

Barkby Road,
Queniborough

Ecological Impact Assessment (Low
Impact EclA)



Client:

David Wilson Homes

Report Reference:

RSE_4406_01_V1

Issue Date:

November 2020

PROJECT

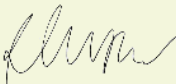
Client: David Wilson Homes

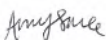
Project: Barkby Road, Queniborough


Reference: RSE_4406_01_V1

Report Title: Preliminary Ecological Appraisal

DOCUMENT CONTROL

Originated: **Rachel Jane Cooper** Graduate Environmental Consultant  11/11/2020
 BSc (Hons) GradIES

Technical Reviewed: **Amy Skuce** Senior Ecologist  12/11/2020
 BSc GCIEEM

Verified: **Oliver Ramm** Director  18/11/2020
 BSc MCIEEM

Revisions:

East Midlands: West Midlands: Yorkshire

Switch board 0115 930 2493: info@rammsanderson.com: www.rammsanderson.com

DISCLOSURE:

The information provided within this report has been prepared and provided as true and in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. It is intended for the sole use of the Client and their agents in accordance with the agreement under which our services were performed. Unauthorised communication, reproduction or usage of this report by any party other than the aforementioned is prohibited. No warranty, express or implied, is made as to the advice in this report or any other service provided by RammSanderson Ecology Ltd. This report has been prepared by an ecological specialist and does not purport to provide legal advice. RammSanderson is a trading name of RammSanderson Ecology Limited, as registered in England & Wales (Company No.: 8999992).



1 EXECUTIVE SUMMARY

1.1 Background

i RammSanderson Ecology Ltd was instructed by David Wilson Homes to carry out a Preliminary Ecological Appraisal of land east of Barkby Road, Queniborough to inform The site was located to the west of Barkby Road. It comprised of two fields, the western field was semi-improved grassland, and the eastern field was arable. Both fields were bounded by species poor hedgerows and broad-leaved scattered trees within the hedgerows. Areas of dense scrub were present on the west boundary of the western site and southeast boundary of the eastern site.

Table 1: Summary of Ecological Features

Ecological Feature	Comment	Avoidance	Mitigation	Compensation/Enhancement	Residual Impact
Designated Sites	The proposals fall inside the Zone of Influence (Zol) of two designated sites, however, the nature of the proposals for this site are not of a type that are likely to result in an impact to these SSSIs.	N/A	N/A	N/A	N/A
Habitats	The works will impact managed grasslands, scrub and arable areas which are only of limited ecological value.	N/A	N/A	N/A	Negligible
Great Crested Newt	Limited suitable habitats on site of within Zol	No	Best practice should be followed during works for any GCN that may pass through the site.	N/A	Negligible
Bats	The trees on site offer negligible scope for roosting and the site would be considered to be of low value for foraging bats	No	Avoidance of light spill onto the adjacent land. Lighting requirements of the new outdoor space should be carefully considered and avoided where possible	No	Negligible

Ecological Feature	Comment	Avoidance	Mitigation	Compensation/Enhancement	Residual Impact
Badger	No evidence on site. Adjacent railway embankment has scope for sett digging. Works will not affect this or cause disturbances sufficient to impact should a sett be present.	N/A	Best practice should be followed during works for any large mammals that may pass through the site.	N/A	Negligible
Birds	The scattered trees and hedgerow have some limited scope for bird nesting provision.	N/A	Vegetation clearance should be completed during the period Sept-end Feb to avoid nesting birds.	N/A	N/A
Reptiles	Limited working area of negligible value for reptiles	N/A	N/A	N/A	N/A
Water Vole and Otter	No suitable habitats on site of within Zol	N/A	N/A	N/A	N/A
Terrestrial Invertebrates	The site has limited habitats suited to any principal or endangered invertebrate species	N/A	N/A	N/A	N/A
Aquatic Invertebrates	No suitable habitats on site of within Zol	N/A	N/A	N/A	N/A
Fish	No suitable habitats on site of within Zol	N/A	N/A	N/A	N/A
Principal Species	Species, such as hedgehog and toad, are potentially present locally, but no habitat impacts are proposed.	N/A	N/A	N/A	N/A

CONTENTS

1 EXECUTIVE SUMMARY	3
1.1 BACKGROUND	3
2 INTRODUCTION AND BACKGROUND	7
2.1 PURPOSE AND SCOPE OF THIS REPORT	7
2.2 ZONE OF INFLUENCE	7
2.3 SITE CONTEXT AND LOCATION	8
3 METHODOLOGY	10
3.1 ECOLOGICAL IMPACT ASSESSMENT	10
3.2 DESK BASED ASSESSMENT	11
3.3 PHASE 1 HABITAT SURVEY	11
3.4 PROTECTED / PRIORITY SPECIES SCOPING ASSESSMENT	11
3.5 LIMITATIONS	11
3.6 ACCURATE LIFESPAN OF ECOLOGICAL DATA	12
4 BASELINE CONDITIONS	13
4.1 SURVEYORS COMPETENCY AND SURVEY CONDITIONS	13
4.2 DESIGNATED SITES	13
4.3 FIELD SURVEY RESULTS	14
5 IMPACTS AND MITIGATION (CUMULATIVE AND/OR IN ISOLATION)	21
5.1 PLANNING APPLICATION SEARCH	21
5.2 HABITATS	21
5.3 STATUTORILY AND NON-STATUTORILY DESIGNATED SITES	21
5.4 FAUNA	22
6 DISCUSSION AND RECOMMENDATIONS	26
6.1 PROTECTED / PRIORITY SPECIES AND HABITATS IMPACT APPRAISAL	26
7 COMPENSATION AND ENHANCEMENT RECOMMENDATIONS	28
8 MONITORING	30
9 REFERENCES	31

APPENDIX 1: LEGISLATION AND PLANNING POLICY **32**

9.2 GENERAL & REGIONALLY SPECIFIC POLICIES 32

APPENDIX 2: DESK STUDY DATA **33**

9.3 DESK STUDY RESULTS 33
 HABITAT CONNECTIVITY AND CLOSEST RELEVANT RECORDS 39

APPENDIX 3: CLIENT PROPOSALS **41**

APPENDIX 4: POND PLAN **42**

FIGURES

FIGURE 1: SITE LOCATION PLAN 9
 FIGURE 2: PHASE 1 HABITAT PLAN 20
 FIGURE 3: POND 2 23
 FIGURE 4: POND 3 23
 FIGURE 5: VIVARA WOODSTONE BIRD BOX 28
 FIGURE 6: SITE HABITAT CONNECTIVITY 40

TABLES

TABLE 1: SUMMARY OF ECOLOGICAL FEATURES 3
 TABLE 2: CONSULTED RESOURCES 11
 TABLE 3: SUMMARY OF CONDITIONS DURING SURVEY 13
 TABLE 4: RESULTS OF PHASE 1 SITE SURVEY 15
 TABLE 5: HSI ASSESSMENT 22
 TABLE 6: SUMMARY OF RESIDUAL IMPACTS 26
 TABLE 7: STATUTORY DESIGNATED SITES 33
 TABLE 8: NON-STATUTORY DESIGNATED SITES 34
 TABLE 9: HABITATS OF PRINCIPAL IMPORTANCE WITHIN 1KM OF THE SITE 34
 TABLE 10: SUMMARY OF PROTECTED SPECIES AND NOTABLE RECORDS 35

2 INTRODUCTION AND BACKGROUND

2.1 Purpose and Scope of this Report

- i RammSanderson Ecology Ltd was commissioned David Wilson Homes to assess the potential for protected species and habitats to be present on the site of proposed residential development.
- ii To complete an EclA of the proposals, a desk-based assessment, Extended Phase 1 Habitat Survey and protected species assessments were carried out based upon the findings of the Preliminary Ecological Appraisal (PEA). This report is a stand-alone EclA which has been prepared following current guidance (CIEEM, 2018) and can be used to lawfully determine a planning application in line with current planning policy. This report does not form part of a wider discipline Environmental Impact Assessment (EIA) of Environmental Statement (ES), nor does it confer the need for any such documentation.
- iii The study area was defined depending on the proposals, desk study and applicable legislation (Appendix 1) as shown in the enclosed Site Location Plan (Figure 1) and Phase 1 Habitat plan (Figure 2) plus a buffer zone extended to include the Zone of Influence (see section below) of the proposals (hereafter referred to as the "Site").
- iv This EclA is based on a review of the development proposals provided by the Client in Drawing: QUEN-CONC-SK2 Rev:E (Appendix 3), desk study data (third party information) and surveys of the Site. The aims of this report are to:
 - Classify the habitat types at the site based on standard Phase 1 Habitat survey methodology;
 - Evaluate any potential for protected species to be present;
 - Identify any ecological constraints that may affect the scheme design;
 - Provide recommendations for any further actions that might be required (for example, to monitor badger setts periodically through construction);
 - Identify likely significant effects on ecological receptors;
 - Assess if the proposals are compliant with legislation and policy relating to biodiversity; and
 - Identify opportunities for ecological enhancement to provide net biodiversity gain in line with the National Planning Policy Framework (NPPF, 2019).
- v This report pertains to these results only; recommendations included within this report are the professional opinion of an experienced ecologist and therefore the view of RammSanderson Ecology Ltd.
- vi The surveys and desk-based assessments undertaken as part of this review and subsequent report including the Ecological Constraints and Opportunities Plan are prepared in accordance with the British Standard for Biodiversity Code of Practice for Planning and Development (BS42020:2013) and follow current guidance (CIEEM, 2018).
- vii RammSanderson Ecology had undertaken preliminary ecological appraisals of the site in 2016 (RammSanderson, 2016) and 2018, with further presence/likely absence surveys for great crested newts (GCN) also carried out in 2018 (RammSanderson, 2018). The surveys found the site to be comprised of species poor grazing pasture and arable land, with a commercial nursery tree crop, and species poor boundary hedgerows. No GCN were identified during the surveys,

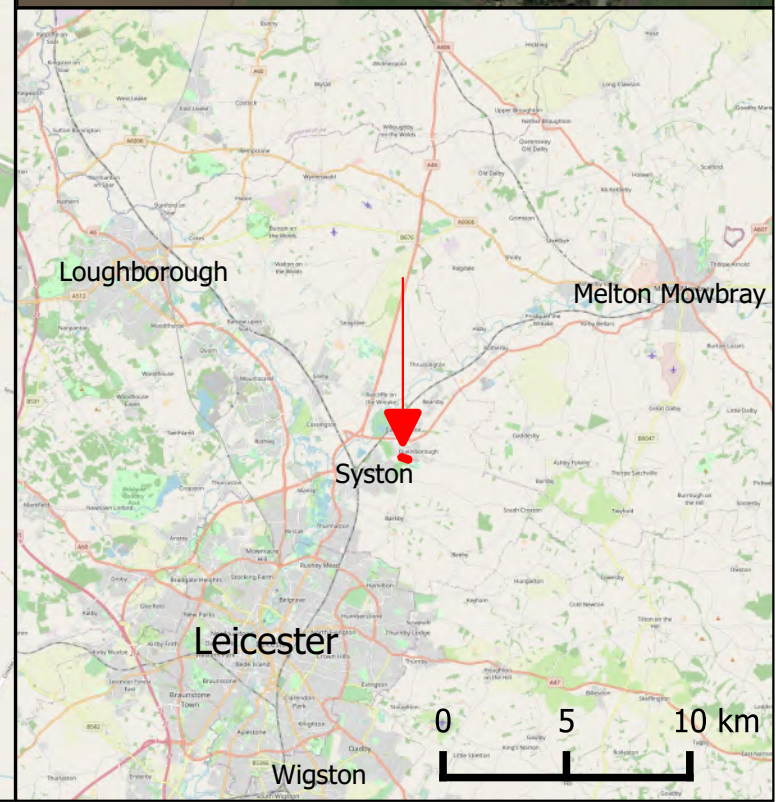
2.2 Zone of Influence

- i The Zone of Influence (Zol) is used to describe the geographic extent of potential impacts of a proposed development. The Zol is determined by the development proposals in relation to individual species ecological requirements indicated in best practice guidelines.
- ii In relation to GCN, the Zol is considered to be up to 500m from the site boundaries, as this is the distance that Natural England would require to be considered in relation to GCN licensing.

- iii For badgers, the Zol is typically 30-50m from the Site boundary as this is the distance within which a sett can be damaged or disturbed by heavy machinery.
- iv As bats are highly mobile species, the Zol for these can be 5km from a site wherein high-quality habitat will be impacted by proposals.
- v For designated sites, the Zol can be >10km from the site and this is termed the Impact Risk Zone (IRZ). Where sites occur within an IRZ the requirement for a Habitat's Regulations Assessment or Environmental Impact Assessment may be triggered.

2.3 Site Context and Location

- i The site is located to the south of Queniborough, Leicestershire, to the east of Barkby Road (approximate central grid reference SK 64068 12140). This site comprised of two fields, the eastern one an arable field and the western (smaller) field a horse paddock. The village of Queniborough is located to the north and east of the site, whilst Syston is located to the west of the site. The south of the site was dominated by agricultural fields and associated buildings.



Client: David Wilson Homes

Project: Barkby Road, Queniborough Date: 06/11/2020

Drawing: Site Location and Context RJC Drawn By:

Drawing No. RSE_4406_F01

RammSanderson Ltd
 East Midlands, West Midlands, Yorkshire, London
 T: 0115 930 2493
 E: admin@rammsanderson.com
 W: www.rammsanderson.com

3 METHODOLOGY

3.1 Ecological impact Assessment

i The ecological impact assessment is based on the standard best practice methodology provided by the Guidelines for Ecological impact Assessment (CIEEM, 2018). The assessment identifies important sites, habitats, species and other ecological features that are of conservation value based on factors such as legal protection, statutory or local site designations such as Sites of Special Scientific Interest (SSSI) or Local Wildlife Sites (LWS) or inclusion on Red Data Book Lists or Local Biodiversity Action Plans.

ii The importance of an ecological feature is considered within a defined geographical context. The following frame of reference is used, or adapted to suit local circumstances:

- International and European
 - National
 - Regional
 - Metropolitan, County, vice-county or other local authority-wide area
 - River Basin District
 - Estuarine system/Coastal cell
 - Local
 - Below Local level e.g. on site only
- Importance

High Importance



Negligible

iii Consideration of impacts at all scales is important, and essential if objectives for no net loss of biodiversity and maintenance of healthy ecosystems are to be achieved. In identifying impacts, the review considers the Client's Site proposals and any subsequent recommendations made are proportionate / appropriate to the site and have considered the Mitigation Hierarchy as identified below:

- **Avoid:** Provide advice on how the development may proceed by avoiding impacts to any species or sites by either consideration of site design or identification of an alternative option.
- **Mitigate:** Where avoidance cannot be implemented, mitigation proposals are put forward to minimise impacts to species or sites as a result of the proposals. Mitigation put forward is proportionate to the site.
- **Compensate:** Where avoidance cannot be achieved, any mitigation strategy will consider the requirements for site compensatory measures.
- **Enhance:** The assessment refers to planning policy guidance (e.g. NPPF) to relate the ecological value of the site and identify appropriate and proportionate ecological enhancement in line with both national and local policy.

iv For the purpose of this EclA, a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' (explained in 3.1.i.) or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects are considered significant at the range of scales from international to local. A significant effect is an effect that is sufficiently important to require assessment and reporting so that the ecological consequences of the project are understood. In broad terms, significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution).

v Note: The following definitions are used for the terms 'impact' and 'effect' throughout this report:

- **Impact** – Actions resulting in changes to an ecological feature. For example, the construction activities of a development removing a hedgerow.

- **Effect** – Outcome to an ecological feature from an impact. For example, the effects on a dormouse population from loss of a hedgerow.

3.2 Desk Based Assessment

- Data regarding statutory and non-statutory designated sites, plus any records of protected or Priority species and habitats was requested from the local ecological records centre and online resources, details of which are provided in Table 2 below.

Table 2: Consulted resources

Consultee/Resource	Data Sought	Search Radius from Boundary
Leicester and Rutland Biological Records Centre	Non-Statutory Site Designations	2km
	Protected/Principal Species Records	2km
www.magic.gov.uk ^{1 2}	Statutory Site Designations (Impact Risk Zones)	5km
	Habitats of Principal Importance (NERC Act, 2006)	1km
	European Protected Species Licences	5km

NB: Desk study data is third party controlled data, purchased or consulted for the purposes of this report only. RammSanderson Ecology Ltd cannot vouch for its accuracy and cannot be held liable for any error(s) in these data.

3.3 Phase 1 Habitat Survey

- An extended Phase 1 Habitat Survey of the site was completed to identify habitats present. All habitats within the site boundary were described and mapped following standard Phase 1 Habitat Survey methodology (JNCC, 2010), which categorises habitat type through the identification of individual plant species.
- Nomenclature follows Stace (Stace, 2010) for vascular plant species and the DAFOR scale for relative abundance was used in the field to determine dominant plants within habitats and communities (D = dominant, A = abundant, F = frequent, O = occasional and R = rare).

3.4 Protected / Priority Species Scoping Assessment

- The habitats on site were assessed for their suitability for supporting any legally protected or Priority species that would be affected by the proposed development. This includes invasive non-native plant species such as Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*).

3.5 Limitations

- It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment.

¹ Multi Agency Geographic Information for the Countryside Interactive GIS Map.

² MAGIC resource was reviewed on the 17/11/2020

3.6 Accurate lifespan of ecological data

- i The majority of ecological data remain valid for only short periods due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for approximately 18 months from the date of survey, notwithstanding any considerable changes to the site conditions, the presence of mobile species such as bats, otters and badgers or where species/county specific guidance dictates otherwise (CIEEM, 2019).

4 BASELINE CONDITIONS

4.1 Surveyors Competency and Survey Conditions

- i The survey was carried out by Amy Skuce BSc (Hons) GradCIEEM. Amy is a senior ecologist and has been a professional ecologist for six years. She holds a Class 1 licence for great crested newts (2016-23118-CLS-CLS) and is a FISC Level 4 botanist. The survey was completed during suitable conditions, the site was initially assessed in 2016, 2018 and reassessed in 2020.

Table 3: Summary of conditions during survey

Abiotic Factor	Survey
Survey type	PEA
Date completed	05/11/2020
Temperature (°C)	10
Wind speed (Beaufort Scale)	0
Cloud cover (Oktas Scale)	1
Precipitation	1

4.2 Designated Sites

4.2.1 Statutory Designated Sites and Non-Statutory Designated Sites³



- i The nearest statutorily designated site is Reedbed Local Nature Reserve (LNR). The site lies 3.2km west-south-west.
- ii Whilst there no SSSIs within 5km of the site the site falls within an impact risk zone for the Buddon Wood and Swithland Reservoir SSSI, proposal types which would require further consultation include:
- Infrastructure: airports, helipads and other aviation proposals
 - Discharges: Any discharge of water or liquid waste of more than 20m³/day to the ground (ie to seep away), or to surface water such as a stream (Note: this does not include discharges directly to mains sewer as this is not likely to pose a risk at this location)
- iii Therefore, these proposals are not of a nature which require consultation or further assessment with regards to the nearby SSSIs
- iv There are seven-non-statutory designated sites within the search radius for this site, the closest being Mares Lane Field Local Wildlife Site (LWS) 0.8km southeast of the site.


³ Full desk study results are provided in Appendix 5.



4.3 Field Survey Results


- i There was no major habitat changes from the 2018 survey, apart from the nature of the arable crop. The survey area comprised of two fields, the western field is semi-improved grassland, and the eastern field is arable. Both fields are bounded by species poor hedgerows and broad-leaved scattered trees adjacent the hedgerows. Areas of dense scrub were present at the site boundaries.
Habitats types detailed below are listed in order of the JNCC (2010) Handbook. The species list provided in this report reflect only those taxa observed during the survey.

Table 4: Results of Phase 1 Site Survey

Habitat	Description	Area (m ²)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
A2.2 Scattered Scrub	Scrub was found on the western and northern border of the western field and was dominated by hawthorn (<i>Crataegus</i>) and bramble (<i>Rubus fruticosus</i>). Scrub was also found on the southern end of the dividing hedgerow.	237	0.4	Of ecological value, providing ground cover and foraging opportunity, likely to be lost though development.	
A3.1 Scattered Broadleaved Trees	A double row of immature trees was planted along the southern boundary of the site, adjacent to the boundary hedgerow, and further trees adjacent to the western boundary. Species composition comprised of a double row of young lime (<i>Tilia</i> spp.), rowan (<i>Sorbus</i> subg. <i>Sorbus</i>) and field maple (<i>Acer campestre</i>). This strip of broadleaved trees had an understory of tall ruderals, cow parsley (<i>Anthriscus sylvestris</i>), common nettle (<i>Urtica dioica</i>) and common thistle (<i>Cirsium vulgare</i>).	2506	4.3	Of ecological value to commuting bats and birds. The majority will be retained post development with further trees planted in open spaces.	

Habitat	Description	Area (m ²)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
B.6 Poor semi-improved grassland	<p>The western field consisted of semi improved grassland. This field was dominated by cock's foot (<i>Dactylis glomerata</i>), with abundant couch grass (<i>Elymus repens</i>) and occasional yarrow (<i>Achillea millefolium</i>), bent (<i>Agrostis sp.</i>), meadow buttercup (<i>Ranunculus acris</i>), common mouse-ear chickweed (<i>Cerastium fontanum</i>) and annual meadow grass (<i>Poa annua</i>). Broadleaved dock (<i>Rumex obtusifolius</i>) and Yorkshire fog grass (<i>Holcus lanatus</i>) were also frequently found across this field. The sward height of this field was between 10 and 15cm in length due to being grazed by horses.</p> <p>Semi improved grassland was also found around the boundaries of the eastern arable field. This has the same species composition as the semi improved field but had a longer sward height.</p>	16,904	29.0	Of low ecological value due to frequent disturbance from grazing and high nutrient inputs. This will be lost through development.	


Habitat	Description	Area (m ²)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
C3.1 Other Tall Herbs and Fern - Ruderal	Tall ruderals were found in the understory of the hedges comprising of common nettle (<i>Urtica dioica</i>), cow parsley (<i>Anthriscus sylvestris</i>) and common thistle (<i>Cirsium vulgare</i>).	330	0.6	Of ecological value, providing ground cover and foraging opportunity, likely to be lost though development.	
J1.1 Arable	The western field was planted with <i>brassica</i> crop.	38319	65.7	This is of low ecological importance and will be lost as part of the proposal.	

Habitat	Description	Area (m ²)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
J2.1.2 Intact species poor hedge	<p>H1 – Trimmed, dense hedge dominated by hawthorn with occasional field maple (<i>Acer campestre</i>) and bramble (<i>Rubus fruticosus</i>). The understory of this hedge comprised of poor semi-improved grassland and ruderals. This hedge was 2m tall and 2m wide.</p> <p>H2 – Trimmed hedge with some gaps at the base dominated by hawthorn (<i>Crataegus</i>) and bramble (<i>Rubus fruticosus</i>). This hedge was approximately 1.75m high by 1.50m wide.</p> <p>H3 – Trimmed hedge with gaps at the base. This hedge was 2m tall and 1.50m wide, dominated by hawthorn (<i>Crataegus</i>) with occasional elder (<i>Sambucus nigra</i>), wych elm (<i>Ulmus glabra</i>), bramble (<i>Rubus fruticosus</i>) and dog rose (<i>Rosa canina</i>). Oak (<i>Quercus</i> spp.) was rarely found in the hedge.</p> <p>H4 - Dominated by hawthorn (<i>Crataegus</i>) with frequent elder (<i>Sambucus nigra</i>), occasional holly (<i>Ilex</i> spp.) and rarely lowland conifer (<i>Pinophyta</i> spp.) and oak (<i>Quercus</i> spp.). This hedge was 1.75m tall by 1.5m wide.</p> <p>H5 – 1.5m by 1.5m hedgerow dominated by hawthorn (<i>Crataegus</i>), dog rose (<i>Rosa canina</i>), ivy (<i>Hedera</i>) and bramble (<i>Rubus fruticosus</i>) with occasional holly (<i>Ilex</i> spp.) and frequent elder (<i>Sambucus nigra</i>).</p> <p>H6 – Dominated by hawthorn (<i>Crataegus</i>), elder (<i>Sambucus nigra</i>) and bramble</p>	N/A	N/A	Of ecological value providing foraging, commuting and nesting opportunities. These will be retained.	

Habitat	Description	Area (m ²)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
	(<i>Rubus fruticosus</i>), this hedge was 1.75m tall by 1.50m wide.				



- Key**
- Site Boundary
 - A2.2 - Scrub - scattered
 - A3.1 - Broadleaved Parkland/scattered trees
 - B6 - Poor semi-improved grassland
 - C3.1 - Other tall herb and fern - ruderal
 - J1.1 - Cultivated/disturbed land - arable
 - J2.1.2 - Intact hedge - species-poor
 - X Scattered Scrub



RammSanderson

Client: David Wilson Homes	
Project: Barkby Road, Queniborough	
Drawing Title: Phase 1 Habitat Plan	
Drawing No. RSE_4406_	Rev: V1
Drawn By: LAJM	Date: 06/11/2020
Scale: 1:1,392 @ A3	
<small>RammSanderson Ltd East Midlands, West Midlands, Yorkshire, London T: 0115 930 2493 E: admin@rammsanderson.com W: www.rammsanderson.com</small>	

5 IMPACTS AND MITIGATION (CUMULATIVE AND/OR IN ISOLATION)

5.1 Planning Application Search

- i A planning application search was conducted for this site. Although there were numerous planning applications within Queniborough, there were no applications adjacent to the site and so due to the distance from the site for larger applications or the fact the applications were householder applications within Queniborough which acted as a barrier to dispersal, there would be minimal impact to the environment by this development.

5.2 Habitats

- i The habitats on site were of limited ecological value and no protected or Priority plant species were observed, and all plant species encountered were common, widespread and characteristic of the common habitat types they represent.
- ii The eastern field is an arable field and so provided limited ecological value due to its intensive management and monoculture.
- iii A full grassland assessment was undertaken in the western field and compared against the criteria for local wildlife site selection. The site was not considered to have sufficient species diversity to be considered for LWS selection, and was dominated by agricultural grasses, with limited herbaceous species, in part due to the grazing pressures and nutrient inputs from ongoing equestrian grazing.
- iv The hedgerows on site were species poor and thus do not meet LWS status nor were 'ecologically important' under the Hedgerow Regulations (1997).
- v Grassland and some tree removal are required to facilitate the proposals however this is not considered to represent a significant ecological impact owing to their overall low value and the context of the site.

5.3 Statutorily and Non-Statutorily Designated Sites

- i The closest statutorily designated site was Reedbed LNR situated 3.2km west of the site boundary, this site was designated as a result of the habitat types, and as such the presence of a diverse bird population, present as a result of being within the flood plain for the river soar. The next closest site was Birstall LNR, this was located 3.8km south west of the site boundary. This site was designated as a result of botanically diverse damp meadows and wading birds.
- ii Impacts to the LNR sites as a result of the proposals is considered to be negligible due to the small scale of these proposals and lack of direct connectivity between the sites. The increase in recreation at these sites is also considered to be negligible due to the abundance of walking routes in the area and the lack of direct footpath links to any of the sites within 5km of the site boundary.
- iii The site did fall within the impact risk zone for Buddon Wood and Swithland Reservoir SSSI which is situated 7.3km west of the site boundary. This site is located within Charnwood district and is designated as a result of areas of diverse ancient woodland, swamp, wet woodland, and open water in the form of the reservoir.
- iv No impacts upon the SSSIs are anticipated from the proposals. The proposals are not of a type which are predicted to impact Buddon wood and Swithland Reservoir SSSI, as these proposals are for residential development.
- v The closest non-statutory designated site was Mere Lane field LWS, this site was located over 800m from the proposed site boundary. This site was designated as a mesotrophic grassland and did not have any public access or walking routes within the site.

5.4 Fauna

5.4.1 Great Crested Newts

- i No ponds were located on site, however there are seven ponds within 500m of the site boundary. Four of these were located beyond barriers to dispersal in the form of the surrounding road network, or isolated within housing developments. The desk study showed that there were eight records of GCN within 2km of the site with the closest record 0.9km west-north-west of the site. Pond 1 was located approximately 190m from the site, this pond was dried in an area of agricultural land. Pond 2 is a garden pond approximately 160m south west of the site, this pond has some areas of emergent vegetation and trees around its banks. This pond also contains large fish. There was a duck house on the pond and waterfowl in the vicinity with a heron also present on the periphery of the pond. The area around Pond 2 was short mown amenity grassland, hard standing and short grazed pasture. Pond 3 was located 163m west of the site. This pond was very overgrown (and so heavily shaded) with limited emergent vegetation and poor water quality. Although no fish were seen during the survey, waterfowl were seen around the pond margins. Although the pond is immediately surrounded by habitat suitable for terrestrial phase GCN, beyond of this the pond was surrounded by hardstanding and industrial buildings to the north and short grazed pasture to the south which were of limited suitability.

Great Crested Newt Habitat Suitability Index (HSI) Assessment and Presence/Likely Absence Survey

- i Ponds 2 and 3 were assessed using an HSI assessment when the initial 2016 survey was completed, with only Pond 2 being reassessed during the 2020 survey as Pond 3 was inaccessible due to safety concerns.

Table 5: HSI Assessment

Pond	Location	Area (m ²)	Drying	Water quality	% shade	Waterfowl	Fish	Ponds within 1km	Terrestrial Habitat	Macrophyte cover (%)	HSI category
2	A	401 – 800	Never Dries	Moderate	0 – 60	Minor	Major	5	Poor	5	Below Average
3	A	1 - 50	Rarely Dries	Poor	95	Minor	Absent	5	Moderate	0	Below Average

Figure 3: Pond 2



Figure 4: Pond 3



- ii The peripheral vegetation on site, including hedgerows, scattered trees, scattered scrub, long sward height poor-semi improved grassland and tall ruderal vegetation opportunities for foraging, refuge seeking and commuting GCN. However, the short-grazed grassland and arable field on site provide inadequate habitat for foraging, refugia and commuting for GCN. Surrounding the site, the habitat is similar to that on site and so provides the same foraging, refugia and commuting opportunities as on site.
- iii No GCN were recorded during the 2016 surveys, however smooth newts were recorded within Pond 3. No newts were recorded within P2 likely due to the presence of large fish.

5.4.2 Bats

Bat Tree Roosts

- i All of the trees on site were subject to a ground level tree assessment. All trees were assessed as having negligible bat roost potential.

Bat Foraging Habitat

- ii The hedgerows present on site provided potential foraging and commuting habitat, as well as providing connectivity to the wider landscape. When assessed against criteria in best practice guidelines (Collins J., eds, 2016) the site was considered to offer low quality foraging and commuting habitat for bats, and there is limited high value habitat locally. If avoidance is not possible, light spill should be minimised and should follow the guidance set out in Bats and Lighting in the UK (BCT and ILP, 2018). Therefore, associated site lighting proposals must consider the following:
 - Avoid lighting where possible;
 - Install lamps and the lowest permissible density;
 - Lamps should be positioned to direct light to avoid upward spill onto any green corridors that could be used by commuting bats or features with bat roost potential;
 - LED lighting – with no/low UV component is recommended;
 - Lights with a warm colour temperature – 3000K or 2700K have significantly less impact on bats;
 - Light sources that peak higher than 550nm also reduce impacts to bats; and
 - The use of timers and dimmers to avoid lighting areas of the site all night is recommended.

5.4.3 Bat Building Roost

- iii There were no buildings on site.

5.4.4 Birds

- i The scattered trees provide suitable habitat for nesting birds. However, these would be restricted to common garden and farmland species and do not provide scope for Schedule 1 bird species or notable populations of Birds of Conservation Concern (BoCC). Works require the removal of a small number of the trees on site. However, given their low value impacts are deemed unlikely to extend beyond the local level.
- ii Any tree management works or vegetation clearance should take place outside the bird nesting season (which runs March to September inclusive) to ensure compliance with the general protection afforded to wild birds under the Wildlife and Countryside Act 1981 (as amended). If this is unavoidable, the trees and hedgerows should be carefully checked, by a suitably qualified ecologist, prior to removal. Where active nests are found, working restrictions would be put in place until follow up survey can demonstrate that all chicks have fledged.

5.4.5 Reptiles

- i There were 11 records of grass snake identified within the desk study with the closest record being 1.3km north-north-west of the site. The western field provided negligible suitable foraging area and refugia for reptiles due to frequent disturbance by grazing horses and short sward height whereas the eastern field is more suitable for reptiles providing scope for foraging and refugia and also areas of bare ground for basking however would face frequent disturbance from people walking through the site as there is a public footpath through the centre of the field increasing disturbance. The hedgerow boundaries of the site provide more areas for dispersal and refugia. The level of disturbance across the site reduces habitat suitability to reptiles.

5.4.1 Water Vole, Otter and White-Clawed Crayfish

- ii The desk study identified six records of European Otter (*Lutra lutra*), closest record being 1km southwest and one European Water Vole record (*Arvicola amphibius*), 1.3km north-north-west of the site. As no waterbodies or watercourses were present on site or in close proximity to the site the presence of these species would not pose a constraint to the development of the site.

5.4.2 Badgers and Principal Species

- i The desk study identified 26 records of badgers within 2km of the site. Whilst there was no evidence of badger setts or latrines on the site, there was evidence of a large mammal path near the boundary of the two fields on site. Furthermore, hedgerows forming the site boundaries also provide some scope for foraging and sett digging. There for it is likely that badgers are entering the site to forage and disperse.
- ii On this basis it is not considered necessary to conduct further assessment for badger in the area. However during construction, it is recommended that best practice is followed in respects to badger and any other mammals (i.e. fox and hedgehog) which may be present locally. This should include
- Mammal ladders (such as a plank) or earth ramps to be placed in any open excavations at the end of each day;
 - Cap off any open pipes at the end of each day;
 - Cover any open holes, or install mammal ladders or earth ramps in any open excavations at the end of each day to prevent animals from becoming trapped;
 - Keep all fuel and other harmful substances in a locked area;
 - Ensure any spillages are treated with spill kits;
 - If any fresh sett digging is observed notify an ecologist immediately and leave a 20m buffer around the area until an assessment can be made.

5.4.3 Other Priority Fauna Species

- i The habitats on site were suitable for hedgehogs *Erinaceus europaeus* (19 records; closest record 161m east-north-east) and brown hare *Lepus europaeus* (8 records; closest record 161m east-north-east). Records were also identified during the desk study for these species and they are considered likely present on site.
- ii Due to a lack of suitable habitats, the site is not considered likely to support any other legally protected or Priority species.

6 DISCUSSION AND RECOMMENDATIONS

6.1 Protected / Priority Species and Habitats Impact Appraisal

i The potential for protected species or habitats to be present on site and impacted by the proposals is provided in Appendix 3. No further surveys were conducted to facilitate an assessment of ecological impacts post development. Recommended mitigation and residual impacts are provided in the table below.

Table 6: Summary of Residual Impacts

Ecological Feature	Importance (Geographic Frame of Reference)	Potential Effect	Mitigation Proposed	Proposed Mechanism to Secure	Residual Impact
Statutory Designated Sites	County or above	A slight increase in trampling pressures due to an increase in recreational users in the locality	Onsite open spaces will help to reduce recreational use of nearby SSSI sites	N/A	N/A
Non-statutory designated sites	County	None	No	N/A	N/A
Habitats including Priority flora	Local	Loss of habitats of low diversity	Retention of hedgerow and trees in accordance with root protection areas. Plant trees and hedgerows proportionally to that which is removed.		Not significant
Reptiles	Local	Unlikely to cause an impact	No	N/A	Not significant
Bats – Roosting	Local	Unlikely to cause an impact	No	N/A	Not significant
Bats – Foraging/Commuting	Local	Unlikely to cause an impact. Low value site already influenced by lighting	Avoid lighting / use light spill accessories in any lighting that is adjacent to the site boundaries.	N/A	Not significant
Great crested newts	Local	Potential for killing/injury/disturbance of individuals passing through the site.	Best practice site working procedures with regards to GCN.	N/A	Not significant
WWC	N/A	None	No	N/A	N/A

Ecological Feature	Importance (Geographic Frame of Reference)	Potential Effect	Mitigation Proposed	Proposed Mechanism to Secure	Residual Impact
Water vole	N/A	None	No	N/A	N/A
Badgers	Local	Potential for killing/injury/disturbance of individuals passing through the site.	Best practice site working procedures with regards to mammals.	Planning Condition	Not significant
Breeding birds	Negligible	Damage or destruction of nests	Precaution in relation to legislative protection of animals. Tree felling should be undertaken outside the bird nesting season.	Planning Condition	Not significant
Otter	N/A	None	No	N/A	N/A
Invasive Species	N/A	N/A	N/A	N/A	N/A

7 COMPENSATION AND ENHANCEMENT RECOMMENDATIONS

- i Any landscape planting associated with the new development should consider the use of native shrub species and also species which provide important sources for pollinating species such as lavender. The Royal Horticultural Society provide online resources to identify suitable plants for garden areas that are aesthetically pleasing but of significant value to local pollinators (Royal Horticultural Society, No Date).
- ii Consideration to provision of bird nest boxes could also be given in respects to the retained trees. Use of boxes such as the Vivara woodstone box provide a long-term nest box solution requiring limited replacement unlike wooden boxes which need regular replacement as a result of weathering.

Figure 5: Vivara Woodstone Bird Box



© <https://www.nhbs.com/vivara-pro-woodstone-bat-box>

- iii The plans also show areas of open space. It is recommended that these areas should be planted with species which were found on the site prior to development including common bent (*Agrostis capillaris*) and yarrow (*Achillea millefolium*) through using seed mixes. It is recommended that the site is planted with Naturescapes N14 Flowering Lawn Mixture (Naturescape, no date) or similar as this can tolerate an increased mowing regime whilst still providing a more diverse sward than standard amenity mixes
- iv There are also plans to build an attenuation pond as a SUDs feature however this should ideally incorporate elements of ecological value to increase the habitat diversity within the site. This pond should have areas varying in depths, to mimic natural wetlands, created by landscaping the bed through using the removed topsoil. This provides a mosaic of habitats within the pond allowing for overwintering species to use the pond and also providing shallower areas for breeding species such as frogs, shallower areas such also be created away from the edges to allow for waterfowl to use away from predation risks. Having varying depths also reduces the impacts of pollution to the pond. However, the pond should be no deeper than 1.5m at its deepest to prevent stratification and reduce health and safety risks (Woods Ballard *et al*, 2015). Sloping banks also allows ease of access to the water for wildlife and also allows for wildlife which may fall into the pond, eg hedgehogs, to escape (Royal Society for the Protection of Birds, no date).

- v It is also recommended that the pond is planted with pollution tolerant native species such as fennel pondweed (*Potamogeton pectinatus*) and broad-leaved pondweed (*Potamogeton natans*) in deeper water, water forget-me-not (*Myosotis Scorpiodes*) and flowering rush (*Butomus umbellatus*) in shallower water and purple loosestrife (*Lythrum salicaria*) and Meadowsweet (*Filipendula ulmaria*) in the margins (The Wildlife Trusts). Newts will benefit from the pond being colonised by plants with thin leaves which are easy to fold, whilst having areas of dense vegetation to increase anaerobic digestion of pollutants, prevent resuspension of pollutants and to adsorb pollutants from the water.
- vi Overall, it is recommended that the pond should not have organisms other than plants introduced and also that lighting the pond should be avoided to allow for the use of the pond by bats. It is also recommend that refugia, such as log piles and rockeries, are located around the pond for amphibians to hibernate and seek refuge.

8 MONITORING

- i None proposed or considered necessary.

9 REFERENCES

- i BS 42020:2013 'Biodiversity – Code of Practice for Planning and Development 2013: The British Standards Institution'.
- ii Chartered Institute of Ecology and Environmental Management (CIEEM), 2019. 'Advice Note: on the Lifespan of Ecological Report and Surveys'. Winchester: CIEEM.
- iii Chartered Institute of Ecology and Environmental Management, 2018.' Guidelines for Ecological Impact Assessment in the UK and Ireland'. Terrestrial, freshwater and Coastal. 2nd ed. Winchester: CIEEM.
- iv Chartered Institute of Ecology and Environmental Management, 2017. 'Guidelines for Preliminary Ecological Appraisal. 2nd ed. Winchester: CIEEM.
- v Collins J eds. 2016. 'Bat Surveys: Good Practice Guidelines, 3rd Edition'. London: Bat Conservation Trust.
- vi Department of Communities & Local Government, 2019. 'National Planning Policy Framework', London: DCLG.
- vii Joint Nature Conservancy Council, 2010. 'Handbook for Phase 1 habitat survey'. Peterborough: JNCC.
- viii Office of the Deputy Prime Minister, 06/2005.' Government Circular: Biodiversity and Geological Conservation - Statutory Obligations and their impact within the planning system'. London: ODPM.
- ix RammSanderson, 2016. Barkby Road Queniborough- Preliminary Ecological Appraisal. RSE_585_01_V1
- x RammSanderson, 2018. Land off Barkby Road, Queniborough. Letter report dated 7th November 2017. RSE_585_02_V1
- xi Royal Horticultural Society, no date, Plants for Pollinators, www.rhs.org.uk/plantsforpollinators (accessed 24/08/2020)
- xii Naturescape, No Date, N14 Flowering Lawn Mixture, <https://www.naturescape.co.uk/product/n14-flowering-lawn-mixture/> (accessed 12/11/2020)
- xiii Woods Ballard, B., Wilson, S., Udale-Clarke, H., Illman, S., Scott, T., Ashley, R., Kellagher, R., 2015, The SuDS Manual, CIRCA
- xiv Royal Society for the Protection of Birds, no date, Dig for Glory, <https://www.rspb.org.uk/get-involved/activities/give-nature-a-home-in-your-garden/garden-activities/digforglorywithalargepond/> (accessed 12/11/2020)
- xv The Wildlife Trusts, no date, How to Build a Pond, <https://www.wildlifetrusts.org/actions/how-build-pond> (accessed 12/11/2020)

APPENDIX 1: LEGISLATION AND PLANNING POLICY

9.2 General & Regionally Specific Policies

- i. Articles of British legislation, policy guidance and both Local Biodiversity Action Plans (BAPs) and the NERC Act 2006 are referred to throughout this report. Their context and application are explained in the relevant sections of this report. The relevant articles of legislation are:
 - The National Planning Policy Framework (2019);
 - ODPM Circular 06/2005 (retained as Technical Guidance on NPPF 2019);
 - The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
 - The Wildlife and Countryside Act 1981 (as amended);
 - EC Council Directive on the Conservation of Wild Birds 79/409/EEC;
 - The Protection of Badgers Act 1992;
 - The Countryside and Rights of Way Act 2000;
 - The Hedgerow Regulations 1997;
 - The Natural Environment and Rural Communities (NERC) Act 2006; and
 - Local Biodiversity Action Plan for Leicester, Leicestershire and Rutland

APPENDIX 2: DESK STUDY DATA

9.3 Desk Study Results

- i A total of three statutory designated sites were recorded within the search area, the details of which are summarised in Table 7 below.

Table 7: Statutory Designated Sites

Site Name	Designation	Location	Brief Description
Reedbed	LNR	3.2km WSW	In the River Soar floodplain. Two former gravel pit lakes, Norfolk reedbed, wet woodland, sedgebeds - all local Biodiversity Action Plan habitats. Overwintering birds include bittern and lesser spotted woodpecker. Breeding birds include reed warblers, sand martin, song thrush and waterail. Other breeding animals include harvest mouse, water shrew and grass snake and otters visit the site. All local Biodiversity Action Plan species.
Birstall	LNR ⁴	3.8km SW	Birstall Meadows across the River Soar from Watermead are flower-rich damp meadows grazed by cattle or horses, and the land is regularly flooded in winter. They are important as a feeding area during winter for water birds such as geese and waders. There is a good view of them from the towpath on the other side of the river.
Watermead Country Park	LNR	5.0km SW	Watermead Country Park (South) has a strong sense of place with its wetland character, unusual in Leicester's urban environment. As may be expected, the water features are the most prominent aspect of the park and is one of the most important wildlife sites in the city.

- ii The Site lies within 5km of three local nature reserves.
- iii Whilst there no SSSIs within 5km of the site the site falls within an impact risk zone for the Buddon Wood and Swithland Reservoir SSSI, proposal types which would require further consultation include:
- Infrastructure: airports, helipads and other aviation proposals
 - Discharges: Any discharge of water or liquid waste of more than 20m³/day to the ground (ie to seep away), or to surface water such as a stream (Note: this does not include discharges directly to mains sewer as this is not likely to pose a risk at this location)
- iv Therefore, these proposals are not of a nature which require consultation or further assessment with regards to the nearby SSSIs.
- ii Seven non-statutorily designated sites were also identified within the search radius, details of which are provided in Table 8.

⁴ LNR – Local Nature Reserve

Table 8: Non-Statutory Designated Sites

Site Name	Designation	Location	Brief Description
Mere Lane Field	LWS ⁵	0.8km SE	Mesotrophic grassland
Crane's Hole	LWS	1.2km WNW	Red Data Book species present in pond
Syston Marsh	LWS	1.4km W	Wet/mesotrophic grassland, species-rich hedgerow and <i>Carex riparia</i> swamp. Community value.
Syston Marsh Extension	LWS	1.4km W	Wet woodland, <i>Carex riparia</i> swamp, <i>Phragmites australis</i> reedbed, wet grassland, Red Data Book species and mature tree - <i>Fraxinus excelsior</i> .
Ridgemere Lane Pond	LWS	1.5km SE	Red Data Book Species present in the pond.
Queniborough Brook Fields 1	LWS	1.5km ESE	Mesotrophic grassland, brook and four mature trees - <i>Salix fragilis</i>
River Wreake Within Charnwood Borough	LWS	1.5km NW	River, Red data Book species and mature trees - 15 <i>Salix fragilis</i> .

iii There are four Habitats of Principle Importance under Section 41 of the NERC Act, 2006 located within a 1km radius of the site. These are shown in a table below, with the distance and direction of the closest habitats in regard to the site referenced. The closest is a parcel of woodland adjacent to the site.

Table 9: Habitats of Principal Importance within 1km of the Site

Habitat	Quantity	Closest Habitat - Distance to Site	Closest Habitat - Direction to Site
Uncertain Woodland	2	Adjacent	S
Traditional Orchard	1	303m	SE
Deciduous Woodland	2	0.6km	NE
Broadleaved Woodland	1	0.6km	NE

iv Records of previous European Protected Species Licences (EPSL) were discovered within a 5km search area around the site. This included:

v 16 records of bat licences (BRAN, BLE, C-PIP, DAUB, NATT, WHISK, S-PIP)

vi 3 Great Crested Newt licences

vii Protected species records were received from Leicester and Rutland Biological Records Centre. A summary of the records considered most relevant to the site and/or proposed development are provided in Table 10 . Full species records are available to view upon request.

⁵ LWS – Local Wildlife Site

Table 10: Summary of Protected Species and Notable Records

Common Name	Scientific Name	Records	Conservation Status
Amphibians			
Great crested newts	<i>Triturus cristatus</i>	8 records; closest record 0.9km WNW	EPS ⁶ , NERC ⁷ , WCA (5) ⁸
Smooth newt	<i>Lissotriton vulgaris</i>	10 records; closest record 0.9km SW	Partial protection under WCA ⁹
Palmate newt	<i>Lissotriton helveticus</i>		Partial protection under WCA
Common toad	<i>Bufo bufo</i>	13 records; closest record 427km SW	NERC, Partial Protection under WCA
Common frog	<i>Rana temporaria</i>	24 records; closest record 427km SW	Partial protection under WCA
Mammal			
Pipistrelle Species	<i>Pipistrellus spp.</i>	20 records; closest record 127m SW	EPS, WCA
European hedgehog	<i>Erinaceus europaeus</i>	19 records; closest record 161m ENE	NERC
Brown hare	<i>Lepus europaeus</i>	8 records; closest record 161m ENE	NERC
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	33 records; closest record 0.7km SW	EPS, WCA
Myotis Species	<i>Myotis spp.</i>	4 records; closest record 0.8km WNW	EPS, WCA
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	6 records; closest record 0.9km WNW	EPS, WCA, NERC
Noctule	<i>Nyctalus noctula</i>	3 records; closest record 0.9km SW	EPS, WCA, NERC
European otter	<i>Lutra lutra</i>	6 records; closest record 1.0km SW	EPS, WCA, NERC
Brown long-eared bat	<i>Plecotus auritus</i>	5 records; closest record 1.0km SW	EPS, WCA, NERC
Long Eared Bat Species	<i>Plecotus spp.</i>	1 record; 1.3km W	EPS, WCA

⁶ EPS – European Protected Species - protected by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

⁷ NERC – Species of Principle Importance under Section 41 of the Natural Environment Rural Communities Act (2006) Species of Principal Conservation Importance; UKBAP & LBAP

⁸ WCA (5) – Schedule 5 protected species - Wildlife & Countryside Act (1981)

⁹ WCA – Wildlife & Countryside Act (1981) Section 5 protecting against trade or sale of species.

Common Name	Scientific Name	Records	Conservation Status
Water vole	<i>Arvicola amphibius</i>	1 record; 1.3km NNW	WCA, NERC
American Mink	<i>Neovison vison</i>	2 records; closest record 1.3km W	
Whiskered bat	<i>Myotis mystacinus</i>	1 record; 1.4km NNW	
Serotine	<i>Eptesicus serotinus</i>	1 record; 1.5km SE	EPS, WCA
Lesser Noctule	<i>Nyctalus leisleri</i>	1 record; 1.5km SE	EPS, WCA
Daubenton's	<i>Myotis daubentonii</i>	5 records; closest record 1.8km ENE	
Eurasian badger	<i>Meles meles</i>	26 records within 2km of the site.	PBA ¹⁰
Birds			
Swift	<i>Apus apus</i>	54 records; closest record 207m ENE	BoCCAmber
Skylark	<i>Alauda arvensis</i>	173 records; closest record 212m ENE	BoCCRed, NERC
Starling	<i>Sturnus vulgaris</i>	62 records; closest record 212m ENE	BoCCRed, NERC
Swallow	<i>Hirundo rustica</i>	27 records; closest record 395m ENE	BoCCGreen
House sparrow	<i>Passer domesticus</i>	44 records; closest record 0.6km ENE	BoCCRed, NERC
Curlew	<i>Numenius arquata</i>	1 record; 0.7km ENE	BoCCRed, NERC
Brambling	<i>Fringilla montifringilla</i>	3 records; closest record 0.7km WNW	BoCCGreen, WCA (1)
Dunnock	<i>Prunella modularis</i>	28 records; closest record 0.7km ENE	BoCCAmber
Reed bunting	<i>Emberiza schoeniclus</i>	42 records; closest record 0.7km ENE	BoCCAmber, NERC
Song thrush	<i>Turdus philomelos</i>	50 records; closest record 0.7km ENE	BoCCRed, NERC
Tree sparrow	<i>Passer montanus</i>	79 records; closest record 0.7km ENE	BoCCRed, NERC
Yellow wagtail	<i>Motacilla flava</i>	63 records; closest record 0.7km ENE	BoCCRed, NERC

¹⁰ PBA – Protection of Badgers Act 1992

Common Name	Scientific Name	Records	Conservation Status
Peregrine	<i>Falco peregrinus</i>	5 records; closest record 0.8km WNW	WCA (1)
Quail	<i>Coturnix coturnix</i>	1 record; 0.8km SW	BoCCAmber, WCA (1)
Red kite	<i>Milvus milvus</i>	46 records; closest record 0.8km W	WCA (1)
Ring ouzel	<i>Turdus torquatus</i>	1 record; 0.8km E	BoCCRed, NERC
Spotted flycatcher	<i>Muscicapa striata</i>	20 records; closest record 0.8km ENE	BoCCRed, NERC
Willow tit	<i>Poecile montanus</i>	11 records; closest record 0.8km ENE	BoCCRed, NERC
Yellowhammer	<i>Emberiza citrinella</i>	50 records; closest record 0.8km ENE	BoCCRed, NERC
Barn owl	<i>Tyto alba</i>	10 records; closest record 0.8km SW	BoCCGreen, WCA (1)
Bullfinch	<i>Pyrrhula pyrrhula</i>	21 records; closest record 0.8km ENE	BoCCAmber, NERC
Cuckoo	<i>Cuculus canorus</i>	6 records; closest record 0.8km ENE	BoCCRed, NERC
Fieldfare	<i>Turdus pilaris</i>	43 records; closest record 0.8km SW	BoCCRed, WCA (1)
Hobby	<i>Falco subbuteo</i>	16 records; closest record 0.8km W	BoCCGreen, WCA (1)
Kingfisher	<i>Alcedo atthis</i>	103 records; closest record 0.8km SW	BoCCAmber, WCA (1)
Lapwing	<i>Vanellus vanellus</i>	33 records; closest record 0.8km W	BoCCRed, NERC
Lesser redpoll	<i>Acanthis cabaret</i>	3 records; closest record 0.8km ENE	BoCCRed, NERC
Linnet	<i>Linaria cannabina</i>	42 records; closest record 0.8km ENE	BoCCRed, NERC
Marsh tit	<i>Poecile palustris</i>	2 records; closest record 0.8km WSW	BoCCRed, NERC
Redwing	<i>Turdus iliacus</i>	10 records; closest record 0.8km SW	BoCCRed, WCA (1)
House martin	<i>Delichon urbicum</i>	27 records; closest record 0.9km ENE	BoCCAmber
Grasshopper Warbler	<i>Locustella naevia</i>	2 records; closest record 1.2km WSW	BoCCRed, NERC

Common Name	Scientific Name	Records	Conservation Status
Greylag goose	<i>Anser anser</i>	36 records; closest record 1.3km NNW	BoCCAmber
Little Ringed Plover	<i>Charadrius dubius</i>	2 records; closest record 1.3km NNW	WCA (1)
Osprey	<i>Pandion haliaetus</i>	1 record; 1.3km NW	BoCCAmber, WCA (1)
White Fronted Goose	<i>Anser albifrons</i>	2 records; closest record 1.3km ENE	BoCCRed NERC
Whooper Swan	<i>Cygnus cygnus</i>	1 record; 1.3km NNW	BoCCAmber WCA (1)
Canadian Goose	<i>Branta canadensis</i>	39 records; closest record 1.4km W	
Egyptian Goose	<i>Alopochen aegyptiacus</i>	2 records; closest record 1.4km W	WCA (9)
Green sandpiper	<i>Tringa ochropus</i>	3 records; closest record 1.4km NNW	BoCCAmber, WCA (1)
Red-throated Diver	<i>Gavia stellata</i>	5 records; closest record 1.4km NNW	WCA (1)
Mandarin Duck	<i>Aix galericulata</i>	3 records; closest record 1.4km WSW	WCA (9)
Common crossbill	<i>Loxia curvirostra</i>	1 record; 1.5km W	BoCCGreen, WCA (1)
Herring gull	<i>Larus argentatus</i>	2 records; closest record 1.5km SE	BoCCRed, NERC
Wren	<i>Troglodytes troglodytes</i>	23 records; closest record 1.5km NW	
Ring-necked Parakeet	<i>Psittacula krameri</i>	1 record; 1.6km ESE	WCA (9)
Cetti's Warbler	<i>Cettia cetti</i>	1 record; 1.6km NNW	WCA (1)
Golden eye	<i>Bucephala clangula</i>	3 records; closest record 1.7km WSW	BoCCAmber
Sand martin	<i>Riparia riparia</i>	5 records; closest record 1.7km ESE	BoCCGreen
Reptile			
Grass snake	<i>Natrix natrix</i>	11 records; closest record 1.3km NNW	Partial protection under WCA, NERC

Invertebrates

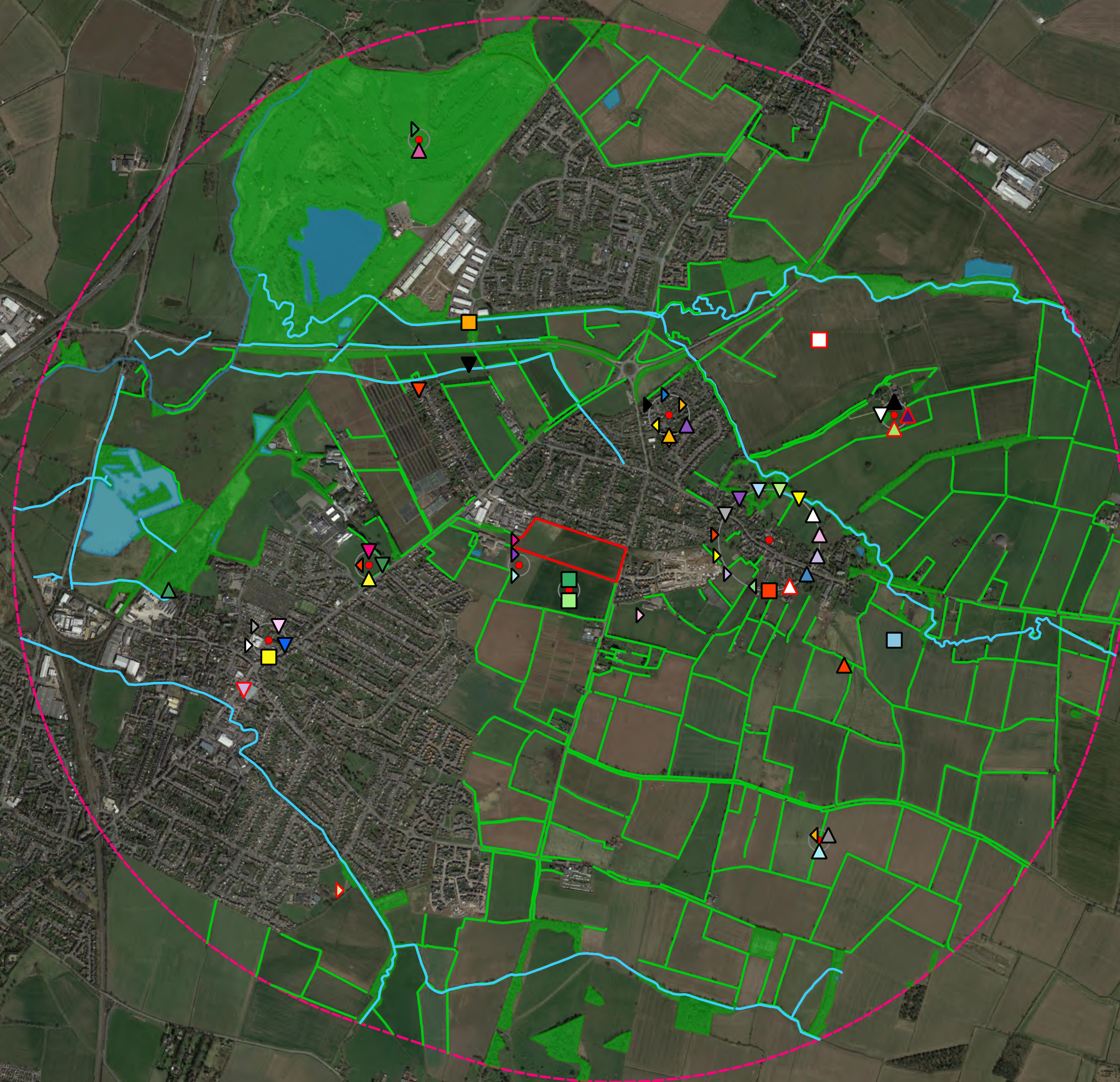
Common Name	Scientific Name	Records	Conservation Status
Signal Crayfish		1 record; 1.9km NE	WCA (9) ¹¹
Invasive Species			
Variegated Yellow Archangel	<i>Lamiastrum galeobdolon subsp. argentatum</i>	1 record; 1.0km WNW	WCA (9)
Canadian Waterweed	<i>Elodea canadensis</i>	1 record; 1.2km WNW	WCA (9)
Japanese knotweed	<i>Reynoutria japonic</i>	1 record; 1.8km WNW	WCA (9)
Himalayan balsam	<i>Impatiens glandulifera</i>	1 record; 1.9km WNW	WCA (9)

NB: The desk study data is third party controlled data, purchased for the purposes of this report only. RammSanderson Ecology Ltd cannot vouch for its accuracy and cannot be held liable for any error(s) in these data.

Habitat Connectivity and Closest Relevant Records

- viii In assessing the site, a review of online resources and desk study data was undertaken to consider the site with respect to its connectivity to the wider environment, particularly along linear features (rivers, railways, canals etc.) and any designated or protected sites. The figure below highlights the site and any such habitat connectivity. This assessment enables the evaluation of a particular proposal in context of the wider environment with regard to the site itself and any species which may utilise the site.
- ix As Figure 4 below shows, the site has some connectivity to the wider environment to the north and west via hedgerows that divide the surrounding agricultural land providing corridors to woodland blocks this offers some foraging and commuting habitat for bats, birds and terrestrial mammals such as badgers, however the local road network will form a barrier to dispersal for some terrestrial species. However, there are limited larger areas of habitat within 2km of the site which are well connected to the site.

¹¹ WCA (9) - Schedule 9 Wildlife and Countryside Act 1981 (as amended)



- Key**
- Site Boundary
 - Buffered
- Habitat Connectivity - Lines**
- Terrestrial Connectivity
 - Watercourse
- Habitat Connectivity - Polygons**
- Terrestrial Connectivity
 - Watercourse/waterbody
- Mammals**
- American Mink
 - Badger
 - European Otter
 - Greylag Goose
 - Hare
 - Hedgehog
 - Water Vole
- Birds**
- Barn Owl
 - Brambling
 - Bullfinch
 - Canada Goose
 - Cetti's Warbler
 - Common Crossbill
 - Cuckoo
 - Curlew
 - Dunnock
 - Egyptian Goose
 - Fieldfare
 - Goldeneye
 - Grasshopper Warbler
 - Green Sandpiper
 - Herring Gull
 - Hobby
 - House Martin
 - House Sparrow
 - Kingfisher
 - Lapwing
 - Lesser Redpoll
 - Linnet
 - Little Ringed Plover
 - Mandarin Duck
 - Marsh Tit
 - Osprey
 - Peregrine
 - Quail
 - Red Kite
 - Red-throated Diver
 - Redwing
 - Reed Bunting
 - Ring Ouzel
 - Ring-necked Parakeet
 - Sand Martin
 - Skylark
 - Song Thrush
 - Spotted Flycatcher
 - Starling
 - Swallow
 - Swift
 - Tree Sparrow
 - White-fronted Goose
 - Whooper Swan
 - Willow Tit
 - Wren
 - Yellow Wagtail
 - Yellowhammer


















If points are arranged in a circle centred around a centre point, as shown, this symbolises that all points are located at the centre position.



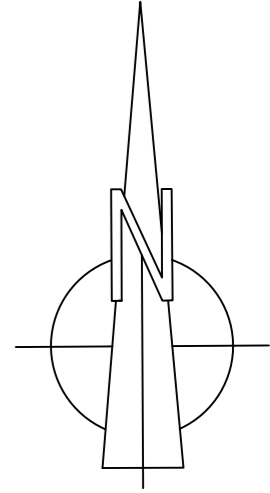
Client: David Wilson Homes		
Project: Barkby Road, Queniborough		
Drawing Title: Habitat Connectivity and Closest Species		
Drawing No. RSE_4406_FXX	Rev: V1	Date: 04/11/2020
Drawn By: RJC	Scale: 1:15000@A3	Date: 04/11/2020

APPENDIX 3: CLIENT PROPOSALS



- KEY**
-  Site Boundary
 -  Surrounding Urban Context
 -  Proposed Residential (Indicative Only)
 -  Site Access
 -  Primary Access Roads
 -  Secondary Shared Surface Roads
 -  PROW to be Retained
 -  Open Space Areas
 -  Proposed LEAP
 -  Attenuation Basin
 -  Potential Pedestrian Link to Chestnut Close
 -  Existing Hedgerows/ Trees to be Retained
 -  Strong Landscaping Buffer to Southern Boundary
 -  Landscape Gateway Feature to Southern Boundary
 -  Surrounding Open Countryside
 -  Potential Location for Bungalows
 -  Potential Key Buildings/Feature Plots

Development By Davidson Homes



For Illustrative Purposes Only

Rev	Description	Initial	Date
B	Updated to Scheme 3		12.01.18
C	Updated to Scheme 4		28.01.18
D	Red line Updated		31.01.18
E	Red line Updated-SW Corner		01.02.18

Land Off Barkby Road-Queniborough - Conceptual Plan



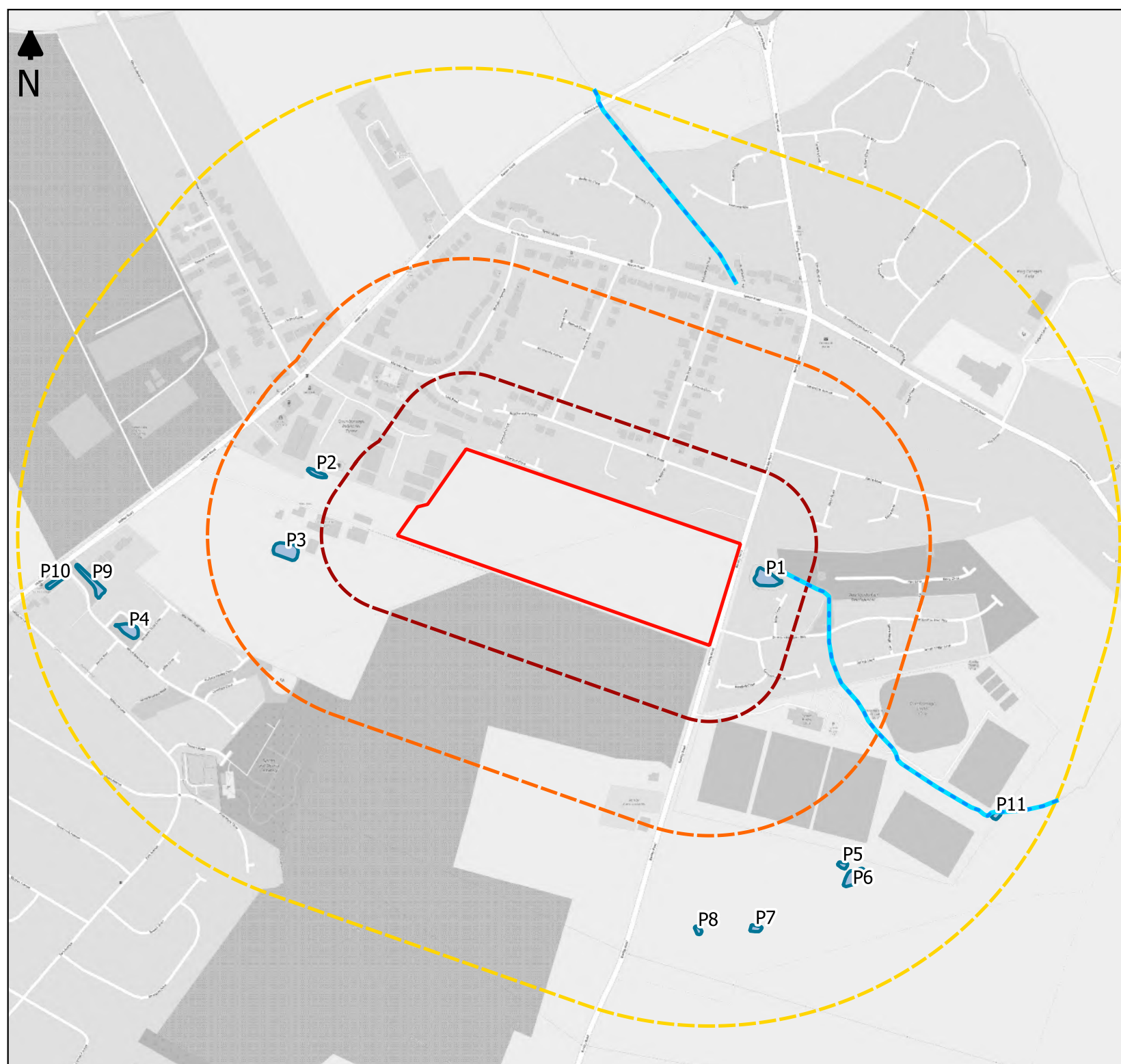
CONCEPTUAL PLAN

DAVID WILSON HOMES
WHERE QUALITY LIVES

Drawn by: QUEN-CONC-SK2 Rev. E
Scale: NTS/AS2
Date: 19.12.17
Checked by: [Signature]

DOMINIUM DESIGN LTD
15 Topping Rise
Lichfield
Staffs. WV14 9DA

APPENDIX 4: POND PLAN



Key

- Site Boundary
- 100m Buffer
- 250m Buffer
- 500m Buffer
- Pond Locations
- Watercourses



Client:
David Wilson Homes

Project:
Barkby Road, Queniborough

Drawing Title:
Waterbody Plan

Drawing No. RSE_4406_F02	Rev: V1
Drawn By: LAJM	Date: 06/11/2020
Scale: 1:11,234 @ A4	

RammSanderson Ltd
 East Midlands, West Midlands, Yorkshire, London
 T: 0115 930 2493
 E: admin@rammsanderson.com
 W: www.rammsanderson.com