



LIZARD

Landscape Design and Ecology

Ecological Impact Assessment

**Land adjoining Willows Caravan, Lidsey Road,
Woodgate, West Sussex**

- On behalf of Mr. T Johnson

Planning Issue

Prepared by	NW
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SUMMARY

Lizard Landscape Design and Ecology has been commissioned to undertake a Ecological Impact Assessment of the and Adjoining Willows Caravan Park, Lidsey Road, Woodgate, West Sussex (Grid Reference: SU 938 040 – hereafter referred to as ‘the site’)

A preliminary ecological appraisal (PEA) was undertaken of the site on 13th June 2017 to appraise the existing ecological resource within the site and surrounding area; a further walkover was undertaken on the 30th August 2019 to update the report.

The site consists of a field of improved grassland surrounded by mixed treelines and hedgerows. The field margins are narrow and dominated by tall ruderal vegetation. To the north of the site is a small allotment area, surrounded by tall ruderal and dense scrub vegetation.

Area of tall ruderal and dense scrub were identified as providing *good* potential habitat for reptiles. Consequently, a full suite of reptile surveys was undertaken between August and September 2017. No reptiles were found during any of these surveys therefore reptiles are considered likely to be absent from the site area, habitats have not changed significantly since these surveys were conducted.

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.

MR T JOHNSON
LAND ADJOINING TO WILLOWS CARAVAN PARK, LIDSEY ROAD, WOODGATE
ECOLOGICAL IMPACT ASSESSMENT
LLD1798-ECO-REP-001-01

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned to undertake a Ecological Impact Assessment of the and Adjoining Willows Caravan Park, Lidsey Road, Woodgate, West Sussex (Grid Reference: SU 938 040 – hereafter referred to as ‘the site’)
- 1.2 A preliminary ecological appraisal (PEA) was undertaken of the site on 13th June 2017 to appraise the existing ecological resource within the site and surrounding area; a further walkover was undertaken on the 30th August 2019 to update the report.
- 1.3 Area of tall ruderal and dense scrub were identified as providing *good* potential habitat for reptiles. Consequently, a full suite of reptile surveys was undertaken between August and September 2017.
- 1.4 The field survey data and analysis contained in this report were undertaken and prepared by George Sayer (*Project Ecologist; Lizard Landscape Design and Ecology*) and Niall Walkden (*Project Ecologist; Lizard Landscape Design and Ecology*). This report has been reviewed by George Sayer (*Project Ecologist; Lizard Landscape Design and Ecology*).

Site Information

- 1.5 The site consists of a field of improved grassland surrounded by mixed treelines and hedgerows. The field margins are narrow and dominated by tall ruderal vegetation. To the north of the site is a small allotment area, surrounded by tall ruderal and dense scrub vegetation. The site measures approximately 1.55 ha. The site is bordered to the east by Willows Caravan Park; to the west by Lidsey Road and residential properties; to the north by the access road and residential properties beyond, and to the south by an industrial property.

- 1.6 The site is approximately 8 metres above sea level and the soils on site are described as *“loamy soils with naturally high groundwater”*.
- 1.7 1 no. water body exists within 500.0 m of the site. This is the Lidsey Rife, situated 410.0 m east of the site. The Rife is surrounded by an area of arable land and floodplain grazing marsh, which is denoted as a Biodiversity Opportunity Area. The nearest area of woodland is 300.0 m to the north-west of the site.

Surrounding Landscape

- 1.8 The site is located within the small residential settlement of Woodgate. The local area contains a mixture of land uses, dominated by arable agriculture, horticultural and pastoral land, residential dwellings and caravan parks.
- 1.9 The local area is very sparsely wooded; the nearest area listed on The National Forest Inventory is a 1.05 ha plot of coniferous woodland located 300.0 m north-west of the site, while the nearest Ancient Woodland (1.49 ha) is located 1950.0 m north-west of the site. The surrounding area is largely arable land, with trees being present mainly within hedgerows.

Development Proposals

- 1.10 The development proposals consist of construction of a residential development within the site. It is anticipated that 15-20 units would be constructed and that these would be of a style commensurate with other local residential dwellings. The dwellings would be accompanied by associated hard landscape access road and footpaths, soft landscape areas and gardens. The proposals also include a communal green space, and a wetland-style open space for play and wildlife.
- 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) 2019 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 (*MAG/C*) 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 16th September 2019.

3.2 Field Survey

3.2.1 A Preliminary Ecological Appraisal was undertaken on 13th June 2017 and further updated on 20th August 2019, 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.

3.3 Preliminary Bat Roost Assessment

3.3.1 A Preliminary Bat Roost Assessment of trees on site was undertaken on 30th August 2019 by an experienced bat surveyor who undertook an external examination of the trees on the site. The bat surveyor assessed the existing trees visually and searched for evidence such as;

- *Staining beneath or around a hole caused by natural oils in bat fur;*
- *Bat droppings beneath a hole, roost or resting area;*
- *Bat droppings and / or insect remains beneath a feeding area;*
- *Audible squeaking from within a hole;*
- *Insects (especially flies) around a hole;*
- *Dead bats.*

3.3.3 Trees were visually identified from the ground, using binoculars where necessary, for features that could be used by bats such as:

- *Woodpecker Holes;*
- *Knot Holes;*
- *Tear-outs;*
- *Flush Cuts;*
- *Double Leaders.*

3.3.4 Once features had been assessed the trees and buildings were then categorised in accordance with *Table 4.1 of the Bat Conservation Trust's Good Survey Guidelines (2016) (shown below):*

Table No. 01 – Bat Roost Suitability Guidelines (BCT, 2016)

Category	Trees
Negligible	No suitable features identified.
Low	Tree of sufficient size / age to support bat roost features; but with none identified from the ground.
Moderate	Tree with features which, may support a bat roost of low conservation status.
High	A tree with several potential bat roost sites that are suitable for use by a large number of bats.

3.4 Reptile Presence / Absence Surveys

- 3.4.1 20 no. artificial reptile refugia (*roofing felt; 0.50 x 1.0 m²*) were laid out around the area on 1st August 2017 and allowed to settle for 13 days prior to commencement of the survey. The locations of artificial reptile refugia are detailed within *Figure No. 02*.
- 3.4.2 07 no. site visits were conducted, where the number, species, age and sex of the reptile's present were recorded. Debris piles on-site considered suitable as reptile refugia were checked during the surveys, and repeated walkovers of the site were used to search for active reptiles.
- 3.4.3 Surveys were undertaken during recommended times (*08:00–11:00 and 16:00–18:30*) with suitable weather conditions for surveying reptiles wherever possible (*guidelines recommend temperatures 9-18°C with intermittent or hazy sunshine during warm days*). Weather conditions recorded at each survey visit are shown in Table No. 3 below.

Table No. 2 - Details of Weather Conditions during the Reptile Surveys

Survey	Date of Visit	Time	Weather	Temperature
01	14/8/2017	16:00	Clear & Sunny	20°C
02	24/8/2017	16:00	Clear & Sunny	18°C
03	01/9/2017	09:00	Light Cloud	14°C
04	04/9/2017	18:00	Light Rain	17°C
05	06/9/2017	09:00	Light Cloud	16°C
06	8/9/2017	09:00	Overcast	15°C
07	12/9/2017	09:00	Light Cloud	17°C

3.5 Evaluation

3.5.1 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.

3.5.2 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*

3.5.3 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.*

- 3.5.4 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”.
- 3.5.5 The confidence that a certain activity will result in a significant adverse effect has been ranked as follows:
- *Highly probable;*
 - *Probable;*
 - *Unlikely;*
 - *Highly unlikely;*
- 3.5.6 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.
- 4.1.2 The development falls within the Impact Risk Zones (IRZ) of Fairmile Bottom SSSI and Bognor Reef SSSI. The development is of a type and scale which would not require consultation with Natural England. The site is situated within a Groundwater Nitrate Vulnerable Zone, and a Surface Water Nitrate Vulnerable Zone relating to Aldingbourne Rife. No impacts of runoff from the site are anticipated.

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. 3 – Non-Statutory Protected Sites

Site	Reason for Designation	Location
<i>Eastergate (Barnham Road) Notable Verge</i>	100.0 m of roadside verge of botanical significance. In particular the verge is home to wild clary (<i>Salvia verbenaca</i>).	1.64 km NE

4.2 Habitats

- 4.2.1 UK Priority Habitats within 2.0 km of the site include coastal and floodplain grazing marsh; deciduous woodland; ancient and semi-natural woodland; wood-pasture and parkland and traditional orchard. None of these habitats are present within or adjacent to the site; the areas of habitat within 2.0 km are limited in extent. The site's isolation from suitable habitats would suggest that there will be no impact upon UK Priority Habitats.
- 4.2.2 Habitats within and adjacent to the site include:
- *Amenity Grassland;*
 - *Improved Grassland;*
 - *Semi-Improved Grassland;*
 - *Dense Scrub;*
 - *Scattered Trees;*
 - *Native Species-Poor Hedges with Trees;*
 - *Intact Coniferous Hedgerows;*
 - *Tall Ruderal Vegetation.*

Improved Grassland

- 4.2.3 The majority of the development site is formed of a field of improved grassland, dominated by common grasses such as false oat-grass (*Arrhenatherum elatius*); cocksfoot (*Dactylis glomerata*); and Timothy grass (*Phleum pratense*). The sward was between 5-10cm. The grassland margins provide connectivity to the wider environment and are of **site value**.

Semi-Improved Grassland

- 4.2.4 To the north, several small sections of low-level coniferous hedgerow divide the site; behind the hedgerows the grassland has not been cut; the sward is more diverse and represents semi-improved grassland. Dominant forb species included creeping buttercup (*Ranunculus repens*) and chickweed (*Stellaria media*). To the east of the grassland, the ground becomes damper, as evidenced by the local dominance of creeping spear thistle (*Cirsium arvense*) and fescue (*Festuca sp.*). The grassland margins provide connectivity to the wider environment and are of **local value**.

Tall Ruderal

- 4.2.5 The margins of the field are generally narrow, and contain tall ruderal vegetation dominated by common species such as common nettle (*Urtica dioica*) and common spear thistle (*Cirsium vulgare*). This habitat is common and widespread and is assessed as being of **site value** only.

Dense Scrub

- 4.2.6 To the north of the site is an allotment, which has been fenced-off using post and wire fencing. The allotment is currently disused and is completely surrounded by a mixture of tall ruderal vegetation and dense scrub, dominated by bramble (*Rubus fruticosus*), common nettle (*Urtica dioica*) and common comfrey (*Symphytum officinale*). This habitat is of **site value** only.

Hedgerow / Treelines

- 4.2.6 The site is bounded by coniferous hedgerows and treelines to the north and south. The treelines are composed of Leyland cypress (*Cupressus x leylandii*) which provide screening to the site but offer little wildlife habitat potential. To the west there is a short coniferous hedgerow, behind which is a patchy, unmanaged deciduous hedgerow, composed of hazel (*Corylus avellana*); field maple (*Acer campestre*); and English elm (*Ulmus minor*).

Scattered Trees

- 4.2.7 To the east the site is bounded by a mixed treeline, of crack willow (*Salix fragilis*), bay willow (*Salix pentandra*) and white poplar (*Populus alba*). This habitat is of **site value** only.

Amenity Grassland

- 4.2.7 The site is separated from the road by a thin strip of amenity grassland. This has been heavily mown and is assumed to be under the responsibility of the local highways authority, this habitat is 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. There is limited potential terrestrial habitat for amphibians within the site area. There is 1 no. running watercourse within 500.0 m of the site. The watercourse is surrounded by more suitable terrestrial habitat for great crested newts. The site is isolated from the watercourse by a caravan park. The area is of **negligible value** 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 allotment area; semi-improved grassland; tall ruderal; and dense scrub were considered to offer *good* habitat potential for widespread species of reptile.
- 4.3.6 Seven reptile surveys were undertaken between August and September 2017 which revealed no reptiles to be present at the site. The habitats on site have not changed significantly since these surveys were undertaken, therefore the site is assessed as having **negligible value** for reptiles.

Bats

- 4.3.7 There are records of Serotine (*Eptesicus serotinus*), Natterers (*Myotis nattereri*) and Common Pipistrelle (*Pipistrellus pipistrellus*) within 2.0 km of the site.
- 4.3.8 A single tree within the site has been identified as offering some bat roost potential. The tree identified as T01 is a mature poplar to the site boundary; the tree has no discernible bat roost features however it is of a size with potential to hold a small bat roost. It is therefore considered to offer 'low' bat roost potential. The location of this tree is shown on *Figure No. 01 – Site Habitat Plan*.
- 4.3.9 The hedgerows which surround the site provide connectivity to other areas of suitable foraging habitat. However, the value is expected to be of extremely limited foraging potential for bats on the site due to the majority of vegetation being coniferous. Therefore, hedgerows are likely to be of no more than **site** value to foraging and commuting bats.

Dormouse

- 4.3.10 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*.

- 4.3.11 The native hedgerow to the west of the site is too isolated and incomplete to form suitable dormouse habitat and is proposed for retention and reinforcement. Therefore, the site is assessed as having **negligible value** for dormice.

Badgers

- 4.3.12 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 **site value** to badgers.

Breeding Birds

- 4.3.13 A total of 155 no. bird species have been recorded within 2.0km of the site, including Schedule I species of Brambling, Fieldfare, Redwing and Barn Owl.
- 4.3.14 No bird nests were recorded in trees or hedgerows at the time of survey although bird activity was noted to be high. The surrounding scattered trees, dense scrub and hedgerows may be of **site value** to foraging and nesting birds.

Invertebrates

- 4.3.15 A total of 135 species of invertebrates were recorded within 2km of the site.
- 4.3.16 The site is dominated by an improved grassland which lacks the floral diversity to be considered optimal invertebrate habitat. Smaller areas of semi-improved grassland offer some limited habitat but overall the area is considered to be of **site value** to invertebrates.

Others

- 4.3.17 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 located within the Impact Risk Zone Bognor Reef and Fairmile bottom SSSI. In the absence of mitigation, no impact is likely to occur as a result of development due the intervening distances between the sites and the scale of development proposals.

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 and trees will be avoided. Fuel and any other liquids shall be stored at least 10.0 m from any hedgerow or mature tree.

Residual Impacts

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

5.3 Bats

Potential Impacts

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

Mitigation

- 5.3.2 1 no. mature poplar (T01) is considered to offer 'low' bat roost potential. The tree will be retained within the scheme. Lighting design shall be sensitive to bats and aim to project light down and into the site, away from vegetation.

Residual Impacts

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

5.4 Badgers

Potential Impacts

- 5.4.1 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

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

Residual Impacts

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

5.5 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

- 5.5.2 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 will be checked prior to removal by a Suitably Qualified Ecologist to ensure no active nests are present.

Residual Impacts

- 5.5.3 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:

- *The seeding of leftover areas of the site and open spaces with a wildflower mix appropriate to the local soil and hydrology;*
- *The use of flowering shrubs as listed within the RHS 'Plants for Pollinators' plant list to provide year-round interest for invertebrates;*
- *Incorporation of native trees and shrubs within the development proposals which reflect the trees and habitats found in the surrounding area, and provide a foraging resource for birds, bats and invertebrates;*
- *Reinforcement of existing native hedgerows with native species, and reinforcement or replacement of coniferous species with those of greater ecological value;*
- *Incorporation of bird boxes within retained trees or buildings themselves, to provide nesting opportunities for birds. Species present locally which shall be considered include swifts (*Apus apus*); house sparrow (*Passer domesticus*); wren (*Troglodytes troglodytes*);*
- *Incorporation of bats boxes to buildings and trees, to provide potential roosting habitat for bats;*
- *Incorporation of green spaces beneficial to wildlife within the development, which shall include wetland spaces due to the damp nature of parts of the site. This shall provide new local habitat for invertebrates, amphibians, and birds such as reed bunting (*Emberiza schoeniclus*) and warblers (*Phylloscopus spp.*).*

7.0 CONCLUSIONS

- 7.1 The existing site is formed of improved, semi-improved and amenity grassland with small parcels of tall ruderal and dense scrub and hedgerows and scattered trees. The site itself is considered to be of **low ecological value** which no habitats of interest noted.
- 7.2 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. 04 – Species List for Habitat Parcels

Semi-Improved Grassland

Common Name	Scientific Name	DAFOR
Bedstraw	<i>Galium sp.</i>	F
Chickweed	<i>Stellaria media</i>	LA
Cleavers	<i>Galium aparine</i>	O
Common Hogweed	<i>Heracleum sphondylium</i>	R
Common Nettle	<i>Urtica dioica</i>	F
Creeping Buttercup	<i>Ranunculus repens</i>	A
Creeping Spear Thistle	<i>Cirsium arvense</i>	LD
Curled Dock	<i>Rumex crispus</i>	A
Cut-Leaved Cranesbill	<i>Geranium dissectum</i>	O
Fescue	<i>Festuca sp.</i>	LA
Field Bindweed	<i>Convolvulus arvensis</i>	F
Germander Speedwell	<i>Veronica chamaedrys</i>	R
Ground Ivy	<i>Glechoma hederacea</i>	O
Meadow Buttercup	<i>Ranunculus acris</i>	LF
Red Clover	<i>Trifolium pratense</i>	R
Sheep's Sorrel	<i>Rumex acetellosa</i>	O
Vetch	<i>Vicia sp.</i>	F
White Poplar	<i>Populus alba</i>	LF
Yarrow	<i>Achillea millefolium</i>	F

Improved Grassland

Common Name	Scientific Name	DAFOR
Cocksfoot	<i>Dactylis glomerata</i>	D
Common Bent	<i>Agrostis capillaris</i>	D
Creeping Buttercup	<i>Ranunculus repens</i>	A
False Barley	<i>Hordeum murinum</i>	D
False Oat-Grass	<i>Arrhenatherum elatius</i>	D
Red Clover	<i>Trifolium pratense</i>	F
Sheep's Sorrel	<i>Rumex acetellosa</i>	O
Timothy Grass	<i>Phleum pratense</i>	D

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

Continued - Table No. 04 – Species List for Habitat Parcels

Hedgerow & Trees

Common Name	Scientific Name	DAFOR
Bay Willow	<i>Salix pentandra</i>	O
Blackthorn	<i>Prunus spinosa</i>	R
Common Elder	<i>Sambucus nigra</i>	F
Crack Willow	<i>Salix fragilis</i>	A
Dogwood	<i>Cornus sp.</i>	LA
English Elm	<i>Ulmus minor</i>	F
Field Maple	<i>Acer campestre</i>	R
Goat Willow	<i>Salix caprea</i>	F
Hazel	<i>Corylus avellana</i>	F
Leyland Cypress	<i>Cupressus x leylandii</i>	LD
Pedunculate Oak	<i>Quercus robur</i>	R
White Poplar	<i>Populus alba</i>	A

Dense Scrub

Common Name	Scientific Name	DAFOR
Angelica	<i>Angelica archangelica</i>	F
Blackthorn	<i>Prunus spinosa</i>	F
Bramble	<i>Rubus fruticosus</i>	D
Buddleia	<i>Buddleia davidii</i>	O
Common Comfrey	<i>Symphytum officinale</i>	A
Common Fleabane	<i>Pulicaria dysenterica</i>	O
Common Nettle	<i>Urtica dioica</i>	D
Common Spear Thistle	<i>Cirsium vulgare</i>	D
Creeping Spear Thistle	<i>Cirsium arvense</i>	D
Field Bindweed	<i>Convolvulus arvensis</i>	F
Hogweed	<i>Heracleum sphondylium</i>	O
Ivy	<i>Hedera helix</i>	LA

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

Continued - Table No. 04 – Species List for Habitat Parcels

Tall Ruderal

Common Name	Scientific Name	DAFOR
Bindweed	<i>Convolvulus arvensis</i>	F
Bramble	<i>Rubus fruticosus</i>	O
Broadleaved Dock	<i>Rumex obtusifolius</i>	F
Cleavers	<i>Galium aparine</i>	LD
Common Comfrey	<i>Symphytum officinale</i>	F
Common Daisy	<i>Bellis perennis</i>	F
Common Hogweed	<i>Heracleum sphondylium</i>	R
Common Nettle	<i>Urtica dioica</i>	D
Common Spear Thistle	<i>Cirsium vulgare</i>	D
Creeping Buttercup	<i>Ranunculus repens</i>	A
Creeping Spear Thistle	<i>Cirsium arvense</i>	D
Field Bindweed	<i>Convolvulus arvensis</i>	F
Fleabane	<i>Pulicaria dysenterica</i>	O
Foxglove	<i>Digitalis purpurea</i>	R
Garlic Mustard	<i>Alliaria petiolata</i>	R
Greater Knapweed	<i>Centaurea scabiosa</i>	R
Ivy	<i>Hedera helix</i>	LA
Meadow Buttercup	<i>Ranunculus acris</i>	F
Mint	<i>Mentha sp.</i>	O
Ribwort Plantain	<i>Plantago lanceolata</i>	O
Smooth Sow Thistle	<i>Sonchus oleraceus</i>	O
Wood Avens	<i>Geum urbanum</i>	O

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

APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 1 - View of the main body of the site from site entrance looking south-east.



Photograph No. 2 - View of margins of the site looking towards the south-west corner.

MR T JOHNSON

LAND ADJOINING WILLOWS CARAVAN PARK, LIDSEY ROAD, WOODGATE
ECOLOGICAL IMPACT ASSESSMENT

LLD1798-ECO-REP-001-01-EcIA

APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 3 - View of site entrance.



Photograph No. 4 - View of disused allotments to the north of the site formed of a mosaic of tall ruderal and dense scrub.

MR T JOHNSON

LAND ADJOINING WILLOWS CARAVAN PARK, LIDSEY ROAD, WOODGATE
ECOLOGICAL IMPACT ASSESSMENT

LLD1798-ECO-REP-001-01-EcIA

Visit No. 1

Surveyor	George Sayer			
Date	14/08/17			
Time	16:00			
Temperature	20°C			
Wind	1			
Weather	Clear & Sunny			
Title No.	Species	Ad/J	Sex	Notes
None Found				

Visit No. 2

Surveyor	George Sayer			
Date	24/08/2017			
Time	16:00			
Temperature	18°C			
Wind	0			
Weather	Clear & Sunny			
Title No.	Species	Ad/J	Sex	Notes
None Found				

Visit No. 3

Surveyor	George Sayer			
Date	01/09/2017			
Time	09:00			
Temperature	14°C			
Wind	2			
Weather	Light Cloud			
Title No.	Species	Ad/J	Sex	Notes
None Found				

Visit No. 4

Surveyor	George Sayer			
Date	04/09/17			
Time	18:00			
Temperature	17°C			
Wind	2			
Weather	Light Rain			
Title No.	Species	Ad/J	Sex	Notes
None Found				

Visit No. 5

Surveyor	George Sayer			
Date	06/09/17			
Time	09:00			
Temperature	16°C			
Wind	1			
Weather	Light Cloud			
Title No.	Species	Ad/J	Sex	Notes
None Found				

Visit No. 6

Surveyor	George Sayer			
Date	08/09/2017			
Time	09:00			
Temperature	15°C			
Wind	3			
Weather	Overcast			
Title No.	Species	Ad/J	Sex	Notes
None Found				

Visit No. 7

Surveyor	George Sayer			
Date	12/09/17			
Time	00.38			
Temperature	17°C			
Wind	2			
Weather	Light Cloud			
Title No.	Species	Ad/J	Sex	Notes
None Found				

Summary

Visit No.	SW	GS	CL	A
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
Peak Count	0	0	0	0

SW= Slow Worm, GS= Grass Snake, CL= Common Lizard, A= Adder