C.B.E. Consulting

Extended Phase 1 Habitat Survey
Land at Keston Nursery
Mill Green Road
Pinchbeck
Lincolnshire
NGR TF23588 25095

Survey by
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On behalf of AMJ Construction Ltd

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as recognised by
SSIP SAFETY SCHEMES IN PROCUREMENT

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Phase 1 Habitat Survey and Ecological Appraisal, Land at Keston Nursery, Mill Green Road, Pinchbeck, Lincolnshire

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Non-Technical Summary

The site surveyed comprises a roughly triangular plot of land to the east of Mill Green Road on the south western edge of Pinchbeck comprising two residential houses and gardens, a large area under glasshouses, polytunnels and nursery stock, and a cultivated field laid fallow at the time of the survey. The site is centred at NGR TF23588 25095.

A review of the available data obtained from the Greater Lincolnshire Nature Partnership Biological Records Centre confirms that the site is not a statutory or non-statutory site. There are no significant sites of ecological importance in close proximity to the area being assessed.

There are two existing houses with gardens at the northern end of the site area surveyed. The two houses are both two-storey detached structures constructed from brick with managed gardens comprising mown lawns, borders, trimmed hedgerows and some trees, including a number of large mature trees. There is an extensive tall Leylandii hedgerows along the northern and western garden boundary. The internal garden areas supported a range of common amenity plants and closely mown lawns.

The majority of the site area comprises production glasshouse or polytunnel structures around which are areas laid to hardstanding or covered by porous sheeting and laid to nursery stock with irrigation systems installed. Each of the glasshouse / polytunnel buildings contained growing nursery stock that is being intensively managed or was empty with the stock having been removed for sale earlier in the season. Such areas are managed by use of weed killer or porous matting to keep them free of vegetation. There are internal lighting systems and irrigation system fitted to most of the structures.

Lying along the eastern boundary of the site between the glasshouses, polytunnels and stocking area and the boundary hedge is an area laid to amenity grassland. This is regularly mown to keep the grass sward dense and free of significant weed growth.

The field on the south western side of the glasshouses and polytunnel is cultivated each year and used to grow a range of flowering plants which are harvested. At the time the site was surveyed the crop was lifted and the ground was left follow but had not been cultivated for some weeks. This is fertile soil and a limited range of common weed species have colonised this ground. The cultivated field is likely to be ploughed and cultivated ready for the next crop in autumn 2016 prior to which the existing vegetation will be sprayed with herbicide to eradicate this.

The residential houses and nursery area are screened by tall trimmed hedgerows along the boundary with Mill Green Lane, the eastern boundary facing the railway line and the southern boundary. There is also a significant tall internal hedgerow dividing the glasshouses and nursery stock area for the adjacent cultivated field. Whilst none of the hedgerows at the site have been assessed as being ‘ecologically important; the hedgerows along the eastern and southern boundaries and through the interior of the site comprise Grey Alder which has been trimmed very high (pleached but still down to ground level) which is rather uncommon. These high Alder hedgerows screen the site very effectively and they are an unusual landscape feature.

Conclusions

The residential areas, nursery stock areas and small cultivated field have limited ecological value at the present time due to the intensive management, extensive cover by buildings and fertility of this land. The boundary areas, particularly to the east and south, have hedgerows and trees that could provide significant cover and foraging potential for local wildlife that can access these areas.

On the basis that it is likely the existing houses at the northern end and the mature trees within the gardens of these will probably be retained as they are in very good condition and positioned close to the site boundary, it is likely that only the nursery area and cultivated field will be

utilised for development. Some of the landscaped lawns at the northern end of the site may also be utilised. On the basis of these assumption t is likely that development of the site can be carried out in a manner that does not have any significant impact on local biodiversity. From the evidence of the Phase 1 Habitat Survey it does not appear that there would be any loss of significant habitat areas or fragmentation of any such habitats within the locality by isolating these as a result of development.

The survey completed in August 2016 has not identified any physical evidence of protected species at the site nor identified any indication that the site is of importance to any protected species in this locality. However, certain individual mature Ash trees along the eastern boundary and the two existing residential houses and trees within the gardens of these, have been assessed as having potential for roosting bats so further surveys of these trees and structures may be required if any development proposed requires these to be disturbed in any way.

A bird nesting survey may be required if any vegetation is to be removed during the nesting season. No further protected species surveys for amphibians, reptiles or other mammals have been recommended.

Christopher Barker CEnv ACIEEM

Part 1: Site Details

1. Introduction

1.1 Site Description and Location

The site surveyed comprises a roughly triangular plot of land to the east of Mill Green Road on the south western edge of Pinchbeck comprising two residential houses and gardens, a large area under glasshouses, polytunnels and nursery stock, and a cultivated field laid fallow at the time of the survey. The site is centred at NGR TF23588 25095.

The location of the site is shown on the plan within **Figure 1** and an aerial photograph has been provided within **Figure 2** to place the site in context.



Figure 1: Site location. Copyright Ordnance Survey Mapping 2016

The Applicant has requested an ecological survey of the entire site area as this is being considered for future development, in order to determine whether there is anything of ecological value or any evidence of protected species present. An inspection of the site was completed on 10th August 2016. A photographic record of key areas is included alongside target notes within the report and an indicative species list is included within **Appendix 1.**

The defined site area comprises three parcels of land:

a) An area at the northern end where there are two houses with gardens
b) An extensive area under glasshouses, polytunnels and ground laid out with matting to support nursery stock, and
c) A small field cultivated and used to produce flowering plants for commercial purposes which is presently laid fallow having produced a crop earlier in the season.

The site lies to the east of Mill Green Road and there is an extensive area of arable land to the west. To the north and north east are residential houses within the village of Pinchbeck. An operational railway runs along the eastern boundary of the site area. To the south is additional and laid to polytunnels used for nursery stock production.

Figure 2: Site Contextual Aerial Photograph Image copyright Microsoft Corporation 2016



1.2 Objective of the Report

This report is an extended Phase 1 Habitat Survey and ecological appraisal. The objective of the ecological appraisal is to identify the habitat(s) present on, and surrounding, the site area being assessed. This report is valid for a period of two years from the date of the site inspection. Any development of the site will require planning approval and this report has been prepared to provide information as part of any future planning application process. To this end the report is required to comply with the recommendations and principles set out in the National Planning Policy Framework, March 2012 (NPPF). The report contains Biological Records and has been prepared to meet the standard required by BS42020 (British Standard for Biodiversity and Development).

The NPPF issued in March 2012 and sets out the Government's objectives for planning in regard to the protection of habitats and biodiversity. The planning objectives in relation to biodiversity and the natural environment are stated within paragraph 109 of the NPPF and are as follows:

"The planning system should contribute to and enhance the natural and local environment by:
- *protecting and enhancing valued landscapes, geological conservation interests and soils;*
- *recognising the wider benefits of ecosystem services;*
- *minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;"*

Within the NPPF the planning policy context requires that:

"*Planning policies and decisions should be based on up to date information about the natural environment and other characteristics of the area including …… an assessment of existing and potential components of ecological networks. A sustainability appraisal which meets the requirements of the European Directive on strategic environmental assessment*

should be an integral part of the plan preparation process, and should consider all the likely significant effects on the environment, economic and social factors". NPPF Paragraph 165

This ecological appraisal provides information on the existing ecological and biodiversity value of the land on the site and also reports any evidence of protected species or significant habitats present. It has been provided to provide information to the Planning Authority in order to help meet the requirements of the NPPF and enable the Authority to assess the site area in accordance with the Code of Practice within BS42020 and guidelines issued by CIEEM in 2012. The report also identifies any habitats or species present that require more detailed surveys prior to any improvements being undertaken.

Part 2: Methodology and Survey Results

2. Appraisal Methodology

2.1 Baseline Study

Within NPPF Paragraph 7 it states that; "*There are three dimensions to sustainable development: economic, social and environmental." The environmental role includes "contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity....*"

The biodiversity of a site area and the potential presence of protected species are factors relevant to all developments irrespective of the size scale and will apply to any development on the site being assessed. Available information on the baseline ecology of the site and the presence of protected species within the locality has been obtained from the Greater Lincolnshire Nature Partnership and reviewed. An indicative species list of plants found on the site is provided in **Appendix 1** and the records obtained are provided as **Appendix 2**.

These data sources have been reviewed and the character and nature conservation value of habitats and species assessed. The aims of this appraisal of information are:

- To characterize all the existing available information regarding habitats and species that may be present at the site and provide up to date information about the environmental characteristics of the site area;
- To identify any habitats potentially present of nature conservation value in terms of local, regional and national context and within the context of local, regional and national policy; and,
- To identify any areas of ecological interest in order to either a) make recommendations to minimize the potential impact of any site works, or b) identify the need for a further survey work.

Following the appraisal of the available information, a site inspection has taken place to obtain specific site data at the site.

2.2 Habitats

The site was surveyed during a bright sunny morning on 10th August 2016 using the extended Phase 1 Habitat Assessment methodology as adopted by Natural England (Joint Nature Conservation Committee 1993) and in accordance with the Guidelines for Preliminary Ecological Appraisal (2012) issued by the Institute of Ecology and Environmental Management (IEEM) and BS42020 (British Standard for Biodiversity and Development). The survey required a systematic walkover of the site to classify the habitat types present. A habitat base map and target notes have been prepared and included as **Figure 3** within section 3 of this report.

2.3 Protected Species

During the survey of the site, observations and identification or signs of any species protected under the Conservation (Natural Habitats &c) Regulations 2010 (incorporating regulations previously contained within Part 1 of the Wildlife and Countryside Act 1981) were noted.

The survey area comprises two houses with gardens, an extensive area of nursery stock production with glasshouses and poly tunnels, and a cultivated field used for commercial flower production. The site is surrounded and internally divided by very tall hedgerows dominated by Grey Alder. There are no ponds or wetland areas within the site but there is a lined lagoon used to harvest rainwater for use within the stock production process at the site. There are two small areas of juvenile mixed woodland planted at the southern end of the site.

A methodical inspection was carried out to look for any evidence of protected species using the site and to identify any habitats with potential to provide significant shelter or foraging opportunities for these. The survey was carried out by Christopher Barker, an experienced ecological consultant and Chartered Environmentalist holding Class Licenses issued by Natural England.

2.4 Consultations

A review of the available data obtained from the Greater Lincolnshire Nature Partnership Biological Records Centre confirms that the site is not a statutory or non-statutory site. There are no significant sites of ecological importance in close proximity to the area being assessed.

The nearest Local Wildlife Site is the River Glen corridor which runs around the northern side of Pinchbeck village and is 0.9km from hr survey area at the nearest point. The site is separated from this river corridor by residential houses on the west side of Pinchbeck and an extensive area of open arable land.

There are a number of records for protected species relating to the immediate vicinity of the site.

There are no recent records of Great Crested Newt (GCN) within the search area. Whilst the site does contain a water feature this is an artificial lined lagoon which receives surface water from the glasshouses and this water is recycled within the site for stock production purposes. This water body is not linked to any other water or wetland features and is not suitable for Great Crested Newts. There is a very small lined amenity pond within the garden of the house at the north end of the site but this is stocked with goldfish. There are no other ponds or wetland areas within the site and no drains or field ditches linking the survey area to drains in the surrounding landscape. The extensive commercial buildings and cultivated field area constitute poor terrestrial habitat for amphibian so the potential for these to be on the site is considered to be low.

There are no recent records of reptiles such as Grass Snake or Common Lizard within the locality. The intensively managed site does not constitute land of high terrestrial habitat for reptiles but it is possible such species could be present within the boundary hedgerows. The land to the north, north east and south is developed and the land to the west is under arable production. There is limited potential for reptiles on the surrounding landscape. If there is a small population of reptiles in the land to the west any foraging activity across the arable fields is likely to be limited.

A range of bird species are known to be present in the area and most of these are either species associated with water and recorded along the River Glen corridor to the north or farmland birds commonly found associated with arable fields. Species recorded include Barn Owl, Berwick's Swan, Black-winged Stilt, Brambling, Bullfinch, Corn-bunting, Cuckoo, Curlew, Fieldfare, Kingfisher, Lapwing, Linnet, Peregrine, Red Kite, Skylark, Yellow Wagtail, Yellowhammer and even White-tailed Eagle.

Some of these species forage around arable field areas and within hedgerows and could be present foraging within the site area. Some of the mature trees and very tall Alder dominated hedgerows are likely to support nesting birds but no physical evidence of any nesting by owls or other Schedule 1 birds within or in the immediate vicinity of the site surveyed was noted during the site inspection. The intensively managed land used for nursery stock production is not a potentially significant source of foraging land or particularly suitable for ground nesting birds as there is limited cover.

There are a large number of records of roosting and foraging bats in the locality from recent field observations which is expected since there are a number of large drainage channels providing linear foraging routes for bats within the local landscape. There are numerous records of roosting bats within properties at Pinchbeck, particularly Pipistrelle and Brown Long-eared Bats. Other species such as Natterer's, Daubenton's, Noctule and Whiskered are known to have been recorded in the general area. The tall Alder boundary hedgerows with occasional mature Ash trees could provide linear foraging routes for bats in the area but overall the potential for the area of glasshouses and polytunnels to provide good foraging for bats is not considered to be high. Certain mature trees on the site may have roosting potential and the two residential houses could potentially have features of interest to roosting bats.

There are no records of Badger activity in the vicinity of the site nor any evidence of setts in the vicinity. Since the site area is cultivated and laid to commercial buildings for nursery stock production it is unlikely large mammals such as badger will use the area surveyed for extensive foraging purposes. The potential for other mammals such as Water Vole and Otter is limited although there are records of both species associated with the River Glen corridor to the north. As there are no water features sufficiently close to the site to entice these species into the area being surveyed the potential for these species to be on site is considered to be negligible. There are records of Harvest Mouse in the arable land to the north of the site area but there is little of potential value to this species within the site area.

Plans showing the location of the site and the areas of ecological interest within the locality is provided within **Appendix 2.**

3. Survey Findings

A Site Plan is provided as **Figure 3** below**.** The area was inspected by visual walkover.

3.1 Habitat Classifications and Target Notes

Target Note – Residential Houses and Gardens
There are two existing houses with gardens at the northern end of the site area surveyed. The two houses are both two-storey detached structures constructed from brick with managed gardens comprising mown lawns, borders, trimmed hedgerows and some trees, including a number of large mature trees which have been assessed in detail within the BS5837 Tree Survey report.

The two houses have an extensive tall Leylandii hedgerows along the northern and western garden boundary. The internal garden areas supported a range of common amenity plants and closely mown lawns as can be seen from the photographs below. The exterior of the buildings was inspected for evidence of roosting bats and nesting birds and no indication of

either was found. The northern building (north house) has some nearly vertical slates within the pitched roof and enclosed soffits. The building is in excellent structural condition but is considered to have low roost potential. In the event that this building is included within the proposed development area and is to be demolished or significant renovated a bat survey will be required.

The building to the south (south house) is a dormer style bungalow with a steeply pitched tile roof. This is also in excellent condition but has some horizontal wooden cladding to the gable ends that could potentially be of interest to crevice dwelling bats and there are also some enclosed soffits in this structure. In the event that this building is included within the proposed development area and is to be demolished or significant renovated a bat survey will be required.



North house



North house



Garden of north house



Garden of north house



South house



South house



Lawn of south house



Line of Birch and hedge of south house

Target Note - Glasshouses and Polytunnels
The majority of the site area comprises production glasshouse or polytunnel structures around which are areas laid to hardstanding or covered by porous sheeting and laid to nursery stock with irrigation systems installed.

Each of the glasshouse / polytunnel buildings contained growing nursery stock that is being intensively managed or was empty with the stock having been removed for sale earlier in the season. Such areas are managed by use of weed killer or porous matting to keep them free of vegetation. There are internal lighting systems and irrigation system fitted to most of the structures.

The inspection of these buildings and the surrounding ground laid to nursery stock found no evidence of any activity by protected species such as roosting bats or nesting birds. These areas of the site are classed as JNCC J3.6 Buildings and Built up Area.














Target Note – Mown Landscaped Lawn areas
Lying along the eastern boundary of the site between the glasshouses, polytunnels and stocking area and the boundary hedge is an area laid to amenity grassland. This is regularly mown to keep the grass sward dense and free of significant weed growth. In one area a small number of apple (*Malus domestica*), spruce (*Picea abies*) and ash (*Fraxinus excelsior*) have been planted but these are presently young and of small stature. The landscape grassland areas contain very limited diversity with the sward being dominated by dwarf ryegrass (*Lolium perenne* Cul) and fescue (*Festuca rubra*). The sward is closely mown and placed within JNCC J1.2 Amenity Grassland.




Target Note – Overgrown Compost Stockpile
Adjacent to the southern boundary of the site close to the glasshouses and polytunnels is a stockpile of compost and waste vegetation slowly rotting down. This mound has been colonised by a range of common plant species and a number of cultivated plants from discarded nursery stock have also established on this mound forming quite uniform thickets of tall vegetation. The growth is dominated by Nettle (*Urtica dioica,* Willowherb (*Epilobium*

angustifolium), Dock (*Rumex obtusifolius*), and Ragwort (Senecio jacobaea). There are no significant unusual plants or plant communities present. A search of the compost heap was made for evidence of wildlife including reptiles but no such evidence was found. This small mound of compost and self-seeded colonising vegetation is placed within JNCC C3.1Tall ruderal.



Target Note – Cultivated Field (Fallow)
The field on the south western side of the glasshouses and polytunnel is cultivated each year and used to grow a range of flowering plants which are harvested. At the time the site was surveyed the crop was lifted and the ground was left follow but had not been cultivated for some weeks. This is fertile soil and a limited range of common ephemeral and short perennial species have colonised this ground. The cultivated field areas are classed as JNCC J1.1 Cultivated Land. It is understood that it is likely to be ploughed and cultivated ready for the next crop in autumn 2016 prior to which the existing vegetation will be sprayed with herbicide to eradicate this.

Within the cultivated field species such as Mayweed (*Matricaria maritima*), Redshank (*Polygonum persicaria*), Fat Hen (*Chenopodium album*), Sowthistle (*Sonchus asper*), Herb Bennet (*Geum urbanum*), Speedwell (*Veronica arvensis*), Shepherds Purse (*Capstella bursa-pastoris*), Yellow Rocket (*Barbarea vulgaris*) and Spurge (*Euphorbia helioscopia*) are widespread with occasional Scarlett Pimpernel (*Anagallis arvensis*), Forget me Not (*Myosotis arvensis*), Plantain (*Plantago lanceolata*), Clover (*Trifolium repens* and *T.pratense*), Garlic Mustard (*Alliaria petiolata*), Dandelion (*Taraxacum officinale*), Red Dead Nettle (*Lamium purpurea*), Silverweed (*Potentilla anserina)*, Medick (*Medicago lupulina*), Field Bindweed (*Convolvulus arvensis*), and Buttercup (*Ranunculus repens*) also present.







There is no evidence of any unusual or rare plants or plant communities present and the fertility of the soil and regular intensive cultivation is unlikely to allow a species rich grassland to develop in the short or medium term.

Target Note – Lined Water Harvesting Pond
The water harvesting pond photographed below is lined and fenced for security. The water level in this fluctuates significantly depending or use and recharging rates. There is no aquatic or margin vegetation of any kind in this pond and it is a constructed pond with no natural features.





Target Note – Individual Boundary Trees and Juvenile Tree planting.
All of the hedgerow and boundary trees are described within the BS5837 Tree Survey report prepared for this site. There are no significant woodland area within the site or the immediately surrounding land. Within the gardens of the houses at the northern end of the site are a number of quite trees including some mature Horse Chestnut (Aesculus hippocastenum), (Quercus petraea), Birch (Betula pendula) and Field Maple (Acer campestre) of significant size planted for visual amenity.

The Grey Alder (Alnus incana) planted and trimmed as a hedgerow along the eastern perimeter of the site contains a small number of mature Ash (Fraxinus excelsior) which are pictured below. Some of these have dense ivy cover and dead wood so there may be potential for roosting bats.

There are two small corner areas on the southern boundary which have been planted with a range of deciduous and evergreen trees. These are still young trees of limited stature at the present time. The species present include Walnut (*Juglans nigra*), Ash (*Fraxinus excelsior*), Field Maple (*Acer campestre*), Alder (*Alnus glutinosa*), Rowan (*Sorbus acuparia*), Gum (*Eucalyptus gunii*), Lime (*Tilia europaea*) and Birch (*Betula pendula*). These small areas do not warrant having a separate habitat classification.



East boundary hedgerow Ash



East boundary hedgerow Ash



East boundary hedgerow Ash



Young trees south east corner



Young trees south west corner

Target Note: Boundary and Internal Hedgerows
The residential houses and nursery area are screened by tall trimmed hedgerows along the boundary with Mill Green Lane, the eastern boundary facing the railway line and the southern boundary. There is also a significant tall internal hedgerow dividing the glasshouses and nursery stock area for the adjacent cultivated field.

Hedgerow Regulations
A measure of statutory protection is afforded to hedgerows under the Hedgerow Regulations 1997, where any ecological or archaeological features are defined as being ‘important’. The Removal of important hedgerows requires consent from the local planning authority, except in certain prescribed circumstances. The importance of hedgerows can be assessed according to the criteria identified in Part II Schedule I of the Hedgerow Regulations 1997. A hedgerow is identified as being ‘Ecologically Important’ if has existed for 30 years or more and satisfies at least one of the criteria listed below.

- *Criteria 6*: Contain certain categories of species of birds, animals or plants listed in the Wildlife and Countryside Act 1981 or the British Red Data Books
- *Criteria 7*: The hedgerows includes:
  a) At least 7 schedule III woody species, on average in a 30m length;
  b) At least 6 schedule III woody species, on average in a 30m length and has at least 3 associated features;
  c) At least 6 schedule III woody species, on average in a 30m length, including a black popular tree, or large-leaved lime, or small-leaved lime or wild service tree;
  d) At least 5 schedule III woody species, on average in a 30m length and has at least 4 associated features.

  The associated features are:
  i. a bank or wall which supports the hedgerow along at least one half of its length;
  ii. gaps which do not exceed 10% of the length of the hedgerow;
  iii. on average, at least one tree per 50 metres;
  iv. at least 3 schedule 2 woodland species within one metre, in any direction, of the outermost edges of the hedgerow;
  v. a ditch along at least one half of the length of the hedgerow;
  vi. connections with other hedgerows, woods or ponds scoring 4 points or more (where a connection to another hedgerow scores 1 and a connection to a broad-leaved wood or pond scores 2); or
  vii. a parallel hedgerow within 15 metres of the hedgerow.

- *Criteria 8:* Run alongside a bridleway, footpath, road used as a public path, or a byway open to all traffic and includes at least 4 woody species, on average, in a 30m length and has at least 2 associated features as listed above.

In accordance with these regulations, regular 30m sections of each of the hedgerows at the site were sampled i.e. woody species were recorded for 30m out of every 100m in order to sample the hedgerow in a systematic way. The average number of species for each hedgerow was derived by totaling the number of species recorded and dividing by the number of sections. This gives an average to compare with the Hedgerow Regulations Criteria. Only when the average number of species is 5 or more are associated features taken into account. An average of 5 woody species and 4 associated features are needed for a hedgerow to be defined as important hedgerow in accordance with the regulations. The exception to this is when a hedgerow runs alongside a footpath or bridleway. In this case only 4 woody species and 2 associated features are needed.

Hedgerow H1 is a long hedgerow extending along the edge of Mill Green Road screening the residential houses, nursery area and the cultivated field form view. This is a uniform, tall trimmed Leylandii hedgerow. There are no trees or other woody species present along this hedgerow. It has an average of 1 species per 30m linear length and no associated features and does not qualify as an 'important hedgerow' under the regulations but obviously does provide significant screening along the boundary of the site.

Hedgerow H2 is a long tall hedgerow extending along the eastern boundary of the nursery area but it does not quite extend as far as the south boundary leaving a short section of approximately 50m secured by a metal palisade fence. This is an unusual hedgerow as it comprises one main species and this is Grey Alder (*Alnus incana*). It is trimmed very high (pleached but still down to ground level) and is uniform. Within the hedge some other species have colonised such as Hawthorn (*Crataegus monogyna*), Dog Rose (*Rosa canina*), Elder (*Sambucus nigra*) and Goat Willow (*Salix caprea*). As noted previously there are a handful of mature Ash (Fraxinus excelsior) scattered along this boundary as hedgerow trees. This hedgerow has an average of 3 species per 30m linear length and hedgerow trees which quality as an associated feature but it does not qualify as an

‘important hedgerow’ under the regulations. However, not only does it provide significant screening along the boundary of the site but a Grey Alder hedgerow of this type is uncommon and worth retaining as a landscape feature.



Hedgerow H1 along Mill Green Road



Grey Alder Hedge H2 on eastern boundary



Grey Alder hedge south/ south west boundary



Internal grey alder hedge H4

Hedgerow H3 is a long tall hedgerow extending along the southern and south western boundaries around the edge of the nursery area and the cultivated field screening these from view. This is an identical hedgerow to H2 as it comprises one main species and this is Grey Alder (*Alnus incana*). It is also trimmed very high (pleached but still down to ground level) and is uniform. This hedgerow is more uniform and there is less colonisation by other species but occasional Hawthorn (*Crataegus monogyna*), Elder (*Sambucus nigra*), Ash (*Fraxinus excelsior*) and Goat Willow (*Salix caprea*) are present. There are no trees or other qualifying features present. This hedgerow has an average of 2.5 species per 30m linear length and does not qualify as an ‘important hedgerow’ under the regulations. However, not only does it provide significant screening along the boundary of the site but a Grey Alder hedgerow of this type is uncommon and worth retaining as a landscape feature.

Hedgerow H4 is a long tall hedgerow extending between the nursery area and the cultivated field. This is also a tall pleased Grey Alder (*Alnus incana*) hedgerow similar to H2 and H3. This hedge has a number of small gaps present. There is limited colonisation by other species but occasional Hawthorn (*Crataegus monogyna*), Elder (*Sambucus nigra*) and Dog Rose (*Rosa canina*) are present. There are no trees or other qualifying features present. This hedgerow has an average of 2 species per 30m linear length and does not qualify as an ‘important hedgerow’ under the regulations. However, this is another example of an unusual pleached Grey Alder hedgerow of a type that is not common and it would be worth retaining as a landscape feature.

Figure 3 – Site Plan

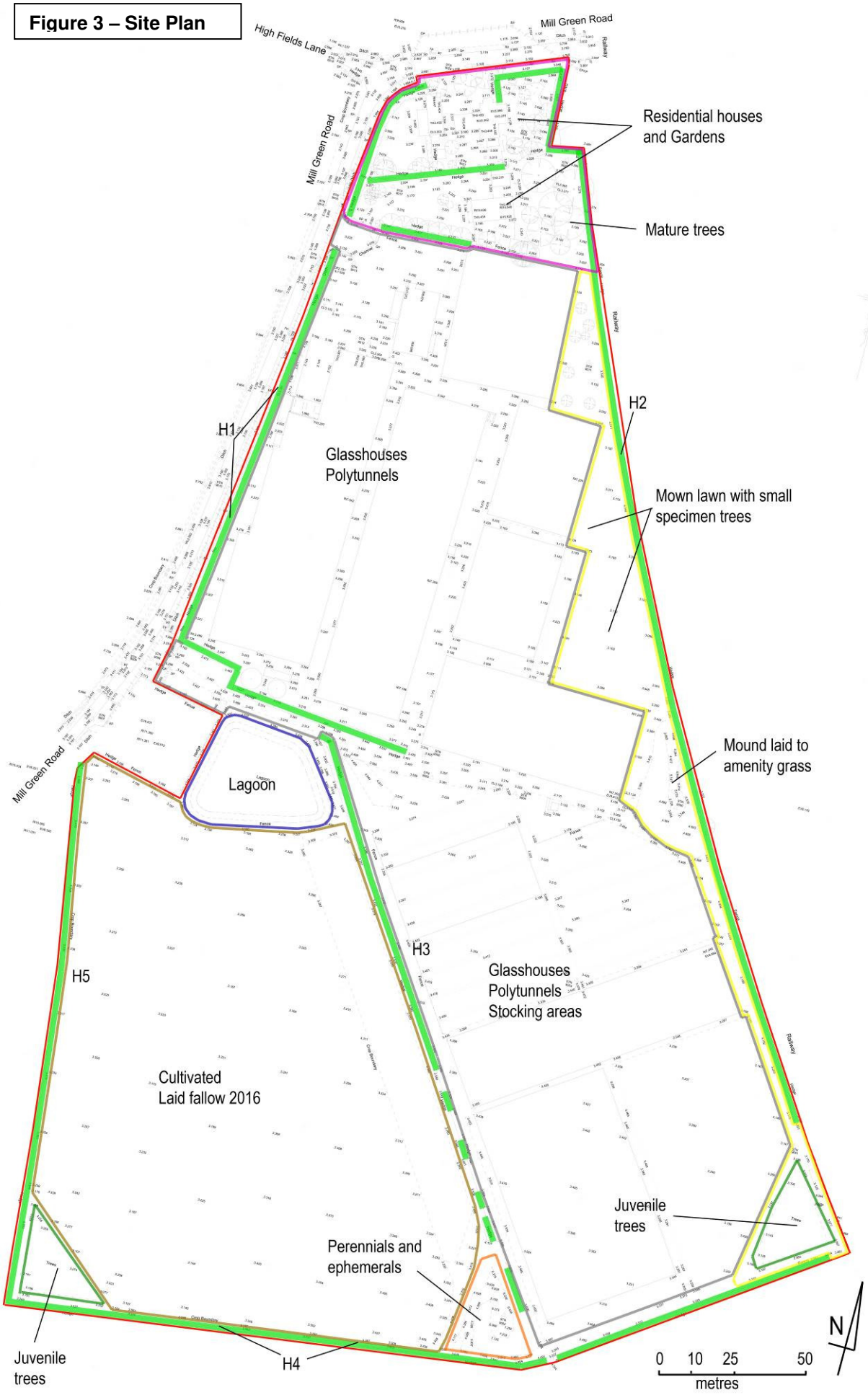
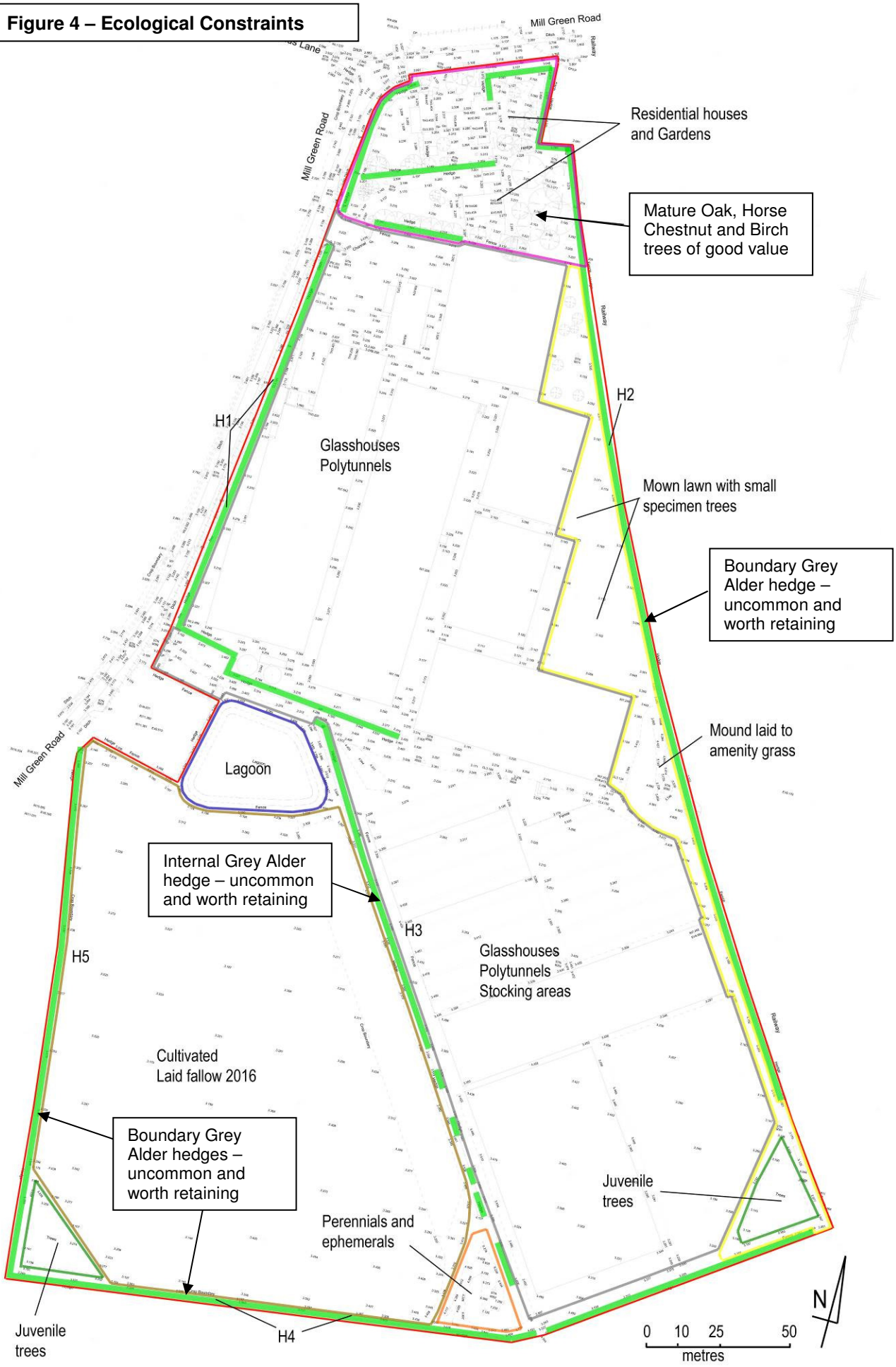


Figure 4 – Ecological Constraints



3.2 Evidence of Protected Species

No indications of protected species were found within the site area.

Reptiles: The walkover survey of the area was completed on a grid pattern looking for evidence or indication of reptiles. No sightings or physical evidence of reptiles was seen during the initial survey and this was carried out in suitable weather within the summer sub-optimum survey period. It is possible that there may be some reptiles within the marginal vegetation along the Alder hedgerows and adjacent garden areas. The majority of the site area is intensively managed and /or annually harvested and offers relatively limited cover or foraging potential for reptiles.

There are no records of reptiles within the area. A careful search of the compost heap for egg shells and slough was carried out but no physical evidence of reptiles was found. No further surveys for reptiles are recommended.

Amphibians: There are no ponds or water features within the site area and no links to such areas in the vicinity. There is a lined water harvesting pond but this is completely unsuitable for amphibians with steep slippery sides and no aquatic vegetation present of any kind.

Since there are no records of Great Crested Newts in the immediate vicinity of the site and the terrestrial habitat within the nursery area, cultivated field and nearby residential gardens is poor terrestrial habitat for amphibians, further surveys for these species are not recommended.

Chiroptera: There are known to be a number of roosts within Pinchbeck and the surrounding area is rich in linear foraging habitats for bat.

Whilst nursery stock and cultivated fields contain no structures suitable to support roosting bats. However some of the large mature Ash and broadleaved trees along the eastern boundary and within the garden of the houses in the northern part of the site could potentially support roosting bats having features such as dense ivy and dead wood present. In addition the two residential houses have features on the exterior that could potential be of interest to roosting bats.

No physical evidence to indicate the presence of roosting bats was found anywhere within the survey area. However since a number of individual mature trees have been identified with low or moderate roost potential and there are two residential houses present with features of potential interest, it is possible that further roosting bat surveys may be required if any development impact these trees and buildings.

Birds: Whilst the local area is quite rich in bird species, the gardens, nursery area and cultivated field do not provide particularly good habitat for nesting or foraging. The boundary hedgerows and mature trees within these were inspected for evidence of nesting birds and whilst no active nests could be seen, bird activity and the potential presence of nests may be anticipated in the future, particularly where dense ivy is present within the tree canopy providing cover. Nesting and foraging by birds within the nursery area is likely to be very restricted if occurring at all. The cultivated field may be of interest to foraging birds after seed depending on the crop that has been grown.

It is also likely that the tall Grey Alder hedgerows could be used by nesting birds found within field hedgerows. No evidence of Schedule 1 bird species was seen during the site inspection. Further surveys for nesting birds may be required, particularly if any proposed development requires the trimming of the boundary hedgerows or the removal of any trees. Any vegetation clearance carried out during the bird nesting season will need to be preceded by an inspection by an experienced ecologist.

Mammals: The inspection of the gardens, nursery and cultivated field areas has not identified any field signs of larger mammals. There are no signs of any setts, latrines or snuffle holes within the site area surveyed.

There are no records of nearby badger setts and access to the field for foraging purposes will be difficult as the dense boundary hedgerows have fencing along much of their length and the vegetation is very dense to the base. No further surveys for badger or other mammals is recommended.

3.3 Ecological Constraints and Opportunities

At the present time the potential development of the site is being considered but no plans have been provided at the time this report was prepared.

Constraints:
Very few constraints have been identified:
Grey Alder hedgerows – these unusual trimmed hedgerows run along the eastern, southern and south western boundary of the site providing screening. These are an unusual landscape feature as Grey Alder is not often trimmed into a pleached hedgerow and it is an attractive feature. There is a similar hedgerow running through the centre of the site. These hedgerows would be worth retaining wherever possible.

The mature trees within the gardens of the houses at the north end of the site and along the eastern boundary hedgerow should be retained and provided suitable protection measures.

The mature trees and two houses may require additional bat survey work if any proposed development impact these. If the houses are being retained and not disturbed as part of any development proposal further assessment of these should not be required. Similarly, if the mature garden trees and hedgerow trees are all being retained these may not require further assessment unless ivy or dead wood is being removed.

Opportunities:
There is potential to enhance the diversity and landscape / wildlife benefit in this location in the following ways:

1. By increasing the diversity of the vegetation around the site boundaries which is presently dominated by Leylandii and Grey Alder. Planting of additional hedgerows or tree / shrub areas would be beneficial as most of the site has little vegetation as present.
2. It may be possible to create a more natural wetland / swale using any surface water run-off from any proposed development. If located in a suitable position where it is accessible to local wildlife and sympathetically landscaped with native marginal and aquatic species such areas can become colonised by a range of wildlife. A position near to the south east boundary would potentially be ideal.
3. It is recommended that any landscaping with proposed new development should incorporate the use of native tree and shrub species.
4. The inclusion of bat boxes and bird nesting boxes within any proposed buildings around the margin of the field is encouraged.

Suitable ecological mitigation measures along the lines proposed above should be incorporated into any development design.

Part 3: Initial Ecological Appraisal

4. Impact of Proposed Site Improvements

Within the NPPF 2012, guidance on the provision or retention of biodiversity within any proposed areas for development and measures to ensure the safeguarding of protected species are provided. In the context of this site no specific proposals have been prepared in regards to any development so impact from this can only be initially assessed based on certain assumptions:

a) Access into the site for the purposes of any development will probably be via the existing access points into the Nursery from Mill Green Road. If a new access is required this might remove a section of Leylandii but this would not be a great loss to the local landscape.
b) The boundary hedgerows around the nursery site and cultivated field will presumably be retained and incorporated into the development in a sustainable manner with sufficient space to allow these to be properly managed by seasonal trimming.

4.1 Impact of the Proposals on Site Biodiversity

The level of biodiversity within the site being assessed must be a consideration in determining the *'impact on biodiversity'* that may arise from any development on the site. Within the NPPF Paragraphs 114 and 117 state that:

"Local planning authorities should..... set out a strategic approach...., planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure; (114) and,

"...minimise impacts on biodiversity and geodiversity by promoting the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity….; (117)

The residential areas, nursery stock areas and small cultivated field have limited ecological value at the present time due to the intensive management, extensive cover by buildings and fertility of this land. The boundary areas, particularly to the east and south, have hedgerows and trees that could provide significant cover and foraging potential for local wildlife that can access these areas.

On the basis that it is likely the majority of the mature trees within the gardens will probably be retained as they are positioned close to the site boundary, it is likely that only the open garden areas, nursery area and cultivated field will be utilised for development. On the basis of these assumption t is likely that development of the site can be carried out in a manner that does not have any significant impact on local biodiversity. From the evidence of the Phase 1 Habitat Survey it does not appear that there would be any loss of significant habitat areas or fragmentation of any such habitats within the locality by isolating these as a result of development.

4.2 Impact of the Proposals on Protected Species

The requirements of Part IV of ODPM / Defra Circular 06/2005 in regard to the protection of certain species are still applicable under the new NPPF. The presence of protected species at the site must be taken into consideration. NPPF March 2012 paragraph 119 makes the following provision in relation to the presence of protected species on, or making use of, a site proposed for any development:

"The presumption in favour of sustainable development (paragraph 14) does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined."

The survey completed in August 2016 has not identified any physical evidence of protected species at the site nor identified any indication that the site is of importance to any protected species in this locality. However, certain individual mature Ash trees along the eastern boundary and the two existing residential houses and trees within the gardens of these, have been assessed as having potential for roosting bats so further surveys of these trees and structures may be required if any development proposed requires these to be disturbed in any way.

A bird nesting survey may be required if any vegetation is to be removed during the nesting season.

No further protected species surveys for amphibians, reptiles or other mammals have been recommended.

5. Conclusions

The site assessed is an area occupied by two houses with gardens, an extensive area of glasshouses, polytunnels and nursery stock, and a cultivated field annually used for commercial flower growing situated on the south western edge of Pinchbeck village, Lincolnshire.

After inspecting the site it is concluded that:

a) The land within the site area surveyed contains land of fairly low ecological value and there is no indication that any proposal for development within this area will compromise an area of significant biodiversity.
b) There are no significant ecological constraints present within the site but the hedgerows and mature trees on the site boundaries have some landscape and ecological value.
c) No evidence of any protected species was found within the site area. Some additional assessment of certain individual trees and the two residential houses may be required to assess for the presence of roosting if the trees and buildings are impacted by any proposed development.
d) No additional protected species surveys have been recommended taking into account the comment above, although if any clearance of established boundary vegetation is to take place during the bird nesting season an inspection by an ecologist may be required before work commences.

The assessment of impact arising from any proposed development of the site area will need to be reviewed once a development plan has been prepared to confirm the assumptions made and conclusions drawn from these are correct.

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REFERENCES

National Planning Policy Framework 2012. Department for Communities and Local Government. HMSO

JNCC (2010). *Handbook for Phase 1 habitat survey: a technique for environmental audit (revised reprint*). JNCC: Peterborough.

British Standard 42020 – British Standard for Biodiversity: Code of Practice for planning and development. British Standards Institute 2013.

The Conservation (Natural Habitats &c.) Regulations 1994: Statutory Instrument 1994 No 2716. OPSI. HMSO.

English Nature (2004). *Guidelines for Developers*. English Nature, Peterborough

Stace, C (2005) Field Flora of the British Isles. Cambridge University Press.

Trees of Britain and Northern Europe. A Mitchell. Collins 1998

Trees and Bushes of Britain and Europe. O Polunin. Paladin Press 1998.

Grasses, Sedges, Rushes and Ferns of Britain and Northern Europe. Field Guide. Collins 1987.

Wild Flowers of Britain. R Phillips. Pan Books. 1990.

Cheffings, C.M. & Farrell, L. (Eds), Dines, T.D., Jones, R.A., Leach, S.J., McKean, D.R., Pearman, D.A., Preston, C.D., Rumsey, F.J., Taylor, I. 2005. *The Vascular Plant Red Data List for Great Britain*. *Species Status* **7**: 1-116. Joint Nature Conservation Committee, Peterborough.

Bat Surveys: Good Practice Guidelines 2012. Bat Conservation Trust, London.

Froglife. 1999. Reptile Survey. *An Introduction to Planning, Conduction and Interpreting Surveys for Snake and Lizard Conservation.* Froglife Advice Sheet 10. Froglife.

Gent, A.H. and Gibson, S.D., eds. 1998 *Herpetofauna Workers' Manual*. Peterborough, Joint Nature Conservation Committee.

Guidelines for Preliminary Ecological Appraisal (2012). Institute of Ecology and Environmental Management (IEEM)

Web references

MAGIC: Designated area data downloaded from URL http://www.magic.gov.uk.html

National Biodiversity Network: Protected species data downloaded from URL http://data.nbn.org/interactive/map

Appendix 1 – Indicative Species List

Tree and Shrub Species	***Ground Flora and Perennial Species***
Alder (*Alnus glutinosa*) Ash (*Fraxinus excelsior*) Beech (*Fagus sylvatica*) Birch (*Betula pendula*), Blackthorn (*Prunus spinosa*) Cherry (*Prunus avium*), Cherry Laurel (*Prunus laurocerasus*) Dog Rose (*Rosa canina*) Elder (*Sambucus nigra*) Field Maple (*Acer campestre*) Ginko (*Ginko biloba*) Goat Willow (*Salix caprea*) Grey Alder (*Alnus incana*) Gum (*Eucalyptus gunii*) Hawthorn (*Crataegus monogyna*) Holly (*Ilex aquifolium*) Horse Chestnut (*Aesculus hippocastenum*) Ivy (*Hedera helix)* Leylandii *(X Cupressocyparis Leylandii)* Oak *(Quercus robur)* Pine (*Pinus sylvestris*), Privet (*Legustrum vulgare*) Rowan (*Sorbus acuparia*), Spirea (*Spirea* Cul) Sycamore (*Acer pseudoplatanus*) Willow (*Salix alba*)	Bent (*Agrostis* sp), Bindweed (*Bilderdykia convolvulus*), Bramble (*Rubus fruiticosa*) Buttercup (*Ranunculus repens*), Chickweed (*Stellaria media*). Cleaver (*Galium aparine*), Clover (*Trifolium repens* and *T.pratense*), Cow Parsley (*Anthriscus sylvestris*) Creeping Thistle (*Cirsium arvense*), Couch (*Elymus repens*), Dandelion (*Taraxacum* sp), Dock (*Rumex obtusifolius*), Fat Hen (*Chenopodium album*), Fescue (*Festuca rubra*), Field Bindweed (*Convolvulus arvensis*), Field Bindweed (*Convolvulus arvensis*), Forget me Not (*Myosotis arvensis*), Garlic Mustard (*Alliaria petiolata*), Groundsel (*Senecio vulgaris*) Hawks Beard *(Crepis biennis)* Herb Bennet (*Geum urbanum*), Hogweed (*Heracleum sphondylium*) Ivy (*Hedera helix*) Mayweed (*Chamomilla suaveolens*), Mayweed (*Matricaria maritima*), Meadow grass (*Poa* sp) Mugwort (*Artemesia vulgaris*) Nettle (*Urtica dioica*), Perennial Ryegrass (*Lolium perenne*) Plantain (*Plantago lanceolata*) Red Dead Nettle (*Lamium purpurea*), Redshank (*Polygonum persicaria*), Scarlett Pimpernel (*Anagallis arvensis*), Shepherds Purse (*Capstella bursa-pastoris*), Silverweed (*Potentilla anserina)*, Speedwell (*Veronica agrestis*), Spurge (*Euphorbia helioscopia*) Sowthistle (*Sonchus asper*), Thistle (*Cirsium arvense*), White Dead Nettle (*Lamium album*) Willowherb (*Epilobium angustifolium*) Yellow Rocket (*Barbarea vulgaris*) Yorkshire Fog (*Holcus lanatus*)

This species list is not exhaustive and is a summary of the species recorded by the surveyor during the inspection of the site whilst the habitat areas were being characterised.

Appendix 2: Biological Records – Greater Lincolnshire Nature Partnership Records

SEPARATE APPENDIX.