Preliminary Ecological Appraisal

for

Fengate Farm, Marsham

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	Report Author:	**Approved by:**
Author:	Nick Aldus MCIEEM	Dr Jo Parmenter CEcol CEnv MCIEEM MIEMA
Job title:	Senior Ecologist	Director

Client Details	
Client:	Noble Foods Ltd - Farms
Client Address:	Hives Lane | North Scarle | Lincolnshire | LN6 9HA

Contact Details

The Landscape Partnership Ltd

Greenwood House | 15a St Cuthberts Street | Bedford | MK40 3JG — **Tel:** 01234 261315

East Building | Holland Court | Cathedral Close | Norwich | NR1 4DY — **Tel:** 01603 230777

The Granary | Sun Wharf | Deben Road | Woodbridge | IP12 1AZ — **Tel:** 01394 380509

Ensign House (E&F) | Tavern Quay | Sweden Gate | Surrey Quays | London | SE16 7TX — **Tel:** 020 3092 4141

The Landscape Partnership Ltd is a practice of Chartered Landscape Architects, Chartered Ecologists and Chartered Environmentalists, registered with the Landscape Institute and a member of the Institute of Environmental Management & Assessment & the Arboricultural Association.

Registered Office:
Greenwood House
15a St Cuthberts Street
Bedford
MK40 3JG

Registered in England No 2709001

Quality Standards

This report is certified BS 42020:2013 'Biodiversity – code of practice for planning and development' compliant and has been prepared in accordance with The Chartered Institute of Ecology and Environmental Management's (CIEEM) Technical Guidance Series '*Ecological Report Writing'* and Code of Professional Conduct.

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The Landscape Partnership was commissioned by Noble Foods Ltd - Farms to undertake a Preliminary Ecological Appraisal comprising a desk study, Phase 1 Habitat Survey, and an assessment of impacts at Fengate Farm, Marsham.

The objectives of the appraisal were to identify the habitats and species present or potentially present and evaluate their importance, assess the impact of the outline development proposal and describe any measures necessary to avoid potential impacts, reduce impacts or compensate for impacts so that there is no net harm to ecological features.

The survey involved classifying and recording habitat types and features of ecological interest and identified the potential for protected species to be present by assessing habitat suitability for those species. The survey was undertaken by appropriately qualified and experienced personnel.

The site comprises a derelict poultry farm, partially destroyed by fire, with a number of smaller surviving ancillary buildings, and which is surrounded on its southern, eastern and northern sides by existing domestic housing and open farmland to the west.

The site would be put forward for inclusion within the emerging Greater Norwich Local Plan for a residential development of up to 35 dwellings. Any potential in-combination **impacts on European sites** (and by default sites of National importance) arising from a development would be mitigated by inclusion within a County-wide Green Infrastructure and Recreational Impact Avoidance and Mitigation Strategy, to which the development would contribute financially at the calculated rate. Further site-based mitigation strategies to minimise impacts on local sites would include promotion of, and linkages to, the local Public Rights of Way network. No impacts are anticipated on Locally designated sites.

Habitats within the site boundary include standing and derelict buildings, unmanaged rough grassland, scrub and screening tree lines. Collectively the habitats within the proposed development site are assessed as being of value at the **Parish** level.

It is provisionally anticipated, subject to the development of a detailed site masterplan, that no mitigation is needed for the following ecological features as **no significant impacts** are foreseen: flowering plants, invertebrates, great crested newts and other amphibians, water vole, and otter.

In the absence of mitigation, a development of the site could give rise to a **Minor Adverse** impact upon habitats and **Minor Adverse** impacts on breeding and wintering birds, and foraging bats.

Unknown impacts remain for badger, reptiles and roosting bats and any impact would be determined by **further detailed surveys** undertaken during the appropriate season, the results of which would be used to inform scheme design and appropriate mitigation where necessary. Standard measures might include phased vegetation clearance and/or translocation of reptiles, and appropriate licensed measures for bat roosts and badger setts if either feature were subsequently identified.

Outline avoidance and mitigation measures have been proposed where impacts can reasonably be foreseen including seasonal restrictions to site clearance, retention of mature trees, woodland and native scrub boundaries, inclusion of replacement artificial nesting and roosting habitats and the use of extensive native species within a landscape design of a future scheme. These measures would reduce the impacts of the development proposals upon the habitats and species present, to give rise to a provisional overall **Minor Adverse-Neutral** impact.

Enhancement measures over and above mitigation have been proposed to further increase the ecological value of a development and could include inclusion of permanent wildflower grassland and native scrub habitat, a wildlife pond, enhancement and appropriate management of site boundary habitats, provision of durable bat roost boxes, species-specific bird nest boxes and insect refuges.

1 Introduction

1.1 Commission

1.1.1 The Landscape Partnership was commissioned by Carter Jonas on behalf of Noble Foods Ltd - Farms to carry out a Preliminary Ecological Appraisal (PEA), comprising a desk study, Phase 1 Habitat Survey, and an assessment of impacts.

1.2 Legislation and policy background

1.2.1 There is a range of protection given to sites and species. Sites may be designated for local, national, European or global importance for nature conservation. Species may be protected by European-scale legislation or varying levels of national regulation.

1.2.2 The Local Planning Authority has a policy to protect features of nature conservation value within its Local Plan. Other regulators have policies relating to the consents issued by them.

1.2.3 Further information is given in Appendix 1.

1.2.4 Assessment was undertaken against current legislation and planning policy, and in accordance with standard guidance. Further information is given in Section 2 and Appendix 2.

1.3 Site location and context

1.3.1 The site is around 3km south of the town of Aylsham and 11km north of the urban edge of Norwich. The site lies to the north of the centre of the small village of Marsham, south of Fengate and west of the A140 Norwich Road.

1.3.2 The site comprises a derelict poultry farm, partially destroyed by fire, with a number of smaller surviving ancillary buildings which is surrounded on its southern, eastern and northern sides by existing domestic housing and open farmland to the west.

1.3.3 Habitats include the standing and derelict buildings, unmanaged rough grassland, scrub and screening tree lines.

1.3.4 The Ordnance Survey Grid Reference for the approximate centre of the proposed development site is TG19612417. A plan showing the site is provided at Figure 01.

1.4 Acknowledgements

Surveyor Competencies

Survey(s) undertaken	Surveyor(s)	Experience (years)	Licences Held
Phase 1 habitat survey	Nick Aldus MCIEEM	15+	Great crested newt Class Licence CL08 (Level 1) Bat Class Licence CL18 (Level 2) FISC Level 3

Other contributors

1.4.1 We acknowledge the input of:

- Norfolk Biodiversity Information Service for provision of data.

1.5 Description of the project and objectives of this appraisal

1.5.1 The site is proposed for promotion within the emerging Greater Norwich Local Plan for residential development of up to 35 dwellings and as such there are no detailed proposals for the site at present. This assessment is therefore based on a typical development of 35 dwellings, associated infrastructure and open space and the assumption that development would encompass the whole site.

1.5.2 Detailed objectives of this appraisal are to:

- identify the habitats and species present or potentially present and evaluate their importance;
- identify any ecological constraints to future development;
- assess the impact of a future development;
- identify any opportunities available for integrating ecological features within development;
- describe any measures necessary to avoid impacts, reduce impacts or compensate for impacts so that there is no net harm to ecological features;
- propose ecological enhancements;
- identify any additional surveys that may be required to inform an Ecological Impact Assessment (EcIA).

1.6 Previous ecological studies

1.6.1 An Ecological Appraisal plus bat, barn owl and breeding bird surveys were undertaken in 2013 at the site in support of a previous unsuccessful planning application (2013/1533 Broadland District Council).

1.7 Duration of appraisal validity

1.7.1 The assessment, conclusions and recommendations in this appraisal are based on the studies undertaken, as set out in this report, and the stated limitations. This appraisal is based on the project as described and any changes to the project would need the appraisal to be reviewed. Unless otherwise stated, the assessment, conclusions and recommendations given assume that the site habitats will continue to be used for their current purpose without significant changes until development takes place. However, changes in use or management may occur between the time of the survey and proposals being implemented. Ecological features may change naturally at any time; for example, species may be lost from existing sites or colonise new areas. Our knowledge of the ecology of the site enables us to provide an estimate of the duration of the validity of the surveys carried out and hence the applicability of this appraisal, so that any future need for review and update of this appraisal, or the surveys described within it, and the date by which such updates would become necessary, can be identified.

1.7.2 The table below sets out a guide to duration of validity of each element of each information source. If the proposed development is delayed beyond the stated timescale, updated surveys or further investigations may be required. Provided a planning application is made and validated prior to the end of the period stated below there would not normally be a requirement for further update survey except as indicated in Section 4.6.

Information source	Date undertaken	Guideline duration of validity from date undertaken	Notes
Desk study	15th December 2020	1 – 2 years	Further data may become available.
Phase 1 habitat survey	18th December 2020	2 years	The habitats on site may change especially if management changes.

2 Methodology

2.1 Desk study methodology

2.1.1 Norfolk Biodiversity Information Service was asked to provide records of protected, rare and/or priority species and details of statutory and non-statutory designated sites, within a 1km radius of the centre of the site at TG19612417. The data were received on 17th December 2020.

2.1.2 The Magic website[1] was used to identify internationally designated sites within a 10km radius and national sites within a 5km radius. The Magic website was accessed on 15th December 2020.

2.1.3 Aerial photographs and OS maps were used to gain initial information about the site and the surrounding area. This gives an indication of the types of habitat and species likely to be present and the setting of the site within the landscape.

2.1.4 Water bodies within 500m of the site were identified from the relevant 1:25,000 Ordnance Survey map sheet, to establish the need for protected species scoping surveys, such as great crested newt Habitat Suitability Index surveys. Consideration was also given to the green infrastructure of the local area.

2.1.5 The potential for protected, rare and/or priority species to be present on site has been considered in this assessment, taking into account the nature of the site and the habitat requirements of the species in question. Absence of records does not constitute absence of a species. Habitats on the site may be suitable for supporting other protected species that have not previously been recorded within the search area. Conversely, presence of a protected species in the search area does not imply its presence on-site. Records of alien species, non-localised records (e.g. tetrad records) and records dated before 1995 have not been described in detail but are taken into account when considering likely species presence or absence.

2.1.6 The data supplied by the Records Centre were considered in the assessment of potential impacts below.

Limitations to desk study methodology

2.1.7 There were no significant limitations to the desktop study.

2.1.8 In accordance with BS42020 and advice from most Local Biological Record Centres, species lists are not appended to this report but are available to the Local Planning Authority on request.

2.1.9 Availability of records will vary in different locations, as many depend on the presence of local experts and survey effort within the local area. An absence of a record does not necessarily indicate the absence of that species.

2.2 Phase 1 habitat survey methodology

2.2.1 The standard Phase 1 (baseline) habitat survey methodology[2] was followed. Phase 1 habitat survey is a standardised system for surveying, classifying and mapping wildlife habitats, including urban areas. All habitats present and areas or features of ecological interest within such habitats were recorded and mapped. The survey methodology facilitates a rapid assessment of habitats and it is not necessary to identify every plant species on site. Where given, scientific names of plant species follow Stace ed. 4[3].

2.2.2 The survey visit was also used to identify potential for protected, rare and/or priority species, for example bats, mammals, amphibians and reptiles, to occur on, or in the vicinity of, the proposed development site. Although the survey methodology is not intended for species survey, any protected, rare and/or priority species which were seen during the survey were noted.

2.2.3 The survey was undertaken on 18th December 2020 and the weather conditions were overcast, cold and with a strong wind.

[1] MAGIC: https://magic.defra.gov.uk/MagicMap.aspx.
[2] JNCC (2010) *Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit.* Reprinted by JNCC, Peterborough.
[3] Stace, C (2019) *New Flora of the British Isles*. C&M Floristics. 4th Edition.

Limitations to Phase 1 habitat survey

2.2.4 The area of the site containing collapsed and fire destroyed buildings was fenced off for safety and security reasons and was not accessible for detailed survey. The nature of these areas was such that they would either have not been safe to access or, in areas, physical access would not have been possible in any case. Furthermore, these areas were not considered to be of likely significant ecological interest. An area of coniferous plantation was however included in this area and hence detailed survey was not possible.

2.2.5 This exclusion was considered to be a minor limitation to survey of the woodland only.

2.3 Assessment methodology

2.3.1 The assessment was undertaken in accordance with the Chartered Institute of Ecology and Environmental Management's Professional Guidance Series[4].

2.3.2 More details of the assessment methodology are provided in Appendix 2, but, in summary, the impact assessment process involves:

- identifying and characterising impacts;
- incorporating measures to avoid and mitigate (reduce) these impacts;
- assessing the significance of any residual effects after mitigation;
- identifying appropriate compensation measures to offset significant residual effects; and
- identifying opportunities for ecological enhancement.

2.3.3 The hierarchical process of avoiding, mitigating and compensating for ecological impacts is explained further below.

2.3.4 In Ecological Impact Assessment (EcIA) it is only essential to assess and report significant *residual* effects (i.e. those that remain after mitigation measures have been taken into account). However, it is considered good practice for the EcIA to make clear both the potential significant effects without mitigation and the residual significant effects following mitigation, particularly where the mitigation proposed is experimental, unproven or controversial. Alternatively, it should demonstrate the importance of securing the measures proposed through planning conditions or obligations.

2.3.5 Assessment of the potential impacts of the proposed development takes into account both on-site impacts and those that may occur to adjacent and more distant ecological features. Impacts can be positive or negative. Negative impacts can include:

- direct loss of wildlife habitats;
- fragmentation and isolation of habitats through loss of connectivity;
- disturbance to species from noise, light or other visual stimuli;
- changes to key habitat features; and
- changes to the local hydrology, water quality, nutrient status and/or air quality.

2.3.6 Negative and positive impacts on ecological features are characterised based on predicted changes as a result of the proposed activities. In order to characterise the impacts on each feature, the following parameters are considered:

- the magnitude of the impact;
- the spatial extent over which the impact would occur;
- the temporal duration of the impact and whether it relates to the construction or operational phase of the development;
- the timing and frequency of the impact; and
- whether the impact is reversible and over what time frame.

2.3.7 Both short-term (i.e. impacts occurring during the site clearance and construction phases) and long-term impacts are considered.

[4] CIEEM (2016) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*, Second Edition. Chartered Institute of Ecology and Environmental Management, Winchester.

Conservation status

2.3.8 The extent to which the proposed development may have an effect upon ecological features should be determined in the light of its expected influence on the integrity of the site or ecosystem. The integrity of protected sites is considered specifically in the light of the site's conservation objectives. Beyond the boundaries of designated sites with specific nature conservation designations and clear conservation objectives, the concept of 'conservation status' is used. Conservation status should be evaluated for a study area at a defined level of ecological value. The extent of the area used in the assessment relates to the geographical level at which the feature is considered important.

2.3.9 For habitats, conservation status is determined by the sum of the influences acting on the habitats and their typical species that may affect their long-term distribution, structure and functions, as well as the long-term survival of its typical species within a given geographical area. For species, conservation status is determined by the sum of influences acting on the species concerned and inter-relationships that may affect the long-term distribution and abundance of its populations within a given geographical area.

Confidence in predictions

2.3.10 It is important to consider the likelihood that a change or activity will occur as predicted and also the degree of confidence in the assessment of the impact on ecological structure and function.

- **Certain** probability estimated at above 95%
- **Probable** probability estimated above 50% but below 95%
- **Possible** probability estimated above 5% but below 50%
- **Unlikely** probability estimated as less than 5%

Cumulative impacts

2.3.11 Consideration is also given to the potential for the development proposal to give rise to significant negative impact in combination with other proposed developments in the local area.

Overall assessment

2.3.12 An overall assessment of value and impact is provided. This is based upon the highest level or value of any of the features or species present, or likely to be present on the site. Similarly, the overall assessment of impact is the impact of greatest significance.

2.4 Mitigation hierarchy

2.4.1 The following principles underpin EcIA and have been followed, where applicable, in this assessment.

- **Avoidance** Seek options that avoid harm to ecological features (for example, by locating the proposed development on an alternative site or safeguarding on-site features within the site layout design).
- **Mitigation** Adverse effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.
- **Compensation** Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.
- **Enhancement** Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

3 Results

3.1 Desk study results

European sites

3.1.1 There were five European sites in the search area.

3.1.2 The following European sites (Special Protection Area, Special Area of Conservation, and Ramsar sites which are treated as if they were European sites) were identified within the search area and are detailed within the table below.

Site	Distance and direction from site (approx.)	Key habitat/features of interest
Norfolk Valley Fens (SAC)	2.6km south-west	Buxton Heath SSSI, a component site of Norfolk Valley Fens SAC supports diverse heath and fen habitats over glacial sands. The designation covers a series of valley-head spring-fed fens of the small sedge fen type, mainly referable to M13 *Schoenus nigricans – Juncus subnodulosus* mire, but there are transitions to reedswamp and other fen and wet grassland types. The individual fens vary in their structure according to intensity of management and provide a wide range of variation. There is a rich flora associated with these fens, including species such as grass-of-Parnassus *Parnassia palustris*, common butterwort *Pinguicula vulgaris*, marsh helleborine *Epipactis palustris* and narrow-leaved marsh-orchid *Dactylorhiza traunsteineri*.
River Wensum (SAC)	9.7km south-west	The River Wensum SAC is an example of an enriched, calcareous lowland river supporting a total of over 100 species of plants, a rich invertebrate fauna and a relatively natural corridor. The site is designated for the presence of stream water-crowfoot *Ranunculus penicillatus* ssp. *Pseudofluitans*, thread-leaved water-crowfoot *R. trichophyllus* and fan-leaved water-crowfoot *R. circinatus.* The presence of riverine white-clawed crayfish *Austropotamobius pallipes* is also a primary reason for its designation.
Broadland/ The Broads (Ramsar, SAC, SPA)	10km SE	Crostwick Marsh comprises a small component site which lies 4.5km west of the of the much larger and contiguous Broads area on a tributary of the River Bure, which itself lies beyond the 10km search area. The site comprises typical Broadland calcareous spring fed fen grassland supporting a range of uncommon plants which in turn supports a range of wetland birds including grasshopper and sedge warblers, snipe, woodcock and lapwing.

Sites of national importance

3.1.3 The following sites of national importance (Site of Special Scientific Interest, National Nature Reserve) were identified within the search area and are detailed within the table below.

Site	Distance and direction from site (approx.)	Key habitat/features of interest
Cawston And Marsham Heaths SSSI	2km west	Cawston and Marsham Heaths form the largest area of Heather-dominated heathland now remaining in east Norfolk. They represent a locally scarce type which shows affinities to the Atlantic coastal heaths found in western Britain. Dry Heather-heathland has developed on glacial sands and gravels and the site has been subject to generations of grazing and burning. As a result there is a diverse flora which includes a rich assemblage of lichens. The site is also of considerable ornithological interest.
Buxton Heath SSSI	2.6km south-west	Buxton Heath is a diverse heath-with-fen area situated in a basin of glacial sands which forms one of the best examples of this habitat type in Norfolk. The valley mire is floristically rich and there is a rapid transition from calcareous to acidic plant communities with dry acidic heathland on higher ground. These communities have remained undisturbed for a long period of time and a number of rare relict mosses, liverworts and fungi occur on the site. Several uncommon invertebrates have also been recorded including one species new to Britain plus breeding nightjar and woodlark

Sites of local importance

3.1.4 The following sites of local importance (Local Wildlife Site, County Wildlife Site, Ancient Woodland, Local Nature Reserve) were identified within the search area and are detailed within the table below.

Site	Distance and direction from site (approx.)	Key habitat/features of interest
Land near Bolwick Hall (CWS)	500m East	Area of semi-improved neutral grassland with a number of impeded and unimpeded drainage ditches. The Mermaid, a small river, runs along part of the northern boundary. Last surveyed (1996)
The Mermaid	980m North west	The comprises a range of habitats bordering The Mermaid stream and which connects to two further CWS forming a continuous linear corridor. The site includes coppice woodland comprising alder and ash, ungrazed marshy grassland, dense scrub and The Mermaid stream with aquatic and riparian habitats.

3.1.5 Site locations relative to the proposed development site are shown in Appendix 3.

Protected, rare and/or priority species

3.1.6 A number of species records were returned for the search area. Records for protected, rare and/or priority species from within the search area are summarised below. In accordance with BS42020 and advice from most Local Biological Record Centres, species lists are not appended but are available to the Local Planning Authority on request.

Veteran trees

3.1.7 One veteran tree record was returned, but at distance from the site.

Plants

3.1.8 No protected, rare and/or priority plant species records were returned

Invertebrates

3.1.9 No protected, rare and/or priority invertebrate species records were returned.

Amphibians including great crested newts

3.1.10 No protected, rare and/or priority amphibian species records were returned.

Reptiles

3.1.11 Individual records for grass snake *Natrix helvetica* and adder *Vipera berus* were returned.

Birds

3.1.12 There were many bird records for the area. Species included golden plover *Pluvialis apricaria*, turtle dove *Streptopelia turtur*, barn owl *Tyto alba*, swift *Apus apus*, black redstart *Phoenicurus ochruros* and corn bunting *Emberiza calandra*.

Terrestrial Mammals including badgers

3.1.13 Badger *Meles meles* has been recorded from the local area, as has hedgehog *Erinaceus europaeus*.

Aquatic Mammals including water voles and otters

3.1.14 Otter *Lutra lutra* have been recorded in the local area. No water vole records were received.

Bats

3.1.15 There was a small number of records of bats in the study area, with the nearest record from a static detector sited in the vicinity of All Saint's Church c.450m south of the site. Records comprised barbastelle *Barbastella barbastellus*, noctule *Nyctalus noctula*, brown long-eared *Plecotus auritus,* and soprano pipistrelle *Pipistrellus pygmaeus.*

3.2 Phase 1 habitat survey results

3.2.1 Thirteen Phase 1 habitat categories were identified during the Phase 1 habitat survey and are shown on Figure 01. Each habitat is described below.

Management, setting and green infrastructure

3.2.2 The site lies within the village of Marsham, slightly to the north of the village centre, and is surrounded on three sides by existing domestic and commercial dwellings. The main A140 Norwich Road lies to the east of the site, beyond adjacent housing.

3.2.3 The wider landscape remains strongly rural, with arable fields, small woodlands and grassland habitats associated with The Mermaid stream lying to the north. Heath and woodland habitats forming Buxton, Cawston and Marsham Heaths lie to the west.

3.2.4 The site has limited connectivity beyond the site boundaries and is restricted to domestic gardens to the south and east, with some connectivity to habitats bordering The Mermaid to the north and arable field edges to the west.

3.2.5 The site comprises the derelict and destroyed farm buildings with other unmanaged habitats and encroaching vegetation. The site appears to have been unmanaged for a number of years and hence colonisation by pioneering vegetation is present in many areas.

A1.2.2 Coniferous plantation woodland

3.2.6 A small area of mature Scots's pine *Pinus sylvestris* lay to the south of the site. This area was not accessible for detailed survey due to the security fencing and hence survey beneath the canopy was not undertaken.

A2.1 Dense scrub / A2.2 Scattered scrub / J1.4 Introduced shrub

3.2.7 Scattered scrub was present in areas throughout the site, mainly as self-seeded native species such as bramble *Rubus fruticosus* agg. and elder *Sambucus nigra*, plus some stands and individual saplings of ash *Fraxinus excelsior*, oak *Quercus robur*, field maple *Acer campestre*, elm *Ulmus* sp. and hazel *Corylus avellana*. A small stand of stag's horn sumac *Rhus typhina* was also noted.

3.2.8 Dense bramble scrub was widespread in the south west corner of the site, in association with the derelict collapsed asbestos sheds. This area was fenced off although would not have been accessible for survey.

3.2.9 The western boundary, while inaccessible for detailed survey, was assumed to comprise an unmanaged and overgrown hedgerow boundary more appropriately attributed to a scrub category.

A3.1 Scattered broad-leaved trees

3.2.10 A small number of individual young or semi-mature trees were present throughout the site comprising mainly self-sown ash. Mature oak trees were noted along the inaccessible western field boundary.

A3.2 Scattered coniferous trees

3.2.11 A line of mature Scot's pine lined the southern site boundary.

B3.6 Buildings- J4 Bare ground/Hardstanding - J5 Other

3.2.12 A number of buildings and remains of buildings were present on site. Three large sheds and an adjoining building had been completely destroyed by fire in early 2020 and the debris and immediate area offered no ecological interest.

3.2.13 Three further derelict structures comprising collapsed asbestos sheds were present to the south western corner. The building remains were overgrown with brambles and scrub and hence were not accessed for survey.

3.2.14 A number of smaller single storey standing structures were present throughout site and included Portakabin's, simple brick-built storage sheds and a timber machinery shed.

B6 Poor semi-improved grassland

3.2.15 The north of the site comprised a sloping area of open unmanaged grassland which graded into a more ruderal sward where it sloped away to the east.

3.2.16 The grassland was rough, tussocky and unmanaged except where mown as a result of apparent use by adjoining properties.

3.2.17 Grasses noted included false oat-grass *Arrhenatherum elatius*, cock's-foot *Dactylus glomerata* and annual meadow grass *Poa annua*. Forbs were limited but included nettle *Urtica dioica*, creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, cow parsley *Anthriscus sylvestris*, broad-leaved dock *Rumex obtusifolius*, creeping buttercup *Ranunculus repens*, foxglove *Digitalis purpurea*, ground ivy *Glechoma hederacea*, common chickweed *Stellaria media* and occasional ragwort *Jacobaea vulgaris*.

C3.1 Tall ruderal (rank) vegetation

3.2.18 Ruderal vegetation in association with unmanaged grassland was present to the east and south east of the site. Both common nettle, creeping and spear thistle were more prevalent than in the sloping areas of grassland further to the centre and north of the site. Broad-leaved dock and ground-ivy was also common.

3.2.19 A further area of disturbed ground was present at the south of the site where Russian comfrey *Symphytum* x uplandicum was widespread in association with nettle, thistles, and willowherb *Epilobium* sp.

J1.3 Ephemeral/short perennial

3.2.20 Ephemeral and short perennial habitats were established in many areas which historic aerial photography shows are being site roads, hardstanding and areas used for car parking. Substrates included compacted gravel, cracked concrete and thin soils and habitats were typically moss dominated with a range of small seedlings. Species included daisy *Bellis perennis*, ribwort plantain *Plantago lanceolata*, common cat's-ear *Hypochaeris radicata*, bristly ox-tongue *Helminthotheca echioides*, dove's-foot crane's-bill *Geranium molle*, and charlock *Sinapis arvensis*, with thistle seedlings and sparse grasses.

3.2.21 A colony of bee orchids *Ophrys apifera* were noted within the former car park to the north west of the site.

J2.1.2 Species poor hedge

3.2.22 Large overgrown Leyland cypress *Cupressus* × *leylandii* hedges screened the site from at the north. Historic aerial photographs show them as being previously closely clipped and managed as smaller features in previous years but at time of survey were tall, outgrown and unmanaged.

4 Evaluation of conservation status and impact assessment

4.1 Assessment rationale

4.1.1 The assessment is based on the ecological data presented within this report. Future changes in the wildlife present on site are beyond the scope of this report, unless specifically stated.

4.2 Evaluation of conservation status and assessment of designated sites

4.2.1 The ecological value of the site is considered below and evaluated using the methodology set out in Appendix 2 and in accordance with species legislation and planning policy, as outlined in Appendix 1.

European sites

4.2.2 There are three European sites within the search area. These sites are assessed as being of **Very High** importance for wildlife.

4.2.3 It is anticipated that no negative impacts to these sites are likely to result from construction impacts during a future redevelopment due to their distance from the development site.

4.2.4 Post-construction effects would include cumulative recreational impacts on the regional network of internationally protected sites.

4.2.5 The delivery of the Greater Norwich Local Plan has been informed by a County-wide Green Infrastructure and Recreational Impact Avoidance and Mitigation Strategy which has determined the mechanisms required for avoiding and mitigating the potential impacts on the most important protected wildlife sites in the region. A two-pronged approach has been adopted. Firstly, alternative informal recreational greenspace would be created at a rate of 2ha. per 1000 population to reduce the number of visits to protected sites. Secondly, a contribution of c.£205 per dwelling built will be made towards direct mitigation measures on the protected sites.

4.2.6 In addition to provisions delivered by the GNLP, the village of Marsham is well served by the local Public Rights of Way network with numerous routes to the east, south and west. While there are no PRoW connecting directly to the site, use of the local network might be encouraged with the inclusion of map boards within communal areas highlighting circular walking routes starting from the development site.

4.2.7 Inclusion of the site as an allocation within the GNLP and further site-specific measures to reduce pressures on local sites would provisionally be considered to have a **Neutral** impact.

Sites of national importance

4.2.8 There are two sites of national importance within the search area. These sites are assessed as being of **High** importance for wildlife at the **National** scale.

4.2.9 The two sites comprise land designated as 'Open Access' under the Countryside and Rights of Way Act 2000, and public access is passively managed at both sites with car parking provided. The two sites lie in relatively close proximity to the development site although at sufficient distance such that direct impacts from site clearance and construction would be avoided.

4.2.10 An increase in recreational use of the two SSSI's is considered likely, in particular disturbance impacts from dog walking to interest features such as nesting birds, and impacts to ground flora from dog fouling and trampling. Given the size of any potential development of the site, any such increase would be expected to be relatively minor, set against existing baseline levels.

4.2.11 Measures which would be put into place for international sites, as above, would similarly mitigate impacts upon these local nationally designated sites. The impact of a development of the site is provisionally assessed as **Neutral.**

4.2.12 Sites of Special Scientific Interest (SSSI) Impact Risk Zones are used to assess the need for the LPA to consult Natural England on planning applications at varying distances from SSSIs. In

accordance with the SSSI Impact Risk Zones User Guidance[5] consultation with Natural England would be required for the proposed development site for:

- **Infrastructure** - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
- **Wind & Solar Energy** - Solar schemes with footprint > 0.5ha, all wind turbines.
- **Minerals, Oil & Gas** - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
- **Rural Non Residential** - Large non - residential developments outside existing settlements/urban areas where footprint exceeds 1ha.
- **Residential** - Residential development of 50 units or more.
- **Rural Residential** - Any residential development of 50 or more houses outside existing settlements/urban areas.
- **Air Pollution** - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t).
- **Combustion** - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
- **Waste** - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.
- **Composting** - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
- **Water Supply** - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.

4.2.13 A residential development of the site of up to 35 dwellings is unlikely to fall within these categories and therefore would not require the LPA to consult Natural England.

Sites of local importance

4.2.14 The impact of the proposed development upon sites of local importance is considered to be **Neutral**, due to the distance of the proposed development from the locally important sites, the reasons for the sites' designation, the character of any likely development within the immediate local context and the likely absence of public access to these sites.

4.3 Evaluation of conservation status and assessment of habitats and green infrastructure

Habitats

4.3.1 Habitats of higher, site level, ecological value include the mature woodland plantation, site boundary scrub and grassland. None of the habitats are considered to be of a more general high conservation value and while the area of ephemeral vegetation with a small population of bee orchids is a feature of interest, it does not warrant any particular conservation priority.

4.3.2 The majority of habitats on site are not uncommon in the wider landscape and offer general interest for a range of common and widespread species of flora and fauna. The established woodland and site boundary vegetation could be retained and enhanced in any future development.

4.3.3 Site habitats are assessed as being of **Lower** value at the **Parish** scale.

[5] Magic Maps www.magic.defra.gov.uk/MagicMap.aspx

4.3.4 Impacts of any future development upon the site habitats are provisionally considered to be **Minor Adverse**, subject to the development of comprehensive site layout plans.

Green infrastructure

4.3.5 The site provides habitat linkage at a neighbourhood level only.

4.4 Evaluation of conservation status and assessment of species

Veteran trees

4.4.1 There are no veteran trees present on the site and the value of the proposed development site for these is therefore **Negligible.** The impact of the proposed development upon veteran trees is **Neutral.**

Plants

4.4.2 The character of the habitats recorded at the site and the plant records returned for the local area, suggests that the site has no potential to support protected, rare and/or priority plants.

4.4.3 The small bee orchid colony is established on a former car parking area. This species does not benefit from any enhanced level of protection although the species can be considered to enhance the biodiversity interest of the site.

4.4.4 The value of the site for this group is **Lower** at the **Parish** scale. Any future development of the site would be expected to result in the loss of the bee orchids as their location makes their retention unfeasible. However, the creation of species rich grassland and mown amenity grassland in a future scheme would be likely to ensure they recolonise, provided that low-nutrient soils native to the site are used in such areas. The impact of a development is therefore assessed as **Neutral**.

Invertebrates

4.4.5 The character of the habitats recorded at the site and the invertebrate records returned for the local area, suggests that the site has no potential to support protected, rare and/or priority invertebrates. The value of the proposed development site for this group is **Negligible** and the impact of the proposed development is **Neutral.**

Amphibians including great crested newts

4.4.6 There are no ponds on site and only one shown on Ordnance Survey mapping for the local area. The pond is within the curtilage of a domestic dwelling and aerial photographs show it as being likely ornamental in nature. The one pond is located 200m west of the site at its closest point, although only 0.5ha of the site, comprising mainly the building remains, is within a 250m radius of the pond.

4.4.7 There were no records returned for great crested newt or more common amphibians and the distance of the pond, and absence of any others suggests that there is no reasonable likelihood of terrestrial great crested newts being present on site. The value of the site for this group is **Negligible** and the impact of the proposed development is **Neutral.**

Reptiles

4.4.8 The site is superficially suitable for supporting reptiles due to the prevalence of sun-warmed unmanaged grassland habitats. Aerial photographs show the site as having been previously intensively managed (e.g close-mown amenity grassland) and hence reptile presence during this period would have been highly unlikely.

4.4.9 The site has lain unmanaged for a number of years and hence colonisation by reptiles could be considered possible. Mobile species such as grass snake are likely to be present on site at times due to their association with grassland habitats such as those bordering the Mermaid stream to the north and their ranging nature. Smaller and less mobile species, comprising slow worm and common lizard, are slower to colonise suitable sites unless existing colonies are present in the local area and are not impeded by barriers to dispersal.

4.4.10 The local landscape includes grassland, arable field boundaries and some scattered copses and small woodlands. Habitats present within Cawston, Buxton and Marsham Heaths are likely to

support these species although connectivity to the site and their distance are likely to preclude these sites as sources of colonisation.

4.4.11 As reptile presence cannot confidently be ruled out, it is recommended that any future planning application be supported by a reptile presence/absence survey.

4.4.12 The value of the site to reptiles is **Unknown**.

Birds

Breeding birds

4.4.13 The site is likely to be used by common breeding bird species, both for nesting and foraging, with the scrub, derelict and abandoned buildings and grassland habitats being of greatest value in this respect. It is considered that the value of the site to breeding birds is **Lower** at the **Parish** scale. Less common species may be present on site at times although it is unlikely to be of particular value to any one individual, population or species.

4.4.14 Development of the site would be likely to give rise to disturbance impacts on nesting birds and result in the loss of nesting habitat within collapsed and derelict buildings, leylandii hedges and scrub. Foraging habitat would also be reduced as a result of a loss of grassland and ruderal vegetation.

4.4.15 Subject to the development of detailed proposals the mitigated impact of a development of the site is provisionally considered to be in the range of **Minor Adverse to Neutral**.

Wintering birds

4.4.16 There are no habitats present on site which might support significant populations of wintering birds, although the site does offer some limited foraging potential for small numbers of common species. The site is considered to be of **Negligible** value for this group.

Aquatic mammals including water voles and otters

4.4.17 The development of the site would not compromise habitats of river corridor and as such impact is judged to be **Neutral**.

Terrestrial mammals including badgers

4.4.18 Badger has been recorded from the local area and the site in its currently disused and overgrown state offers conditions suitable for sett construction and foraging.

4.4.19 The site visit was undertaken at a time when badgers would not have been active and hence signs of presence or use of the site would not have been evident. The southwestern corner of the site, occupied by dense bramble scrub and collapsed buildings is considered to have the greatest potential to support setts, although will not be accessible for detailed survey. The eastern part of the site was of greatest potential for foraging.

4.4.20 A detailed walk-over survey of the site at an appropriate time of the year is recommended to determine potential badger presence and use of the site.

4.4.21 The value of the site to badgers is **Unknown**. Hedgehog should be assumed to be present and any site clearance and masterplan should be planned and designed with hedgehog presence in mind.

Bats

Roosting potential

4.4.22 The majority of the structures or derelict remains on site were not in a condition such that roosting potential was present. Similarly, the majority of the remaining standing structures were of a scale and construction type whereby no roosting potential was expected to be present (such as 'portakabins', small, solid wall and sheet roofed stores and ancillary structures). Only one building was considered to have some potential for roosting, being a high roofed machinery shed with a large open door. Further assessment of this structure is recommended.

4.4.23 Most of the trees on site were not of an age or size such that potential roost features would be likely to be present although more detailed assessment is recommended.

Foraging/commuting potential

4.4.24 Based on the evidence gained during the Phase 1 survey and biological records returned, the site has potential to be used by a range of species, including common and less common species, for foraging and potentially commuting purposes.

4.4.25 The is likely to be predominantly used for commuting and foraging purposes by relatively common and widespread bat species. The site is unilluminated and tall hedges will offer sheltered foraging opportunities in association with rough grassland habitat likely to be favourable for a range of flying insect prey.

4.4.26 The western site boundary forms a strong north-south link between the developed centre of the village to the south and further foraging opportunities along the Mermaid stream and woodland north of the site.

4.4.27 The site is, however, relatively small and therefore unlikely to be of particular value to any one individual, population or species, but rather would contribute to a network of small foraging locations in the local landscape. The site his therefore assessed as being of **Lower** value to foraging and commuting bats at the **Parish** scale. Development of the site is likely to reduce its value as a foraging resource although some would inevitably continue by those species known to forage within more urban environments. It is considered likely that the western boundary would be retained in any future scheme and hence commuting value would be unaffected.

4.4.28 The impact of a development of the site is assessed as **Minor Adverse to Neutral** subject to development of detailed site proposals.

4.5 Cumulative impacts

4.5.1 There are no known cumulative impacts.

4.6 Proposals for further survey or investigation

4.6.1 It is proposed that the following survey work would be required to fully establish whether protected habitats or species are present at the site and the impact of any future development upon them. The seasons in which species may reliably be surveyed and a brief methodology are given in the table below.

Survey type	Season for survey	Methodology & Objectives
Reptile presence/absence survey	April to June and September to October	Seven survey visits to previously placed artificial refugia to ascertain a presence or absence.
Badger survey	Spring/Autumn	A single walkover survey to identify badger setts and their field signs within and in close proximity to the site.
Preliminary bat roost assessment (trees and buildings)	Year round	Single visit to assess the one building and all mature trees on site for potential to support roosting bats
Bat emergence/re-entry survey (trees/buildings)	May to August	To be determined by preliminary roost assessment. Up to three survey visits, comprising two dusk surveys and one dawn survey, to identify roosts within building(s), trees and other structures. Number of survey visits to be confirmed.

5 Mitigation and avoidance measures

5.1 Features with no significant impacts arising

5.1.1 It is provisionally anticipated that no mitigation is needed for the following ecological features, because no significant impacts have been identified. This is subject to the development and review of a detailed site masterplan.

- Locally important sites
- Flowering plants
- Invertebrates
- Great crested newts and other amphibians
- Aquatic mammals – water vole and otter

5.2 Avoidance measures

5.2.1 **Protected species surveys are required as set out in Section 4.6 above. Until these surveys have been undertaken ad detailed site development proposals devised, it is not possible to accurately identify the likely avoidance and mitigation requirements needed in respect of reptiles, roosting bats and badger**.

5.2.2 The following provisional impact avoidance measures have been identified.

European sites and nationally important designated sites

- Allocation within the GNLP would result in the inclusion of a development within the recreational impact avoidance and mitigation strategy however further site-specific measures can be employed within potential scheme designs to further reduce impacts upon local and regional protected sites including promotion of local Public Rights of Way network and creation of public green space within the development site.

Habitats

- All mature trees, with the exception of leylandii hedges, will be retained in-situ.

Breeding birds

- Vegetation removal required for the construction phase should take place outside the bird breeding season of March to August inclusive, to prevent disturbance to birds, or if removed in that period, only after a survey has shown that no active nests are present.

Hedgehog

- Site clearance should be undertaken with due regard for the likely presence of hedgehog

5.3 Proposed mitigation for known impacts

5.3.1 The following mitigation is likely to be required to reduce the impacts of a redevelopment of the site to within acceptable limits.

Habitats

- Ensure that no works come closer than Root Protection Zones of trees and shrubs (as a minimum) in retained habitats.
- To mitigate for loss of vegetation, semi-natural planting should include berry-bearing native trees and shrubs to enhance food availability for wildlife. The proposed planting should be structurally diverse, with tree, shrub and ground layers, and areas of dense scrub as well as more open areas.
- Ornamental planting should constitute at least 50% by area of species of known value to wildlife (which might include native species), such as fruiting species and species known to provide a good nectar source. All ornamental planting should be structurally diverse, with tree, shrub and ground layers as appropriate, and areas of dense planting as well as more open areas.
- A linear habitat should be retained and enhances along the site's western boundary to maintain a north-south green corridor.

- The woodland at the centre of the site should be retained and afforded a minimum Root Protection Zone as advised by an appropriate tree survey.

Reptiles

- *To be determined by survey*

Breeding birds

- The reduction in nesting opportunities as a consequence of vegetation removal could be offset by the provision of 1No bird box within the garden of each dwelling, and erected on retained trees elsewhere on site.

Hedgehog

- All fencing within the development to include 'hedgehog friendly' gravels boards or similar provision to allow this species to traverse the site at a minimum rate of 1 per linear run of fence.

Badger

- *To be determined by survey*

Bats

- *To be determined in full by survey of the one building on site. General measures for foraging bats outlined below*
- Areas of scrub and trees, and linear features such as hedgerows, should be retained wherever possible throughout the site to allow foraging activity to continue.
- External lighting should be reduced to a minimum and designed in accordance with guidelines from the Bat Conservation Trust.[6]
- Boundary habitats should not be illuminated, either directly or via light spill from adjacent buildings.

5.4 Compensation for ecological impacts

5.4.1 To be determined by further survey and development of a detailed site proposals.

5.5 Species licensing

5.5.1 Should it to be necessary to damage or destroy a badger sett whilst it is in use, or disturb a badger in a sett, a licence would be required under the Protection of Badgers Act 1992.

5.5.2 A Protected Species licence would be needed to implement any impacts upon bats such as damaging a place used for shelter or disturbing the species in its place of shelter.

[6] See https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

6 Enhancement measures

6.1 Ecological enhancement

6.1.1 Ecological enhancement aims to improve the quality of the site and the immediate vicinity for native flora and fauna. Such enhancements can also provide aesthetic appeal and can add value to new development.

6.1.2 Outline enhancement opportunities specific to the site are provided below for consideration in a planning application. The options are listed in order of priority, with habitat enhancements having most benefit to wildlife. Small-scale enhancements targeted at individual species, whilst valuable, are generally of less overall benefit than habitat enhancement measures.

6.2 Habitat enhancement

6.2.1 Wherever possible, planting would use native species, which support biodiversity significantly better than non-native plants. This is due to the numbers of flowers, fruits, seeds and berries that are produced by our native species and their different flowering and fruiting times throughout the year.

6.2.2 Habitat enhancements include the following.

- Adoption of a 'biophilic' design approach to integrate wildlife enhancement into the site at the design stage.
- A new wildlife pond created in a secluded corner of the site, for example associated with a SUDS basin.
- Sustainable Drainage System (SuDS) features should be enhanced using native wetland plants, and trees, shrubs, etc.
- Boundary vegetation should be strengthened by further planting, including berry-bearing species to provide for bird foraging, and native species to attract insects. A structurally diverse range of plants should be used, including shrubs large enough to support nesting birds.
- Permanent wildflower grassland and native scrub habitat should be created along the site boundaries and within areas of public open space.
- Structural native trees and shrubs should be planted to provide corridors across the site and a foraging resource for a variety of species.
- Planting on the site should be designed so as to link in to, or add to, surrounding areas of open space.
- Supplementary planting should be used to 'gap up' existing hedgerows and infill any gaps in tree and hedge lines to improve connectivity with the surrounding area. Areas highlighted for planting are the northern, eastern and western site boundaries. Native hedging plants local to the area and suitable for this purpose include Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa*, Field Maple *Acer campestre* and Hazel *Corylus avellana*.

6.2.3 These enhancements would benefit common invertebrates, breeding and wintering birds, and foraging bats.

6.3 Small-scale species enhancement measures

6.3.1 Small-scale enhancements to benefit individual species/species groups could include the following.

- Twelve bat boxes (e.g. Schwegler or similar), suitable for a range of bat species, erected on retained standard trees or integrated into some buildings in unlit parts of the site.
- Integration of swift boxes and sparrow terrace nest boxes into proposed buildings.
- Inclusion of durable insect boxes into proposed buildings and hard landscaping throughout the site.

7 Conclusions

7.1.1 The site would be put forward for inclusion within the emerging Greater Norwich Local Plan for a residential development of up to 35 dwellings. Any potential in-combination impacts on European sites (and by default sites of National importance) arising from a development would be mitigated by inclusion within a County-wide Green Infrastructure and Recreational Impact Avoidance and Mitigation Strategy, to which the development would contribute financially at the calculated rate. Further site-based mitigation strategies to minimise impacts on local sites would include promotion of, and linkages to, the local Public Rights of Way network.

7.1.2 It is provisionally anticipated, subject to the development of a detailed site masterplan, that no mitigation is needed for the following ecological features as **no significant impacts** are foreseen: locally important sites, flowering plants, invertebrates, great crested newts and other amphibians, aquatic mammals, water vole, otter, and foraging bats.

7.1.3 In the absence of mitigation, a development of the site could give rise to a **Minor Adverse** impact upon habitats and **Minor Adverse** impacts on amphibians, breeding and wintering birds, and foraging bats.

7.1.4 **Unknown** impacts remain for badger, reptiles and roosting bats and impact would be determined by **further detailed surveys** undertaken during the appropriate season, the results of which would be used to inform scheme design and appropriate mitigation where necessary. Standard measures for these species include phased vegetation clearance and translocation of reptiles, and appropriate licensed measures for bat roosts and badger setts if either feature were subsequently identified.

7.1.5 Outline avoidance and mitigation measures have been proposed where impacts can reasonably be foreseen including seasonal restrictions to site clearance, retention of mature trees, woodland and native scrub boundaries, inclusion of replacement artificial nesting and roosting habitats and the use of extensive native species within the landscape design of a future scheme. These measures would reduce the impacts of the development proposals upon the habitats and species present, to give rise to a provisional overall **Minor Adverse-Neutral** impact.

7.1.6 The overall value of the site to wildlife is **Unknown** and would be subject to full determination by detailed surveys for roosting bats, badgers and reptiles, which if present, would be mitigated by standard licensed mitigation measures where applicable and appropriate.

7.1.7 A summary of assessments of value and the impact of the proposed development without mitigation, and the residual significant effects following mitigation, is provided in the table below.

Feature	Level of value	Scale	Unmitigated impact	Confidence level	Mitigated impact
European sites	Very High	International	Major Adverse	Probable	Neutral
Sites of national importance	High	National	Neutral	Probable	-
Sites of local importance	Medium	County	Neutral	Probable	-
Habitats	Lower	Parish	Minor Adverse	Probable	Minor Adverse-Neutral
Veteran trees	Negligible	-	Neutral	Certain	-
Plants	Lower	Parish	Neutral	Probable	-
Invertebrates	Negligible	-	Neutral	Probable	-
Amphibians including great crested newts	Negligible	-	Neutral	Probable	-
Reptiles	Unknown	-	Unknown	-	-
Breeding birds	Lower	Parish	Minor Adverse -Neutral	Probable	Minor Adverse - Neutral
Wintering birds	Negligible	-	Neutral	Probable	-

Feature	Level of value	Scale	Unmitigated impact	Confidence level	Mitigated impact
Aquatic mammals including water voles and otters	Negligible	-	Neutral	Certain	-
Terrestrial mammals including badgers	Unknown	-	Unknown	-	-
Bats (roosting)	Unknown	-	Unknown	-	-
Bats (foraging)	Lower	Parish	Minor Adverse - Neutral	Probable	Minor Adverse - Neutral

7.1.8 Enhancement measures over and above those proposed in mitigation to further increase the ecological value of a development could include inclusion of permanent wildflower grassland and native scrub habitat, a wildlife pond, enhancement and appropriate management of site boundary habitats, provision of durable bat roost boxes, species-specific bird nest boxes and insect refuges.

Figures

Key

- Survey boundary
- A1.2.2 Coniferous plantation woodland
- A2.1 Dense scrub
  A2.2 Scattered scrub
- J1.4 Introduced shrub
- A3.1 Broadleaved scattered trees (indicative locations)
- A3.2 Coniferous scattered trees (indicative locations)
- J3.6 Buildings
- Hardstanding/J4 Bareground/ J5 Other
- SI B6 Poor semi-improved grassland
- C3.1 Tall ruderal
- J1.3 Ephemeral/short perennial
- J2.1.2 Intact species-poor hedge
- Approximate location of security fence. No access for survey

E20872 Fengate Farm, Marsham

Phase 1 Habitat Survey

Figure 01
Scale NTS

January 2021

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Appendix 1

Legislative and policy context

There is a number of pieces of legislation, regulations and policies specific to ecology which underpin this assessment. These may be applicable at a European, National or Local level. References to legislation are given as a summary for information and should not be construed as legal advice.

Birds Directive

The European Community Council Directive on the Conservation of Wild Birds (79/409/EEC), normally known as the Birds Directive, sets out general rules for the conservation of all naturally occurring wild birds, their nests, eggs and habitats. It was superseded by the 'new' Birds Directive (2009/147/EC) which generally updated the previous directive.

Since the end of the Brexit transition period on 31st December 2020 the Birds Directive is no longer is part of the legislative body of the UK.

Habitats Directive

The European Community Council Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC), normally known as the Habitats Directive, aims to protect the European Union's biodiversity. It requires member states to provide strict protection for specified flora and fauna (i.e. European Protected Species) and the registration and regulation of Special Areas of Conservation.

Since the end of the Brexit transition period on 31st December 2020 the Habitats Directive no longer is part of the legislative body of the UK.

Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 generally follow interpret the Birds Directive and Habitats Directive into English and Welsh law but unlike the Directives there is no role for the European Union; the UK Government takes that role following the end of the Brexit transition period on 31st December 2020. For clarity, the following paragraphs consider the case in England only, with Natural England given as the appropriate nature conservation body. In Wales, the Countryside Council for Wales is the appropriate nature conservation body.

Special Protection Areas and Special Areas of Conservation are defined in the regulations as forming a national network of 'European sites'. The Regulations regulate the management of land within European sites, requiring land managers to have the consent of Natural England before carrying out management. Byelaws may also be made to prevent damaging activities and if necessary land can be compulsorily purchased to achieve satisfactory management.

The Regulations define competent authorities as public bodies or statutory undertakers. Competent authorities are required to make an appropriate assessment of any plan or project they intend to permit or carry out, if the plan or project is likely to have a significant effect upon a European site. The permission may only be given if the plan or project is ascertained to have no adverse effect upon the integrity of the European site. If the competent authority wishes to permit a plan or project despite a negative assessment, imperative reasons of over-riding public interest must be demonstrated, and there should be no alternative to the scheme. The permissions process in that case would involve the Secretary of State. In practice, there will be very few cases where a plan or project is permitted despite a negative assessment. This means that a planning application has to be assessed by the Local Planning Authority, based on information provided by the applicant, and the assessment must either decide that it is likely to have no significant effect on a European site or ascertain that there is no adverse effect upon the integrity of the European site.

Government policy is for Ramsar sites (wetlands of global importance) to be treated as if they were European sites within the planning process.

Appropriate Assessment

Appropriate Assessment is required in certain instances under the Conservation of Habitats and Species Regulations 2017. Regulation 63 says that:

> *63.— (1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which-*
>
> *(a) is likely to have a significant effect on a European site or a European offshore marine site*

(either alone or in combination with other plans or projects), and

(b) is not directly connected with or necessary to the management of the site,

must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.

(2) A person applying for any such consent, permission or other authorisation shall provide such information as the competent authority may reasonably require for the purposes of the assessment or to enable them to determine whether an appropriate assessment is required.

(3) The competent authority shall for the purposes of the assessment consult the appropriate nature conservation body and have regard to any representations made by that body within such reasonable time as the authority may specify.

(4) They must also, if they consider it appropriate, take the opinion of the general public, and if they do so, they must take such steps for that purpose as they consider appropriate.

(5) In the light of the conclusions of the assessment, and subject to regulation 64 (considerations of overriding public interest), the competent authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be).

(6) In considering whether a plan or project will adversely affect the integrity of the site, the authority must have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which they propose that the consent, permission or other authorisation should be given.

The competent authority is typically the local planning authority. The appropriate assessment contains the information the council requires for the purposes of its assessment under the Habitat Regulations.

The Habitats Regulations also are applicable to local authority land use plans and policies. If a policy or plan is likely to have a significant effect upon a European site, the permission may only be given if the policy or plan is ascertained to have no adverse effect upon the integrity of the European site. This approach gives rise to a hierarchy of plans each with related appropriate assessments. For example, the appropriate assessment of a Regional Spatial Strategy will affect policies within a Core Strategy, which will then need its own appropriate assessment, and so on.

European Protected Species

European Protected Species of animals are given protection from deliberate capture, injury, killing, disturbance or egg taking/capture. Their breeding sites or resting places are also protected from damage or destruction, which does not have to be deliberate. A number of species are listed as European Protected Species, with those most likely to be considered in planning applications being bats, dormouse, great crested newt and otter. Natural England may give a licence for actions that are otherwise illegal, subject to them being satisfied on the three tests of no alternative, over-riding public interest, and maintenance of the species in favourable condition.

European Protected Species of plant are also listed and given protection. These species are generally very rare and unlikely to be present in proposed development sites.

Wildlife and Countryside Act 1981

The Wildlife and Countryside Act 1981 has been amended many times, including by the Countryside and Rights of Way Act 2000. It contains provisions for the notification and regulation of Sites of Special Scientific Interest, and for protected species.

The Regulations regulate the management of land within Sites of Special Scientific Interest, requiring land managers to have the consent of Natural England before carrying out management.

All public bodies are defined as 'S28G' bodies, which have a duty to further the nature conservation of Sites of Special Scientific Interest in the undertaking of their functions. In practice, this prevents planning applications being permitted if they would harm Sites of Special Scientific Interest, as it would be a breach of that duty.

The Act makes it an offence intentionally to kill, injure, or take any wild bird, take, damage or destroy the nest of any wild bird, while that nest is in use or being built, or take or destroy an egg of any wild bird. Special penalties are available for offences related to birds listed on Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young.

The Act makes it an offence intentionally to kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. Some species have lesser protection under this Act, for example white-clawed crayfish, common frog and toads are only protected from sale, and reptile species, other than smooth snake and sand lizard, are protected from intentional killing or injury, but they are not protected from disturbance and their habitat is not protected. It is also an offence intentionally to pick, uproot or destroy any wild plant listed in Schedule 8.

National Planning Policy Framework

The National Planning Policy Framework (NPPF) dated February 2019 replaces previous Government Policy in relation to nature conservation and planning expressed in the NPPF dated March 2012.

Chapter 15 paragraph 170(d) of the NPPF 2018 says that the planning system should contribute to and enhance the natural and local environment by minimising impacts on and providing net gains for biodiversity.

Paragraphs 171 and 172 relate to policy for designated sites of biodiversity or landscape importance. Proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged against Local Plans policies which will distinguish between the hierarchy of international, national and locally designated sites and allocate land with the least environmental or amenity value and maintain and enhance networks of habitats and green infrastructure. Further policy is within paragraph 174, where Local Planning Authorities should within their Local Plans aim to protect and enhance biodiversity by:

- Identifying, mapping and safeguarding components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- Promoting the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

When determining planning applications Local Planning Authorities should apply the following principles:

- If significant harm resulting from a development cannot be avoided (through locating it on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused,
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

Paragraph 176 adds protection to candidate sites of European or International importance (Special Protection Areas, Special Areas of Conservation and Ramsar sites) and also to those sites identified or required as compensatory measures for adverse effects on habitats sites, potential SPA, possible SAC listed or proposed Ramsar sites.

Paragraph 177 clarifies that the presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a 'habitats' site, i.e a European site, (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

Government circular 'Biodiversity and Geological Conservation – Statutory Obligations and their Impact Within the Planning System' referenced ODPM 06/2005 has not been replaced and remains valid. It sets out the legislation regarding designated and undesignated sites and protected species and describes how the planning system should take account of that legislation. It does however pre-date the NERC Act 2006 (see below), which includes a level of protection for a further list of habitats and species regardless of whether they are on designated sites or elsewhere.

Natural Environment and Rural Communities (NERC) Act 2006

This Act includes a list of habitats and species of principal importance in England. Local Authorities are required to consider the needs of these habitats and species when making decisions, such as on planning application.

Local Planning Authority's planning policy

The Local Planning Authority will have policies relating to biodiversity conservation.

Species Legislation

The following table provides an overview of legislation with regard to species.

Protected Species	Legislation			
	Wildlife & Countryside Act, 1981	**The Conservation of Habitats and Species Regulations, 2017**	**Natural Environment & Rural Communities (NERC) Act, 2006**	**Protection of Badgers Act, 1992**
Plants (certain 'rare' species)	✓	✓[7]	✓	
Invertebrates (certain 'rare' species)	✓	✓[8]	✓	
White-clawed crayfish	✓		✓	
Great crested newt, natterjack toad, pool frog	✓	✓	✓	
Other amphibians	✓[9]		✓	
Sand lizard, smooth snake	✓	✓[10]	✓	
Other reptiles	✓[11]		✓	
Breeding birds	✓	✓	✓	
Wintering birds (certain 'rare' species)	✓	✓	✓	
Bats	✓	✓	✓	
Dormouse	✓	✓	✓	
Water vole	✓		✓	
Otter	✓	✓	✓	
Badger				✓

[7] Nine species present in the UK, with very specialised habitat requirements, are European Protected Species.

[8] Fisher's estuarine moth, large blue butterfly and lesser whirlpool ram's-horn snail are European Protected Species.

[9] The four other native amphibian species (smooth and palmate newts, common frog and common toad) are only protected against trade under this act.

[10] Smooth snake and sand lizard are European Protected Species.

[11] The four other native reptile species (common lizard, slow worm, grass snake and adder) are protected against intentional killing, injury and trade under this act.

Appendix 2

Assessment Methodology: Valuing Ecological Features and Impact Assessment

The three-stage assessment method for determining ecological value is based upon assessment matrices published in the Handbook of Biodiversity Methods[12]. It has been updated to comply with recent changes to planning policy and legislation. The three-stage process allows the value of ecological sites, habitats and populations, and the magnitude of the impact, to be cross-tabulated to identify impact significance.

Valuing ecological sites, habitats and populations: scale and level of value

Scale	Level of value	Sites, habitats and populations
Greater than national	**Very High**	Statutory sites designated under international conventions or related national legislation, in particular: • Wetlands of International Importance (Ramsar sites), • Special Areas of Conservation, • Special Protection Areas.
National	**High**	Statutory sites designated under national legislation, for example: • Sites of Special Scientific Interest (England, Wales, Scotland), • National Nature Reserves (UK). Significant viable areas of habitats, or populations or assemblages of species of principal importance for the conservation of biodiversity in England and Wales (Section 41 species and habitats)[13] of such size and quality as might qualify for SSSI designation. Populations or assemblages of red-listed, rare or legally protected species, as might qualify for SSSI designation, for example: • species of conservation concern, • Red Data Book (RDB) species, • birds of conservation concern (Red List species), • nationally rare and nationally scarce species, • legally protected species.
County	**Medium**	Statutory sites of lower conservation value designated under national legislation, for example Local Nature Reserves (UK). Non-statutory sites designated under local legislation, for example: • County Wildlife Sites, • Local Wildlife Sites, • Roadside Nature Reserves (protected road verges). Viable areas of habitat or populations of species of principal importance for the conservation of biodiversity in England and Wales (Section 41 species and habitats)[14] of such size and quality as might qualify for designation at the county level. Other non-designated sites which meet the criteria for designation at this level.

[12] Hill, D., Fasham, M., Tucker, G., Shewry, M., Shaw, P. (eds.) (2005) *Handbook of Biodiversity Methods: Survey, Evaluation and Monitoring*, Cambridge University Press.

[13] Listed under S41 of the Natural Environment and Rural Communities Act 2006 http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx.

[14] Listed under S41 of the Natural Environment and Rural Communities Act 2006 http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx.

District/ Borough[15]	**Lower**	Sites meeting criteria for metropolitan designations. Undesignated sites or features not meeting criteria for county designation, but that are considered to enrich appreciably the habitat resource within the local district or borough, for example: • ancient woodland, • diverse, ecological valuable and cohesive hedgerow networks, • significant clusters or groups of ponds, • veteran or ancient trees. Viable areas of habitat or populations of species of principal importance for the conservation of biodiversity in England and Wales (Section 41 species and habitats)[16] not qualifying for designation at the county level.
Parish	**Lower**	Areas of habitat considered to enrich appreciably the ecological resource within the context of the local parish. Small areas of habitat or populations of species of principal importance for the conservation of biodiversity in England and Wales (Section 41 species and habitats)[17].
Site only	**Negligible**	Ecological feature or resource not meeting any of the above criteria.

Note: there is much overlap in designations and lists of important species, and many sites, habitats and species appear on several. Where a site, habitat or species has multiple designations or levels of protection, normally the highest level would be the level at which impacts are assessed.

[15] Including metropolitan boroughs.

[16] Listed under S41 of the Natural Environment and Rural Communities Act 2006 http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx.

[17] Listed under S41 of the Natural Environment and Rural Communities Act 2006 http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx. Listed under S41 of the Natural Environment and Rural Communities Act 2006 http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx.

Definitions of impact magnitude

Magnitude (negative or positive)	Definition/trigger
Severe	Loss or severe degradation affecting over 75% of a site feature, habitat or population. Adverse change to, or reduced condition of, over 90% of a site feature, habitat or population, for example through disturbance or trampling.
Major	Loss or severe degradation affecting over 25% of a site feature, habitat or population. Adverse change to, or reduced condition of, over 50% of a site feature, habitat or population, for example through disturbance or trampling. For benefits, an impact equivalent in nature conservation terms to a gain of over 50% in a site feature, habitat or population.
Moderate	Loss or severe degradation affecting over 5% of a site feature, habitat or population. Adverse change to, or reduced condition of, over 10% of a site feature, habitat or population, for example through disturbance or trampling. For benefits, an impact equivalent in nature conservation terms to a gain of 10-50% in a site feature, habitat or population
Minor	Loss or severe degradation affecting up to 5% of a site feature, habitat or population. Adverse change to, or reduced condition of, 1-10% of a site feature, habitat or population, for example through disturbance or trampling. For benefits, an impact equivalent in nature conservation terms to a gain of up to 10% in a site feature, habitat or population.
Insignificant	No loss of or severe degradation to a site feature, habitat or population. Adverse change to, or reduced condition of, less than 1% of a site feature, habitat or population. No benefit to a site feature, habitat or population.

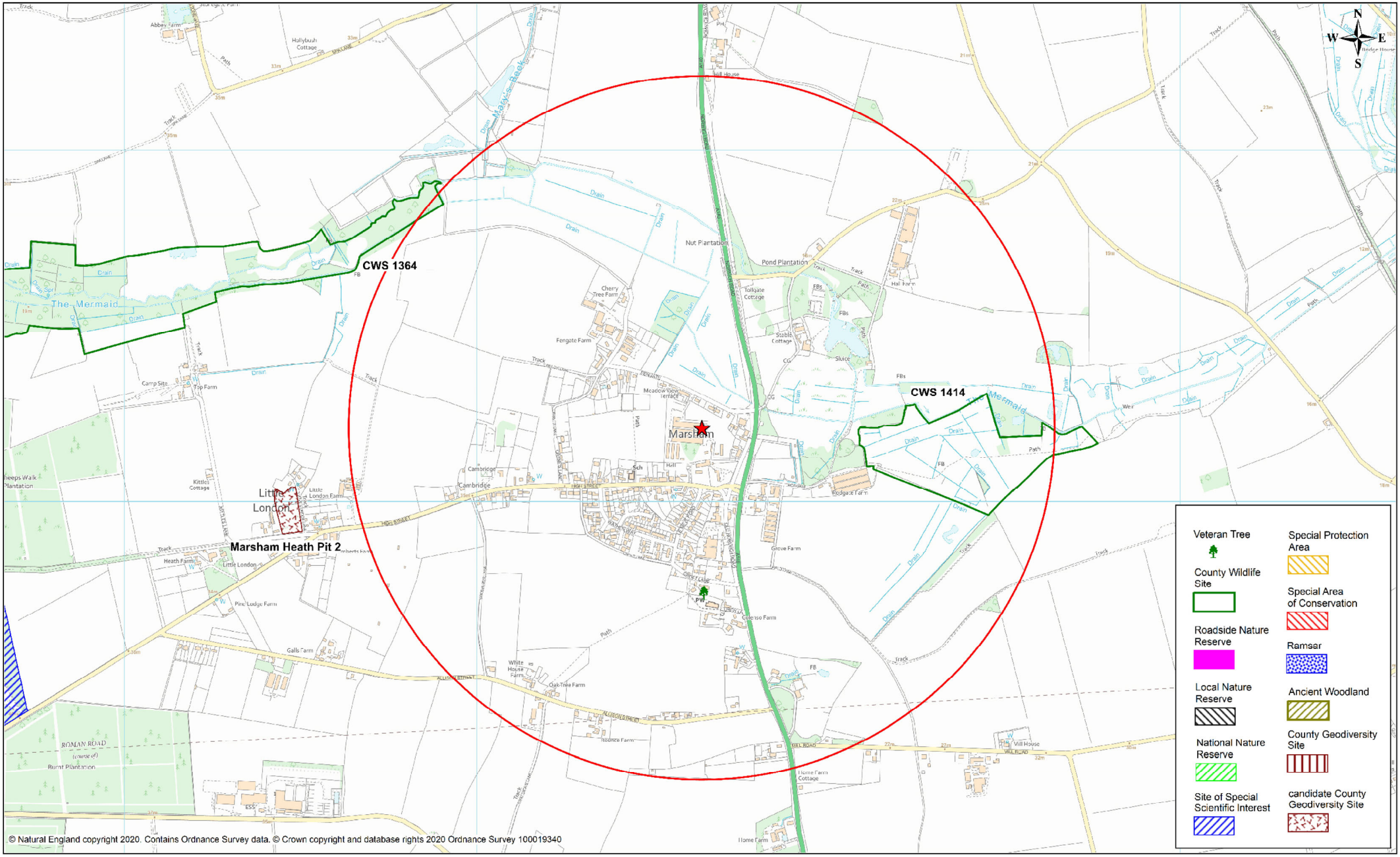
Impact significance

	Magnitude of impact							
Value of site, habitat or population	*Severe Negative*	*Major Negative*	*Moderate Negative*	*Minor Negative*	*Insignificant*	*Minor Positive*	*Medium Positive*	*Major Positive*
Very High	Severe Adverse	Severe Adverse	Major Adverse	Major Adverse	Neutral*	Major Beneficial	Major Beneficial	Major Beneficial
National (High)	Severe Adverse	Major Adverse	Major Adverse	Moderate Adverse	Neutral*	Moderate Beneficial	Major Beneficial	Major Beneficial
County/Metropolitan (Medium)	Major Adverse	Major Adverse	Moderate Adverse	Moderate Adverse	Neutral	Minor Beneficial	Moderate Beneficial	Major Beneficial
District/Borough (Lower)	Major Adverse	Moderate Adverse	Moderate Adverse	Minor Adverse	Neutral	Minor Beneficial	Moderate Beneficial	Moderate Beneficial
Parish (Lower)	Moderate Adverse	Moderate Adverse	Minor Adverse	Minor Adverse	Neutral	Minor Beneficial	Minor Beneficial	Moderate Beneficial
Minimal/negligible	Neutral	Neutral	Neutral	Neutral	Neutral	Minor Beneficial	Minor Beneficial	Moderate Beneficial

Where the impact significance falls below Minor Adverse, the term 'Neutral' is used.

*In some circumstances, some 'insignificant' impacts might fail legislative or policy tests and the impact would be greater than Neutral.

Appendix 3



1km Data Search Around TG1964 2421, Fengate, Marsham

for The Landscape Partnership

Scale 1:10000

Compiled by L. Oddy on 16 December 2020

NBIS Norfolk Biodiversity Information Service

Norfolk Biodiversity Information Service
County Hall
Martineau Lane
Norwich NR1 2SG

Tel: 01603 224458 Fax: 01603 223219