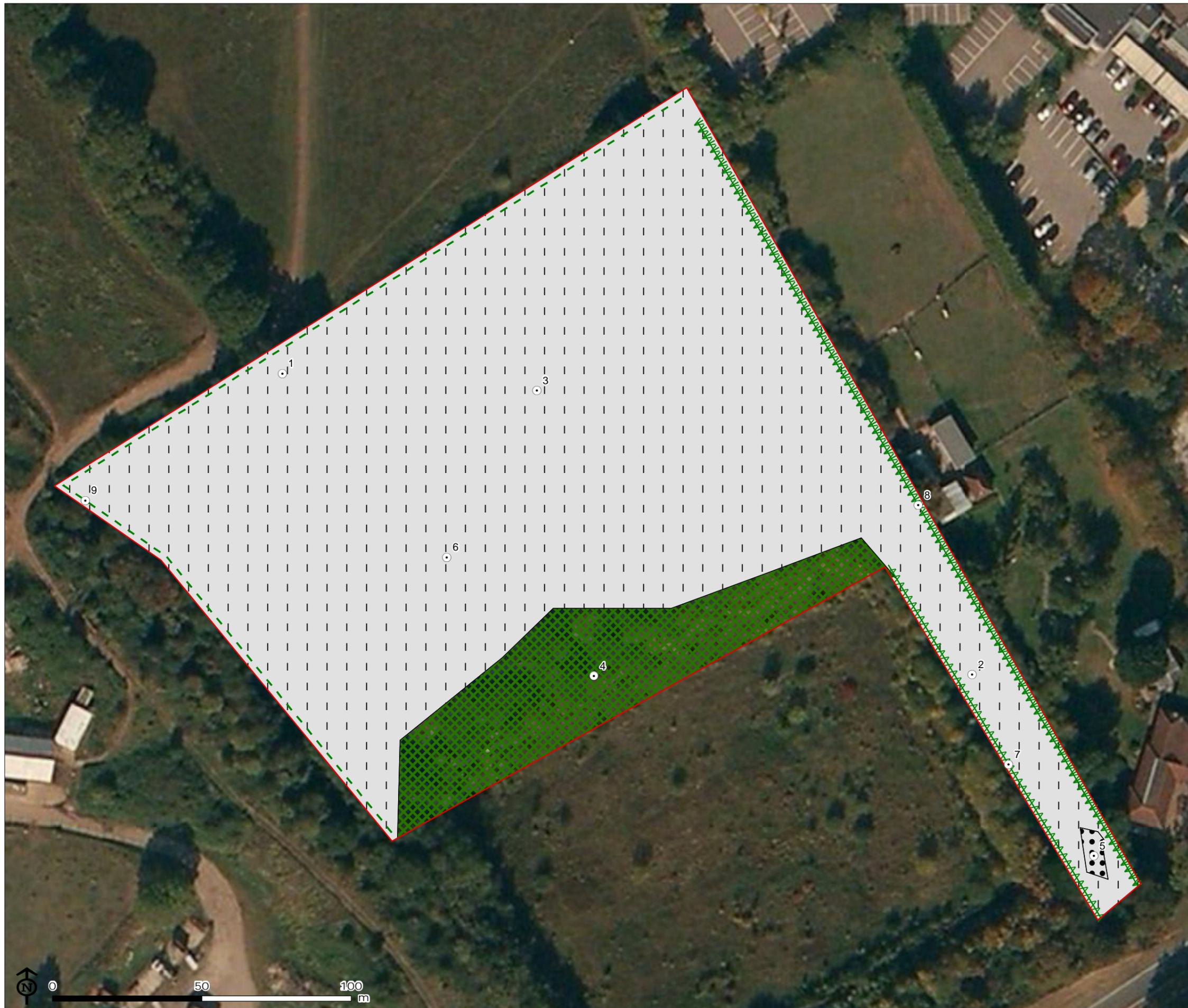
The Site is entirely designated as part of the wider Dry Street Pastures LWS, although the Site is considered to be of relatively low ecological value, primarily comprising improved grassland. The boundary habitats appear to provide greatest value given the potential these provide for species and contribution to habitat connectivity, including potential to support the white-letter hairstreak butterfly. It is however recognised that further vegetation surveys should be undertaken in the summer months to confirm value.

In conclusion it is considered that residential development may be delivered at this site without significant adverse ecological impacts, subject to confirmation of the grassland value, and possibly delivering an enhancement, on the assumption that:

- Development proposals include measures to enhance the wider LWS through habitat creation or management, as well as to address potential recreational impacts.
- Any proposals are informed by detailed ecological survey, to inform impact assessment and the avoidance and mitigation of impacts.
- Mitigation measures are developed to address any identified impacts on protected and notable species, as informed by the above surveys.
- Proposals should seek to retain ecological connectivity through the Site, in particular as provided by hedges and trees.
- Incorporation of green infrastructure within the development, and ensuring habitats are managed to benefit wildlife in the long-term.

Figure 5.1: Phase 1 Habitat Survey- Site 38

-  Site boundary
-  Target note
-  Defunct hedge (species-poor)
-  Hedge with trees (native species-rich)
-  Intact hedge (native species-rich)
-  Bare ground
-  Improved grassland
-  Scrub (dense/continuous)

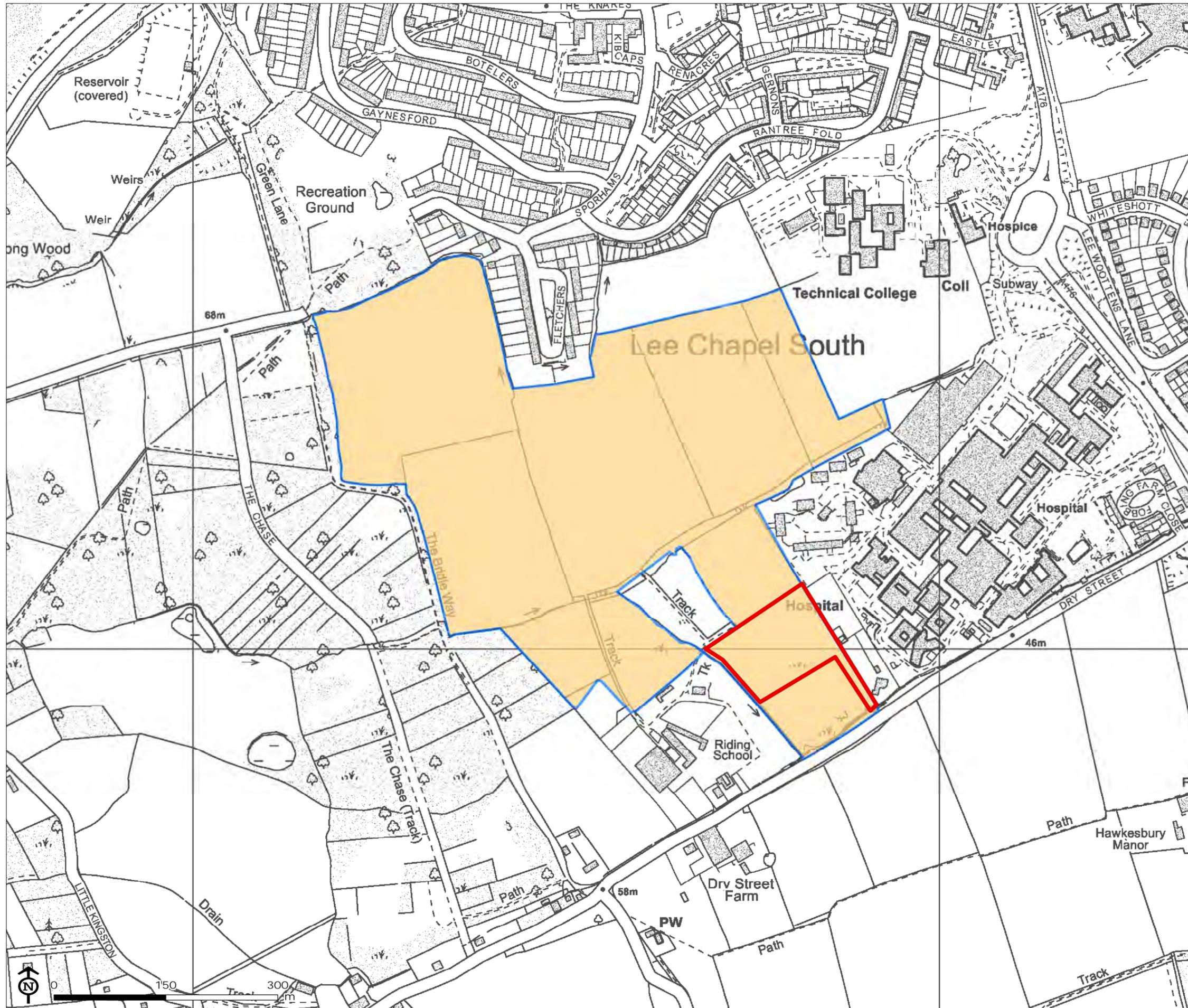


Map Scale @ A3: 1:1,250



Figure 5.2: Dry Street Pastures
LWS

- Site boundary
- Local Wildlife Site



Map Scale @ A3: 1:5,000



6 Site 39 – Land at Gardiners Lane South

Survey Site	39	Location	Basildon
Site Overview			
<p>The Site is located north of Basildon town centre, within an industrialised area. Industrial and leisure estates surround the Site on all sides, and the A127 lies to the north. The Site itself comprises a leisure and sport complex made up of several clubs and amenity fields. A small number of residential houses/plots lie close to the Site boundaries.</p>			
Ecological Baseline			
Biological Records			
Designated sites/notable habitats			
<p>There are no Natura 2000 sites (SPAs or SACs) or Ramsar Sites within Basildon Borough. However, three SPA designations have been noted in relatively close proximity to the borough boundary, including Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA, Benfleet and Southend Marshes and Thames Estuary and Marshes SPA.</p> <p>There are no Sites of national importance located 1km of the Site.</p> <p>There are no Local Wildlife Site within 1km of the Site:</p>			
Species records			
<p>The following records for notable and protected species were identified within the Site boundary:</p> <ul style="list-style-type: none"> • Common pipistrelle <i>Pipistrellus pipistrellus</i>; • Slow worm <i>Anguis fragilis</i>. 			
Habitat Description			
Amenity Grassland			
<p>The majority of the Site comprised amenity grassland, consisting of a series of sports pitches, including for football and rugby, used for recreational purposes. Species could not be identified due to the closely mown sward.</p>			
Hedge and Treelines			
<p>Several hedges with trees were present throughout the Site, forming the boundaries of the various sports pitches / field. The hedges were species-poor, and in some places in poor condition being sparse / gappy. The majority of the hedges in the Site also had trees, including large mature specimens, particularly towards the east of the Site.</p>			
Standing Water			
<p>A ditch in the south west corner of the Site held a small amount of standing water, with a large amount of leaf debris and bramble. The ditch was dry towards the eastern end.</p>			
Buildings and Hard-standing			
<p>Several small areas with hard standing and buildings were recorded across the Site. These were mostly associated with the sports clubs, comprising club houses and parking areas. There were also a few residential plots in the southern part of the Site.</p>			

Improved Grassland

Two small areas of improved grassland were noted, comprising dominant perennial rye grass, with occasional ribwort plantain, bristly oxtongue *Helminthotheca echioides* and white clover.

Broadleaved Plantation Woodland

Several areas of broadleaved plantation woodland were present across the Site, in areas of land between the sports clubs, primarily extending from the south and east borders of the Site. Along the southern border woodland comprised thin strips of land dominated by cherry, poplar and hawthorn, with frequent field maple, oak, sycamore, wild privet *Ligustrum vulgare*, bramble, ash, and birch *Betula sp* rarely noted.

The woodland extending from the eastern boundary was dominated by lime *Tilia sp.*, oak, hawthorn and ivy.

Woodland in the north east corner of the Site has less structural diversity, dominated by hawthorn, cherry, blackthorn and oak.

Scrub

Some small areas of scrub were located within the shooting club land in the south west of the Site. These were dominated by bramble with rarely noted giant willowherb *Epilobium hirsutum*. Scattered trees were present amongst one of the areas of scrub, including occasional mature willow, ash, poplar and cherry.

Tall Herb and Fern

An area of ruderal tall herb was recorded in the south east of the Site between the shooting club and a residential plot. This comprised dominant common nettle *Urtica dioica*, dock *Rumxs sp.* and teasle *Dipsacus fullonum* with occasional herb-robert.

Other

Some small areas of bare ground were noted within the Site, mostly parking areas within the sports club grounds. In the shooting club there were areas designated for shooting which were not accessible for the survey.

Fauna

Potential was identified for the following protected species to be present within the Site:

Reptiles – Overall the Site was unsuitable for reptiles, largely comprising regularly managed grassland and hard standing. Furthermore, the immediate wider landscape comprised built up and industrial areas with little opportunities for reptiles. If present, reptiles are likely to be restricted to residential garden plots, hedgerows, woodland, ruderal tall herb vegetation and the shooting range area, including the ditch.

GCN – No ponds were present on the Site itself, and there were no ponds with terrestrial connectivity to the Site within 500m. In addition, the wider landscape was highly industrialised and/or urbanised.

Badger – The Site provided suitable opportunities for badger to forage and build setts within the woodland, scrub and hedge habitats.

Bats – The woodlands, buildings and mature trees on Site may provide roosting opportunities for bats, whilst woodlands, hedgerows and trees within the Site have potential to support foraging and commuting bats.

Dormice - Although woodland and hedgerows provide suitable habitat for dormice, the hedgerows are species-poor sub-optimal specimens. Furthermore, these habitats are highly fragmented and the Site is isolated, and therefore it is considered highly unlikely dormouse would be present.

Nesting birds – The woodland, trees, scrub and hedge habitat would support suitable opportunities for birds to nest, including species of notable and principle importance, such as those species noted in the local BAP.

Ecological Appraisal

Designated Sites

No internationally designated Sites are present within or adjacent to the Site. Given the habitats present on the site and the surrounding area, it is considered highly unlikely that wetland/wading bird species for which nearby international sites are designated would use the site, or at least not to such a degree that development proposals could impact on the integrity of the

	<p>international sites.</p> <p>No nationally or locally designated Sites within the vicinity.</p>
Habitats	<p>The Site has limited ecological value given its relative isolation within an industrialised and built-up area.</p> <p>The Site supported a diverse range of habitats, although these were largely subject to management and disturbance with amenity grassland dominant, which offers little value for wildlife.</p> <p>Hedges, mature trees and areas of woodland offer the greatest potential value for species. Hedges are listed as Priority Habitats in the Essex Biodiversity Action Plan, and a Habitat of Principle Importance under the NERC Act. Hedges may also qualify as 'important hedgerows' under the Hedgerow Regulations and may therefore be subject to specific protection, however hedges on Site were species-poor, and unlikely to qualify for this designation.</p> <p>Habitat loss or ground disturbance may impact on hedges, trees and woodland and associated wildlife, and result in increased habitat fragmentation.</p>
Species	<p>In the absence of detailed survey it is not possible to confirm the presence of protected and/or notable species within the Site. However there is potential for such species to be present within localised areas of the Site.</p> <p>Development within the Site could result in habitat loss and disturbance, with associated impacts on a range of protected and notable species, including risk of killing and injury; loss of foraging, sheltering and/or hibernation habitat; further severance of habitat connectivity affecting foraging and dispersal; and indirect impacts such as lighting rendering habitat unsuitable or increased recreational pressure resulting in an increased risk of persecution of species or predation by pets.</p> <p>Key potential constraints within the Site include:</p> <ul style="list-style-type: none"> • Potential for reptiles foraging and basking within gardens, tall herb vegetation and the shooting area, and sheltering/hibernating within hedges and woodland; • Badger setts, within hedge and woodland habitat; • Bats foraging and commuting along treelines, hedges and woodland, and potentially roosting within trees, woodland and buildings; • Nesting birds within hedges, trees and buildings.

Ecological Avoidance, Mitigation and Enhancement Options

Further surveys

Detailed development proposals must be informed by an updated Phase 1 Habitat Survey and species surveys identified as necessary, and based on proposals to ensure that potential impacts and any appropriate mitigation is developed accordingly. In particular, species surveys may be required for badger, bats, reptiles and nesting birds.

Avoidance, Mitigation and Enhancement Options

Any development proposals should seek to retain woodland, hedges and trees where possible. Best practice construction methods as detailed within a Construction and Environmental Management Plan (CEMP), or similar, should be followed to protect habitats of value within the site.

If notable or protected species are confirmed as present, mitigation requirements may include (all to be in accordance with relevant best practice guidance):

- Timing of works to avoid impacts on nesting birds, and potentially other species (dependent on the works);
- Habitat manipulation and/or destructive searches to deter animals such as reptiles and badger from the area and potentially avoid impacts;
- If bat roosts are found, where possible they should be retained, if they cannot be retained, suitable mitigation measures would be required including provision of replacement roosts and proceeding with

works under a NE licence;

- Measures to prevent impacts on badger including sensitive timing of works in the vicinity of setts, best practice construction measures and possible sett closure, potentially under NE licence;
- Sensitive design of any external lighting to minimise lightspill to adjacent habitats;
- Enhancement of habitats / habitat creation within the Site, including areas outside of the development footprint, to compensate for any habitat loss;

Other enhancement opportunities may include:

- Green infrastructure incorporated into development design to provide opportunities for wildlife, such as green walls or roofs;
- Planting of wildlife-friendly species, such as pollinator friendly species and/or native species;
- Incorporation of nesting and/or roosting opportunities for birds and bats.

Any mitigation or enhancement options would require a management plan to ensure viability of the methods and techniques. This may involve long term habitat management, detailed in a Landscape and Habitat Management Plan (LHMP). This should also include remedial measures should monitoring record divergence.

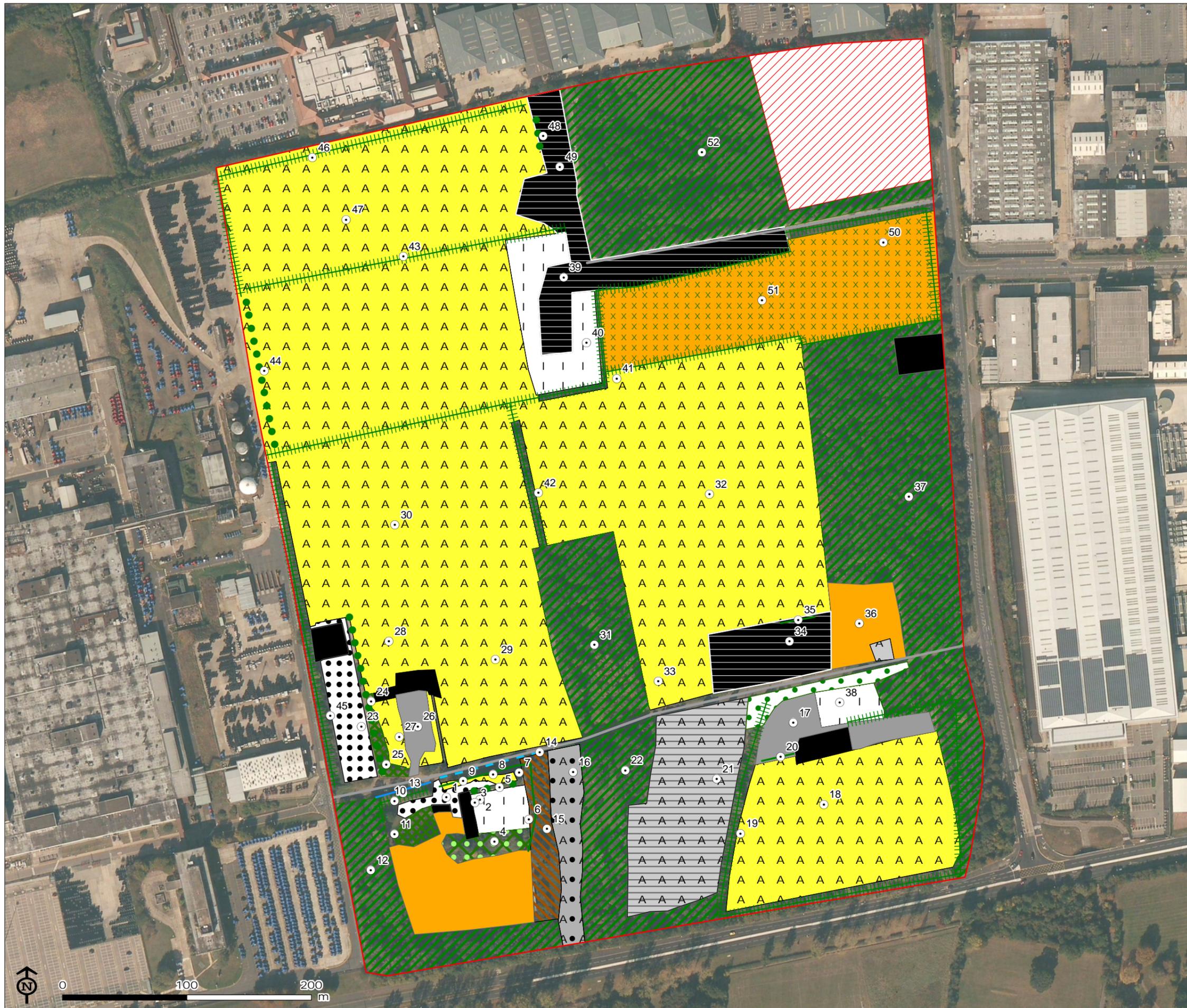
Overall Conclusion

Overall the Site has limited ecological value with hedges, woodland and trees of greatest value given the habitat they may provide to a range of species.

In conclusion it is considered that residential development may be delivered at this site without significant adverse ecological impacts, and possibly delivering an enhancement, on the assumption that:

- Any proposals are informed by detailed ecological survey, to inform impact assessment and the avoidance and mitigation of impacts;
- Mitigation measures are developed to address any identified impacts on protected and notable species, as informed by the above surveys;
- Proposals should seek to retain ecological connectivity through the site, in particular as provided by hedges;
- Incorporation of green infrastructure within the development, and ensuring habitats are managed to benefit wildlife in the long-term.

Figure 6.1: Phase 1 Habitat Survey - Site 39



- Site boundary
- Target note
- Dry ditch
- Hedge with trees (species-poor)
- Intact hedge (species-poor)
- Road
- Standing water
- Tree line
- Amenity grassland
- A Amenity grassland/ Buildings/ Bare ground
- A Amenity grassland/ Buildings/ Harstanding
- Bare ground
- A Broadleaved woodland (plantation)
- Buildings
- A Buildings/ Amenity grassland
- Harstanding
- Harstanding/ Buildings
- Improved grassland
- Not accessible
- Other habitat (Shooting areas/ Construction site)
- A Other tall herb and fern (ruderal)
- A Other tall herb and fern (ruderal)/ Scrub (scattered)
- Parkland/scattered trees/ /
- A Scrub (dense/continuous)
- A Scrub (dense/continuous)/ Broadleaved scattered trees

Map Scale @ A3: 1:3,000



Appendix 1

Target Notes

Site 37	
Target Note	Comments
1.	Scattered treeline comprising willow, cherry and sycamore.
2.	Hedge with frequent oak trees. Dominant hawthorn, bramble and ivy. Occasional dog rose, poplar, blackthorn and cherry.
3.	Amenity grassland comprising perennial rye grass with rare white clover. Used for football, and play including a small play area.
4.	Area of woodland with dense understory. Comprising frequent oak and field maple with abundant ivy and bramble (dominant in understory). Occasional elder, hawthorn and cherry. Rare poplar.
5.	This area of woodland becomes less diverse in structure, with occasional sycamore and blackthorn.
6.	Area of scrub dominated by hawthorn, blackthorn and bramble. Occasional dog rose and poplar. Rare willow and frequent ivy.
7.	Bare ground, with areas dominated by perennial rye grass and frequent mosses. Rare dandelion and white clover.
8.	Buildings and hard standing comprising the golf club, health club and parking areas.
9.	Scattered treeline comprising hawthorn, oak and beech.
10.	Hedgerow comprising dominant hawthorn and ivy with frequent oak (species poor with trees).

Site 38	
Target Note	Comments
1.	A semi mature oak tree adjacent to the fence.
2.	Locally frequent soft rush and mosses in this area of grassland.
3.	Horses grazing in the field.
4.	A band of scrub encroaching from adjacent Anglian Water swale land, 2-3m thick. Dominated by hawthorn and blackthorn with frequent poplar, bramble, cherry, willow and oak.

Site 38	
5.	An area of bare ground which had evidence of fire.
6.	Grassland covering a majority of the site, comprising dominant perennial rye and tufted hair grass, occasional dandelion, herb-robert and ground ivy.
7.	Hedge bordering the Anglian water swale land, comprising dominant hawthorn, blackthorn and bramble, occasional dogwood, cherry and elm.
8.	Hedge bordering the eastern boundary, dominated by blackthorn, hawthorn and oak, with abundant elm and occasional dogwood and poplar.
9.	Hedge on the western and northern boundary, dominated by bramble and Ivy, with occasional blackthorn. Very sparse, in place only comprising a small amount of ivy on the fence.

Site 39	
Target Note	Comments
1.	Area of bare ground used as a car park.
2.	Area of improved grassland, short sward. Dominated by perennial rye grass with occasional white clover and thistle.
3.	Lining the field and building is bramble and common nettles.
4.	Area of scrub dominated by bramble with rare giant willow herb. Scattered trees including occasional mature willow, ash, poplar and cherry.
5.	Line of fir trees.
6.	Species poor hedgerow, dominated by cherry and poplar with occasional bramble and rare ivy.
7.	Area of locally dominant bramble
8.	Hedgerow dominated by bramble and ivy with occasional hawthorn and rare field maple.
9.	Patch of amenity grassland with a small ornamental bedding area.
10.	Hedgerow dominated by ivy and bramble. Occasional hawthorn, rare dog rose. Occasional ash and rare willow.
11.	Area of scrub dominated by bramble.
12.	Dominated by cherry, poplar and hawthorn, frequent wild privet and bramble. Rare ash.
13.	Ditch with a small amount of standing water, frequent bramble and filled with leaf debris.
14.	Ditch adjacent to hedgerow with leaf debris, moss and no water.

Site 39

15.	Area of tall herbs, dominated by nettle, dock and teasle. Occasional herb robert.
16.	Residential plot, including a house, outbuildings and amenity areas of grass and bare ground.
17.	Hardstanding car park.
18.	Amenity grassland with football pitches, comprising perennial rye grass.
19.	Dominated by hawthorn, bramble and ivy, with frequent poplar, occasional wild privet, rare oak and ash.
20.	Maintained privet hedge.
21.	Residential plots.
22.	Woodland comprising dominant birch, occasional poplar, rare field maple and oak.
23.	Area of bare ground for car parking.
24.	Tree line comprising ash, chestnut and oak.
25.	Scrub dominated by bramble, with frequent nettles and hawthorn.
26.	Hard standing used for car parking.
27.	Amenity grassland dominated by perennial rye grass with rare white clover and dandelion.
28.	Amenity grassland used for football.
29.	Amenity grassland football pitches.
30.	Amenity grassland football pitches.
31.	Woodland area in between 2 sport clubs, comprising dominant birch and bramble, frequent ivy, poplar, sycamore and hawthorn and occasional ash.
32.	Amenity grassland with several football pitches, dominated by perennial rye.
33.	Locally abundant bramble.
34.	Football clubhouse and car parking.
35.	Privet hedge.
36.	Construction site within grounds of a house.
37.	Area of woodland in east of the site, dominated by lime, oak, hawthorn and ivy, with frequent bramble, occasional poplar and field maple.
38.	Area of improved grassland comprising perennial rye, ribwort plantain, bristly ox tongue and white clover.
39.	Sports club house and parking area.

Site 39

40.	Area of amenity grassland dominated by perennial rye grass.
41.	Defunct hedge comprising bramble and hawthorn with rare blackthorn and frequent oak.
42.	Oak and hawthorn dominated, with frequent bramble.
43.	Defunct hedge comprised of bramble and dog rose, with rare young oak and hawthorn.
44.	Line of fir trees.
45.	Hedgerow comprised of abundant hawthorn and bramble with occasional young oak and rare poplar.
46.	Hedge bordering field dominated by hawthorn, with occasional bramble and occasional oak tree.
47.	Amenity grassland with football pitches.
48.	Line of fir trees.
49.	Clubhouse and car parking area.
50.	Hedge comprised of hawthorn, poplar and bramble with frequent oak.
51.	Ruderal vegetation comprising dock, teasle and nettles with occasional hawthorn and butterfly bush.
52.	Woodland area comprising frequent hawthorn, cherry and oak with occasional blackthorn.