



LIZARD

Landscape Design and Ecology

LANDLINK ESTATES

Crematorium, Grevatts Lane West, Bilsham

- Ecological Impact Assessment

Planning Issue

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L I Z A R D

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SUMMARY

Lizard Landscape Design and Ecology has been commissioned to undertake a Ecological Impact Assessment of the land on Grevatts Lane West, Bilsham (*Grid Reference: SU 979 017– hereafter referred to as 'the site'*). A Preliminary Ecological Appraisal (*PEA*) of the site was undertaken on 5th November 2018, to appraise the existing ecological resource within the land and the surrounding area.

The existing site is formed of arable field, semi-improved grassland ditches, hedgerow and scattered trees. The site itself is considered to be of **low ecological value** with no habitats of interest noted.

Hedgerow and Semi-Improved Grassland may provide habitat for reptiles and amphibians. Construction works in these habitats will be avoided, however, phased clearance of areas of semi-improved grassland on the southern boundary has been recommended and will be undertaken under ecological supervision with the vegetation on site to be kept short (~5cm) to prevent colonisation by reptile or amphibian species.

Hedgerows and trees may provide habitat for nesting birds. All birds and their nests are protected against damage / destruction under *The Wildlife and Countryside Act 1981 (As Amended)*. Therefore any removal of hedgerow or trees should be made outside the nesting season (*nesting season: 1st March-31st August inclusive*) or following careful inspection to ensure no active nests are present.

The site is formed of common, widespread habitats of low ecological value. Floral diversity in general was low, with the bulk of the site dominated by arable field. No other protected species were recorded utilising the site.

With appropriate mitigation and enhancement as detailed within this report (*Section 6.0*), there will be **no significant effects** upon any habitats or protected species within or adjacent to the site.

The impacts of the planned development upon biodiversity will be **non-significant** with suggested ecological enhancements resulting in a **net gain** and a **long-term positive increase** in biodiversity in line with national planning policy guidance.

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned to undertake a Ecological Impact Assessment of the land on Grevatts Lane West, Bilsham (*Grid Reference: SU 979 017– hereafter referred to as ‘the site’*).
- 1.2 A Preliminary Ecological Appraisal (*PEA*) of the site was undertaken on 5th November 2018, to appraise the existing ecological resource within the land and the surrounding area.
- 1.3 The field survey data and analysis contained in this report were undertaken and prepared by Niall Walkden (*Project Ecologist; Lizard Landscape Design and Ecology*). This report has been reviewed by Catherine O'Reilly (*MCIEEM, Senior Ecologist; Lizard Landscape Design and Ecology*).

Site Information

- 1.4 The development site is located off Grevatts Lane West, to the east of the hamlet of Bilsham, West Sussex within the Arun District. The Field Parcel is approximately 1.8 hectares (*ha*) and is currently in use as an arable field to grow lettuce. The field is bounded by margins of semi-improved grassland and drainage ditches, hedgerow to the western and northern aspects and scattered trees lining the western boundary.
- 1.5 The site is approximately 3 metres above sea level and the soils on site are described as “*loamy soils with naturally high groundwater*”.
- 1.6 There are three ponds within 500m of the site in addition to a series of drainage ditches and the Ryebank Rife which flows from west to east approximately 250m south of the site.

Surrounding Landscape

- 1.7 The wider landscape is predominantly rural with the site set among a network of arable fields with connected drainage ditches to all aspects. The village of Yapton lies approximately 700m north and the nearest town is Bognor Regis which lies 4km to the south-west. The sea is approximately 1.8km to the south and the largest river in the district, the River Arun, runs north to south 3.5km to the east.

Development Proposals

- 1.8 The proposals involve the construction of a Crematorium on the footprint of the arable field with associated soft and hard landscape scheme. The development seeks to retain and enhance habitats of importance within the proposals.
- 1.9 The aim of this ecological appraisal survey has been:
- *To identify habitats and protected species present, and any other features of ecological value;*
 - *Identify any potential ecological constraints;*
 - *Identify impacts of the proposed development and set out appropriate avoidance and mitigation measures.*
 - *To provide suggestions for enhancements to be incorporated into the scheme.*

2.0 PLANNING POLICY AND LEGISLATION**Legislation**

- 2.1 Legislation relating to wildlife and biodiversity of particular relevance to this EclA includes:
- *The Conservation of Habitats and Species Regulations 2017;*
 - *The Wildlife and Countryside Act 1981 (as amended);*
 - *The Natural Environment and Rural Communities (NERC) Act 2006;*
- 2.2 This above legislation has been addressed, as appropriate, in the production of this report.

National Planning Policy

- 2.3 The National Planning Policy Framework (NPPF) 2018 sets out the government planning policies for England and how they should be applied. '*Chapter 15: Conserving and Enhancing the Natural Environment*' states that development should be '*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*'
- 2.4 The Government Circular 06/2005, which is referred to by the NPPF, provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

Local Planning Policy

- 2.5 Arun District Local Plan 2011 – 2031, the Arun District Planning Framework Policy SP1 & DM5 (*Natural Environment*) states:
- *Arun District Council will encourage and promote the preservation, restoration and enhancement of biodiversity and the natural environment through the development process and particularly through policies for the protection of both designated and non-designated sites.*
 - *Where possible it shall also promote the creation of new areas for habitats and species.*
 - *In relation to designated sites, development will be permitted where it protects sites that are recognised for the species and habitats contained within them.*
 - *Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not).*
 - *Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement.*

3.0 METHODOLOGY

3.1 Desk Study

- 3.1.1 The Multi-Agency Geographic Information for the Countryside (*MAGIC*) was consulted for all designated sites, priority habitats and protected species licence records within 2.0km of the site. Due to the small size of the site and the limited impact of development a full data search from SxBRC was considered unnecessary. The desk search was conducted on 5th November 2018.

3.2 Field Survey

- 3.2.1 A Preliminary Ecological Appraisal was undertaken on 05th November 2018, and the site subjected to an ecology survey using guidelines set out in the *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit (JNCC, 2003)*. This has resulted in a Site Habitat Plan (*Figure No. 01*) and Species Lists for Habitat Parcels (*Table No. 05*).
- 3.2.2 Habitats within the land were classified and the presence, or potential presence, of certain protected and / or notable species of flora and fauna were identified. A summary description of the habitat within the site following the *Phase 1 Habitat Survey Methodology* is presented in Section 4.0. This involved identifying features that may be used by protected species, potential foraging areas and other signs of use. Water bodies were recorded wherever possible, within 500 metres of the proposed development site.
- 3.2.3 The results are summarised and accompanied in large part by photographic evidence contained in *Appendix A – Site Photographs*. Recommendations for further investigation and survey are made in the following report.

3.4 Evaluation

3.4.1 The methodology for Ecological Impact Assessment (*EcIA*) follows best practice guidelines set by the Chartered Institute of Ecology & Environmental Management (*CIEEM*): 'Guidelines for Ecological Impact Assessment' (*CIEEM, 2018*). This includes identifying the baseline conditions on the site and subsequently rating the potential effects of the development based on the sensitivity and value of the resource affected, combined with the magnitude, duration and scale of the impact (*or change*). This is initially assessed without mitigation measures, and then assessed again after allowing for the proposed mitigation measures; this provides the residual effects. The assessment is divided into construction effects and longer-term operational effects.

3.4.2 Each ecological feature within the site has been considered within a defined Geographic context such as:

- *International and European*
- *National*
- *Regional*
- *County*
- *District*
- *Local*
- *Site Level*
- *Negligible*

3.4.3 Based upon CIEEM guidance, value was determined with reference to the following factors:

- *Its inclusion as a Designated Site or other protected area;*
- *The presence of habitat types of conservation significance, e.g. Habitats of Principal Importance (NERC 2006);*
- *The presence (or potential presence) of species of conservation significance e.g. Species of Principal Importance (NERC 2006);*
- *The presence of other protected species e.g. those protected under The Wildlife and Countryside Act 1981;*
- *The sites social and economic value.*

- 3.4.4 The ecological impacts resulting from the proposals were then described according to a defined set of characteristics as defined within '*Guidelines for Ecological Impact Assessment in the UK and Ireland*' (CIEEM, 2018). This assessment considers residual impacts (once all mitigation has been taken into account), with any significant effects highlighted. A significant effect is defined as "an effect which either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general".
- 3.4.5 The confidence that a certain activity will result in a significant adverse effect has been ranked as follows:
- *Highly probable;*
 - *Probable;*
 - *Unlikely;*
 - *Highly unlikely;*
- 3.4.6 Where initial impacts have been identified as significant, avoidance and mitigation measures have been proposed to avoid, prevent or offset such effects. Enhancement has been proposed to ensure that the development represents a net gain in biodiversity in accordance with National Policy.

4.0 BASELINE ECOLOGICAL CONDITIONS

4.1 Designated Sites

Statutory Protected Sites

- 4.1.1 There are no Statutory Designated Sites within 2.0km of the development area. The nearest site is Climping Beach Site of Special Scientific Interest (SSSI), located approximately 3.4km south-east.
- 4.1.2 The site is not located within the *Impact Risk Zone* of any SSSI's. Therefore, development does not meet criteria which would require consultation with *Natural England* and the proposed development shall be of no likely significant effect upon surrounding designated sites.

Non-Statutory Protected Areas

- 4.1.3 *Sites of Nature Conservation Interest (SNCIs)* are designations applied to the most important non-statutory nature conservation sites. They are recognised by the National Planning Policy Framework (2018) and as such are material considerations when assessing planning applications. SNCIs within 2.0 km of the site are shown in Table No. 02 below.

Table No. 02 – Non-Statutory Protected Sites

Site	Reason for Designation	Location
<i>Middleton Shingle SNCI.</i>	Shingle beach	<i>1.8km South.</i>

4.2 Habitats

- 4.2.1 Within 2.0 km of the site there are *Priority Habitats* of *Deciduous Woodland*, *Intertidal Substrate Foreshore*, *Maritime Cliffs and Slopes*, *Coastal Floodplain*, *Grazing Marsh* and *Coastal Vegetated Shingle*.

- 4.2.2 Habitats within and adjacent to the site include:

- *Arable Field;*
- *Poor Semi-Improved Grassland;*
- *Drainage Ditches;*
- *Hedgerows;*
- *Scattered Trees.*

Arable Field

- 4.2.3 The majority of the site is formed of an arable field currently used for growing lettuce (*Lactuca sativa*). This common and widespread habitat is of ***negligible*** value.

Semi-Improved Grassland

- 4.2.4 The margins of the field are formed of a strip of semi-improved grassland between 2-3m wide. The sward height varied between 10-40cm and is formed of Yorksire Fog, Perennial Rye-Grass, Cocks Foot and Meadow Grass. Herbaceous species include frequent occurrences Bristle Ox-Tongue, Cut-Leaved Cranesbill, Stinking Chamomile, broad leaved dock and locally abundant stands of Charlock. The grassland margins provide connectivity to the wider environment and are of **local value**.

Drainage Ditches

- 4.2.5 There are two drainage ditches that line the western and eastern boundaries of the site which are all ephemeral in nature and dry at the time of survey except for a small pond in the south-east corner of D2. The vegetation in these ditches is common and widespread however they may provide connectivity within a larger network of ditches when full and are therefore considered to be of **local value**. The descriptions of each ditch are outlined in more detail in Table No. 03 below

Table No. 03 – Description of Ditches

Code	Description	Common Species
D1	<i>Ditch on the western boundary with steepish slopes and depth of approximately 2m. The southern end of this ditch is completely encroached by scrub / tall ruderal. About midway the ditch opens up and finishes in the north-west corner.</i>	<i>Bramble, Bracken, Nettle, Thistle, Ivy</i>
D2	<i>Ditch on the eastern boundary with shallow slopes and a depth of approximately 1.5m. The northern end of this ditch has been encroached by scrub / tall ruderal but opens up a third of the way down finishing in the south-east corner. There is a small pond in the south-east corner which is covered with duckweed (Lemnoideae).</i>	<i>Hogweed, Bramble, Nettle, Cows Parsley.</i>

Pond

- 4.2.6 The pond onsite was situated in the southern end of ditch D2. The pond was less than 10m² and covered with duckweed (*Lemnoideae*) and was deemed to have poor suitability for GCN based on the ephemerality and macrophage cover of the waterbody.

Hedgerows

- 4.2.6 There are three hedgerows present on the western, northern and north-east boundaries of the site. None of the hedgerows meet the criteria to be considered important hedgerows although they are considered *UK BAP Priority Habitats* and provide connectivity in the wider landscape and are therefore considered to be of **local value**. The descriptions of each hedgerow are outlined in more detail in Table No. 04.

Table No. 04 – Description of Hedgerows

Code	Description	Common Species
H1	<i>Hedgerow on the western boundary running approximately 200m from the south-west corner to the north-west corner running parallel to D1. The width and height of the hedgerow varies between 3-4m. The hedgerow does vary in density but remains intact with no gap and there are several scattered trees present throughout.</i>	<i>Bramble, Field Maple, Wild Cherry, Bracken, Hazel, Blackthorn, Bindweed.</i>
H2	<i>Hedgerow on the northern boundary running 150m from the north-east corner to north-west corner with a gap at the end of the north-west corner. The width is approximately 2-3m and height of 3m. The shape of the hedgerow is very consistent and composed of predominantly woody species with no gaps or large trees present.</i>	<i>Hawthorn, Lime, Wild Cherry, Hazel, Field Maple, Plum, Bramble.</i>
H3	<i>A small section of hedgerow on the eastern boundary running for approximately 50m from the north-east corner southwards. The width and height are approximately 2m and with a few small gaps throughout its length.</i>	<i>Bramble, Wild Cherry, Hazel, Bindweed, Nettle, Bracken.</i>

Scattered Trees

- 4.2.7 There are a number of scattered trees along the eastern and western boundaries. On the western side these are semi-mature species embedded within the hedgerow and consist of Oak and Hazel. On the eastern boundary a few semi-mature Oaks in addition to number of mature solitary Monterey Cypress (*Cupressus macrocarpa*) that fall just outside the red line boundary. These trees are considered to be of **site value** only.

4.3 Protected Species

- 4.3.1 The following is based upon protected species records returned from desk study and the field study of the site.

Amphibians

- 4.3.2 Records of Common Frog exist within 2.0 km of the site, but not of any other Amphibians, although common species such as Common Toad and Smooth Newts are likely to be present.
- 4.3.3 There are no records of Great Crested Newts with 2.0km of the site. Great crested newts and their resting / breeding sites are protected under *The Conservation of Habitats and Species Regulations 2010 (as amended)* and *The Wildlife and Countryside Act 1981 (as amended)*. There are 3 no. ponds located within 500m however commuting routes between these ponds and the site are obstructed by either residential areas or the A259 (*Grevatts Lane*). The semi-improved grassland and hedgerow which boundaries the site provides sub-optimal habitat suitability. The area is of **site value** only to GCN.

Reptiles

- 4.3.4 There are no records of reptiles within 2.0 km of the site. All species of UK reptile are protected against reckless or intentional killing or injuring under *The Wildlife and Countryside Act 1981 (as amended)*.
- 4.3.5 The margins of the site is formed of semi-improved grassland, ditches and hedgerows which may provide some limited habitat suitability. The area is of **site value** to reptiles in the local area.

Bats

- 4.3.6 There is a single record of a Common Pipistrelle (*Pipistrellus pipistrellus*) within 2.0 km of the site.
- 4.3.7 No signs of bats or bat roost potential was noted within the trees on site. The site is of **negligible value** to roosting bats.
- 4.3.8 The hedgerows which surround the site provide connectivity to other areas of suitable foraging habitat. The surrounding hedgerows are likely to be of **site / local** value to foraging and commuting bats.

Dormouse

- 4.3.9 There are no records of the Hazel Dormice (*Muscardinus avellanarius*) within 2.0 km of the site. Hazel Dormice are protected under *The Wildlife and Countryside Act 1981 (as amended)* through their inclusion on Schedule 5 and *The Conservation of Habitats and Species Regulations 2017*.
- 4.3.10 The boundary hedgerows may provide limited in connectivity to surrounding landscape, however they lack the species diversity associated with optimal dormouse habitat therefore are considered to be of **site value** only.

Water Voles

- 4.3.9 There is a single record of Water Vole (*Arvicola amphibius*) within 2.0 km of the site. Water Voles are protected under *The Wildlife and Countryside Act 1981 (as amended)* through their inclusion on Schedule 5 and *The Conservation of Habitats and Species Regulations 2017*.
- 4.3.10 The drainage ditches may provide connectivity to surrounding landscape, and while currently sub-optimal habitat for water vole may provide habiata at certain times of the year when full, therefore ditches are considered to be of **local value** for Water Voles.

Badgers

- 4.3.11 Badgers are likely to be present within the vicinity of the site. The site survey did not reveal any badger setts on or immediately adjacent to the site area, nor any field signs such as tracks, latrines or snuffle holes. The site area is of **negligible** value to badgers.

Breeding Birds

- 4.3.12 A total of 134 no. bird species have been recorded within 2.0km of the site, including Schedule I species of Barn Owl, Kingfisher, Goldeneye, Little Ringed Plover and Cetti's Warbler.
- 4.3.13 No bird nests were recorded in trees or hedgerows at the time of survey although bird activity was noted to be high. No evidence of barn owl was recorded anywhere within the building. The surrounding hedgerows may be of **local value** to foraging and nesting birds.

Invertebrates

- 4.3.14 A total of 273 species of invertebrates were recorded within 2km of the site.
- 4.3.15 The site is dominated by an arable field which is sub-optimal invertebrate habitat. The surrounding margins may provide some limited habitat but overall the area is considered to be of **site value** to invertebrates.

Others

- 4.3.16 No suitable habitat for any other protected species was recorded within or adjacent to the site area.

5.0 ASSESSMENT OF EFFECTS AND MITIGATION MEASURES

5.1 Designated Sites

Potential Impacts

- 5.1.1 The site is not located within the *Impact Risk Zone* of any designated sites. In the absence of mitigation, no impact is likely to occur as a result of development.

Residual Impacts

- 5.1.4 **No likely significant effect** upon surrounding European designated sites will arise from the proposed development.

5.2 Habitats

Potential Impacts

- 5.2.1 Development proposals do not propose to remove any habitat of value. However, construction activity may have the potential to negatively impact habitats and in the absence of any mitigation measures in place, these habitats may be degraded through dust and emissions during the construction phase.

Mitigation

- 5.2.2 All construction will be undertaken in accordance with best practise advice with regards to control of dust, noise and emissions. All light spill onto surrounding hedge lines will be avoided. Storage of fuel etc will be avoided adjacent to hedge rows.

Residual Impacts

- 5.2.3 Once mitigation is taken into account, the impacts will be negligible and **non-significant**.

5.3 Amphibians

Potential Impacts

- 5.3.1 In the absence of avoidance / mitigation, the development could result in killing or injuring of great crested newts, habitat loss, habitat fragmentation and increased predation. Such impacts are however highly unlikely due to no suitable habitat being removed.

Mitigation

- 5.3.2 Works within habitats considered most suitable for amphibian (e.g. Hedgerows and margins of the site) will be avoided. Phased clearance of areas of semi-improved grassland for site access will be undertaken under ecological supervision and the vegetation on site will be kept short (~5cm) to prevent colonisation by amphibian species.

Residual Impacts

- 5.3.3 Once mitigation is taken into account, the impacts will be negligible and **non-significant**.

5.4 Reptiles

Potential Impacts

- 5.4.1 In the absence of mitigation, impacts could include killing or injuring individual reptiles, habitat removal and habitat fragmentation. Impacts would be of low impact magnitude and unlikely to occur.

Mitigation

- 5.4.2 Works within habitats considered most suitable for reptiles (eg. Hedgerows and margins of the site) will be avoided. Phased clearance of areas of semi-improved grassland for site access will be undertaken under ecological supervision and the vegetation on site will be kept short (~5cm) to prevent colonisation by reptile species.

Residual Impacts

- 5.4.3 Once mitigation is taken into account, the impacts will be negligible and **non-significant**.

5.5 Water Voles*Potential Impacts*

- 5.5.1 In the absence of mitigation, impacts could include killing or injuring individual water voles, habitat removal and habitat fragmentation. Impacts would be of low impact magnitude and unlikely to occur.

Mitigation

- 5.5.2 Works within habitats considered most suitable for water voles (drainage ditches) will be avoided. Enhancement of these areas will aim to improve ditch suitability for water voles.

Residual Impacts

- 5.5.3 Once mitigation is taken into account, the impacts will be negligible and **non-significant**.

5.6 Dormouse*Potential Impacts*

- 5.6.1 In the absence of mitigation, impacts could include habitat fragmentation, habitat removal and disturbance through an inappropriate lighting scheme.

Mitigation

- 5.6.2 Hedgerows which surround the site will be retained as part of the proposals. Lighting upon surrounding hedgerows and woodland will be avoided.

Residual Impacts

- 5.6.3 The overall impact of the scheme will be **negligible, non-significant**

5.7 Badgers

Potential Impacts

- 5.7.1 In the absence of mitigation, impacts would include the trapping of badgers in footings/trenches, fragmentation of habitat and disruption of commuting corridors. Impacts would be of low impact magnitude and unlikely to occur.

Mitigation

- 5.7.2 Any trenches will be covered or have a ramp installed overnight to prevent any mammals becoming trapped.

Residual Impacts

- 5.7.3 The overall impact of the scheme will be **negligible, non-significant**.

5.8 Nesting Birds

Potential Impacts

- 5.8.1 In the absence of avoidance / mitigation, the development could result in the damage / destruction of a bird nest. Impacts would be of moderate impact magnitude and unlikely to occur.

Mitigation

- 5.8.2 The clearance of any scrub or trees will be undertaken outside the bird nesting season (*season: March-August inclusive*). Should this not be possible, vegetation / buildings will be checked prior to removal by a Suitably Qualified Ecologist to ensure no active nests are present.

Residual Impacts

- 5.8.3 The overall impact of the scheme will be **negligible, non-significant**.

5.9 Invertebrates

Potential Impacts

- 5.9.1 In the absence of mitigation, the development could result in the removal of suitable invertebrate habitat. Impacts would be of low impact magnitude and unlikely to occur.

Mitigation

- 5.9.2 Surrounding margins with semi-improved grassland and hedgerows will be retained within the scheme.

Residual Impacts

- 5.9.3 The overall impact of the scheme will be **negligible, non-significant**.

6.0 ECOLOGICAL ENHANCEMENTS

6.1 The design of any proposed development should consider ecological enhancements for the benefit of wildlife in line with the *National Planning Policy Framework* and *Local Planning Policy*. Ecological enhancements which will be included as part of development proposals include:

- *Creation of a wildflower meadow in the western portion of the site with native tree planting and scattered scrub species to provide a variety of habitat levels;*
- *Scrub clearance of drainage ditches to improve suitability for Water Voles;*
- *The use of flowering shrubs as listed within the RHS 'Perfect for Pollinators' plant list to provide year-round interest for invertebrates;*
- *The use of night-scented species and pale flowers to increase bat foraging potential across site, such as evening primrose (*Oenothera fruticosa*); cornflower (*Centaurea cyanus*); knapweed (*Centaurea nigra*); yarrow (*Achillea millefolium*); honeysuckle (*Lonicera*); and lavenders (*Lavandula*);*
- *The provision of nesting boxes for a variety of bird species and the incorporation of open fronted areas / access holes to outbuildings to allow swallow access;*
- *Re-enforcement of existing boundary vegetation and new hedgerow planting with species rich hedgerow;*
- *Hedgehog friendly gravel boards incorporating 13x13cm gap to allow movement of hedgehogs around the site;*
- *Use of a sympathetic lighting scheme across the site, with lighting angled down and away from surrounding trees / hedges.*

7.0 CONCLUSIONS

7.1 The existing site is formed of arable field, semi-improved grassland ditches, hedgerow and scattered trees. The site itself is considered to be of **low ecological value** which no habitats of interest noted.

7.2 Development proposal intend to build upon the footprint of the arable field and not remove any areas of habitat suitable for protected species.

- 7.3 Once avoidance and mitigation measures have been taken into account, the impacts of the planned development upon biodiversity will be **negligible, non-significant** with proposed ecological enhancements resulting in a **net gain** and a **long-term positive increase** in biodiversity in line with national planning policy guidance.

8.0 REFERENCES

JNCC: Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit; (2003);

Collins J (ed): Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed.) The Bat Conservation Trust (2016);

Mitchell-Jones and McLeish: Bat Workers Manual; JNCC, 3rd Edition (2004);

Streeter, D.: The Most Complete Guide to the Flowers of Britain and Ireland; Harper Collins, London (2010);

www.magic.gov.uk.

Table No. 05 – Species List for Habitat Parcels**Semi-Improved Grassland**

Common Name	Scientific Name	DAFOR
Bristle Ox-Tongue	<i>Helminthotheca echioides</i>	F
Broad-Leaved Dock	<i>Rumex obtusifolius</i>	F
Burdock	<i>Arctium minus</i>	O
Cleavers	<i>Galium aparine</i>	O
Cocks Foot	<i>Dactylis glomerata</i>	O
Common Nettle	<i>Urtica dioica</i>	O
Common Vetch	<i>Vicia sativa</i>	R
Cows Parsley	<i>Anthriscus sylvestris</i>	R
Creeping Cinquefoil	<i>Potentilla reptans</i>	F
Creeping Thistle	<i>Cirsium arvense</i>	O
Cut-Leaved Cranesbill	<i>Geranium dissectum</i>	F
Germander Speedwell	<i>Veronica chamaedrys</i>	O
Hogweed	<i>Heracleum sphondylium</i>	O
Perennial Rye-Grass	<i>Lolium perenne</i>	A
Prickly Sow Thistle	<i>Sonchus asper</i>	O
Ragwort	<i>Senecio jacobaea</i>	R
Shepard's Purse	<i>Capsella bursa-pastoris</i>	LA
Sorrel	<i>Rumex acetosa</i>	F
Stinking Chamomile	<i>Anthemis cotula</i>	F
White Clover	<i>Trifolium repens</i>	O
Yorkshire Fog	<i>Holcus lanatus</i>	A

Ditches

Common Name	Scientific Name	DAFOR
Bindweed	<i>Convolvulus arvensis</i>	LA
Bracken	<i>Pteridium sp.</i>	LA
Bramble	<i>Rubus fruticosus</i>	A
Broad-Leaved Dock	<i>Rumex obtusifolius</i>	F
Cleavers	<i>Galium aparine</i>	F
Common Ivy	<i>Hedera helix</i>	A
Common Nettle	<i>Urtica dioica</i>	F
Hogweed	<i>Heracleum sphondylium</i>	O

D = Dominant A = Abundant F = Frequent O = Occasional R = Rare

Continued - Table No. 05 – Species List for Habitat Parcels**Hedgerow**

Common Name	Scientific Name	DAFOR
Bindweed	<i>Convolvulus arvensis</i>	LA
Blackthorn	<i>Prunus spinosa</i>	F
Bracken	<i>Pteridium sp.</i>	LA
Bramble	<i>Rubus fruticosus</i>	O
Cherry Plum	<i>Prunus cerasifera</i>	R
Common Ivy	<i>Hedera helix</i>	F
Common Lime	<i>Tilia x europaea</i>	R
Common Nettle	<i>Urtica dioica</i>	F
Field Maple	<i>Acer campestre</i>	O
Hawthorn	<i>Crataegus monogyna</i>	O
Hazel	<i>Corylus avellana</i>	O
Hogweed	<i>Heracleum sphondylium</i>	O
Oak	<i>Quercus robur</i>	O
Wild Cherry	<i>Prunus avium</i>	R

Scattered Trees

Common Name	Scientific Name	DAFOR
Field Maple	<i>Acer campestre</i>	O
Hazel	<i>Corylus avellana</i>	O
Monterey Cypress	<i>Cupressus macrocarpa</i>	F
Pedunculate Oak	<i>Quercus robur</i>	F
Wild Cherry	<i>Prunus avium</i>	O

D = Dominant A = Abundant F = Frequent O = Occasional R = Rare

Table No. 06 – Target Notes for Protected Species

No.	Feature	Description
TN01	Small Pond	An area of standing water considered to be unsuitable for GCN due to the high level of macrophyte cover and ephemerality.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 1 - View of the entrance of the the site as accessed from Grevatts Lane West looking east along the southern boundary.



Photograph No. 2 - View of margins of arable field showing Semi-improved grassland, ditch and hedgerow.

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APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 3 - View of Ditch D1.



Photograph No. 4 - View of north-west corner of site showing hedgerow H2 on the right-hand side of the picture.

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APPENDIX NO. 1 - SITE PHOTOGRAPHS

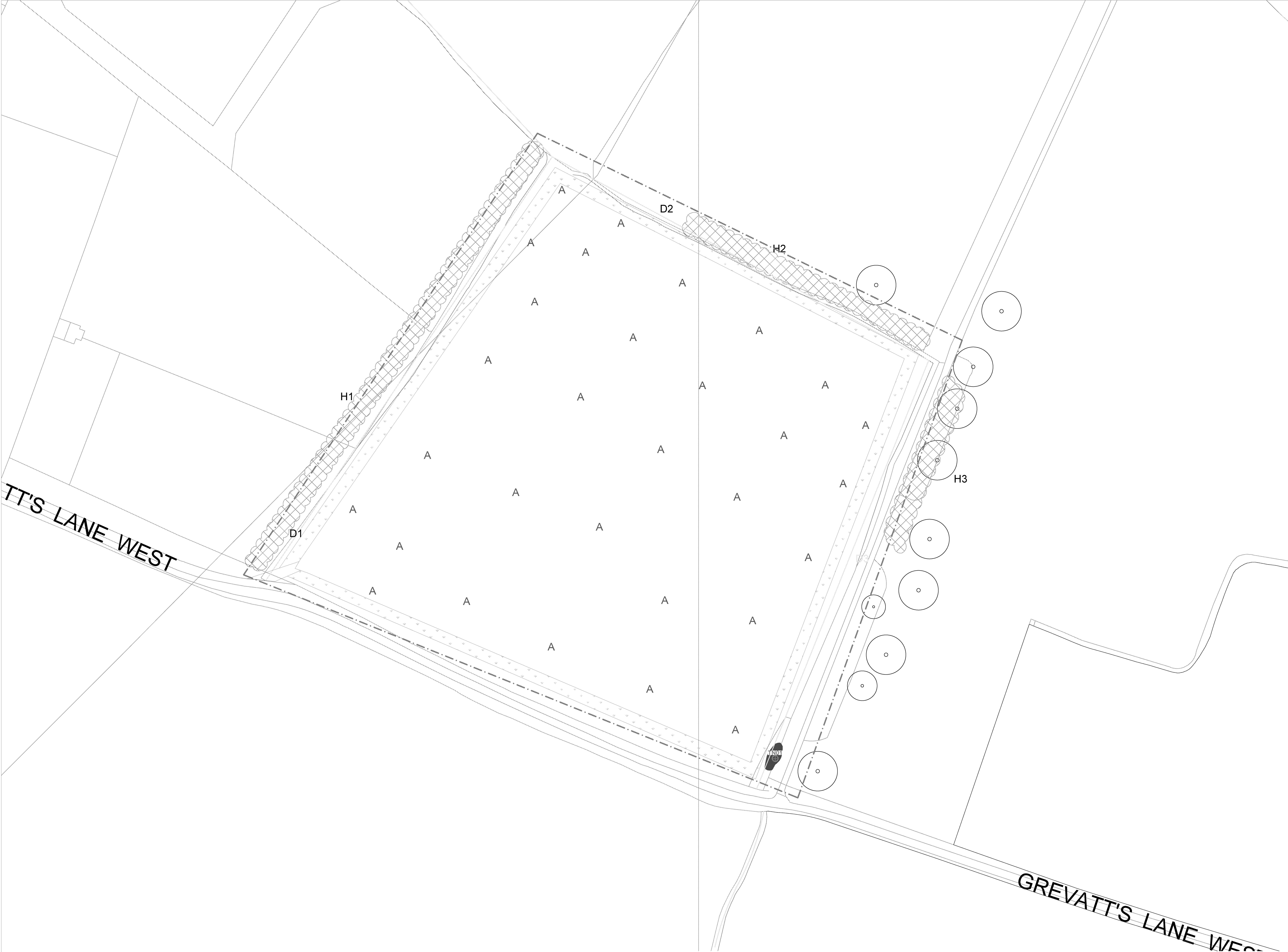


Photograph No. 5 - View of the eastern boudnary of the site looking south.

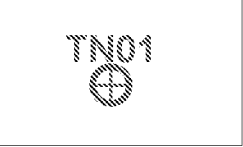
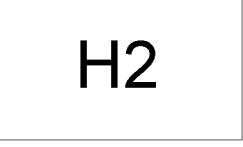
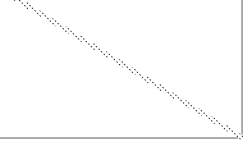
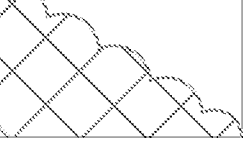
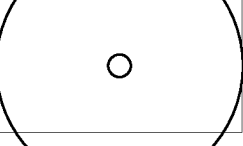
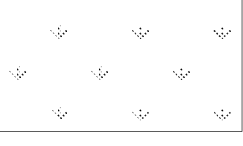
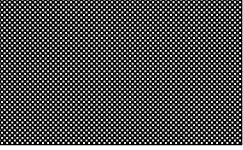


Photograph No. 6 - View of small pond present on the south-eastern cornerof the site, deemed to have poor *suitability* for GCN.

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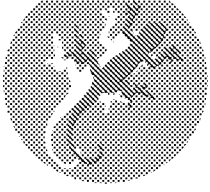


Legend

-  Site Boundary.
-  Target Notes.
-  Ditch Number.
-  Hedge Number.
-  Arable Land.
-  Ditch.
-  Hedgerow.
-  Scattered Trees.
-  Semi improved Grassland.
-  Water.

PLANNING ISSUE

Rev.	Description	Date	Initials
00	Planning Issue	22.11.18	JH

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Client	Lanklink Estates
Project Title and Location	Chapel Crematorium Grevatts Lane West, Bilsham
Drawing Title	Site Habitat Plan

Scale	Drawn	Approved	Date
1:500@A0	JH	NW	21.11.18
Drawing No.	Revision		
LLD1584-ECO-FIG-001	00		

Figure No. 01 - Site Habitat Plan
Chapel Crematorium, Grevatts Lane West, Bilsham