
Chapel Lane, Widnes

Ecological Appraisal Report

Compiled by Ecology Services Ltd.

on behalf of

Taylor Wimpey

April 2023



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Executive Summary

Ecology Services Limited was commissioned by Taylor Wimpey in February 2022, to update the ecological appraisal previously undertaken in April 2019 of land at Chapel Lane, Widnes, hereinafter referred to as 'the site'. The centre of the site is located by National Grid Reference (NGR) 350000, 387800.

The site is included in the adopted Halton Borough Council Delivery and Allocations Local Plan 2014-2037 (2022) as a residential development site. Outline planning application (with all matters other than access reserved) is being sought for the development of up to 350 dwellings, public open space, landscaping and associated infrastructure works. At the time of compiling this report, no detailed development scheme has been prepared and only outline biodiversity enhancements are provided. This report shall be updated to ensure that mitigation and enhancement measures are incorporated at the detailed design stage.

The site predominantly comprises semi-improved, poor semi-improved and improved pasture divided by largely species-poor, defunct hedgerows, some of which had trees. One hedgerow was species-rich with trees, although defunct. Other features of note include three ponds and a brook along the northern boundary of the site. A number of buildings are also present within the site. The site has potential to support amphibians, badger, bats, breeding birds (including barn owl), water voles and wintering birds. Further surveys have been undertaken with respect these species, the results of which are reported separately and summarised in this report. The further surveys have confirmed great crested newt, badger, barn owl and water vole to be likely absent at the site.

The surrounding environs and wider landscape are protected by a number of Local Wildlife Sites, one of which (Alder Brook) partly lies adjacent to the northern boundary. The site also lies within a Natural England Impact Risk Zone associated with the Mersey Estuary Site of Scientific Interest (SSSI), Special Protection Area (SPA) and Ramsar site. Consultation with Natural England will therefore be required.

The wider landscape is characterised by arable fields to the north and west crossed by hedgerows and ditches with further ponds and an area of broadleaved woodland. To the east of the site lies broadleaved semi-natural, a pond/swamp, semi-improved and poor semi-improved grassland, beyond which lies residential development. To the south lie further small areas of semi-natural broadleaved woodland and further residential development.

The proposed development primarily impacts on grassland, retaining the ponds, Alder Brook and the majority of the hedgerows and trees. Buffers of greenspace have been retained around ponds and between development areas and the woodland and Alder Brook. Retained grassland will be enhanced to compensate the loss of grassland within the site and compensatory planting will be provided to address loss of trees and short sections of hedgerow. Appropriate mitigation measures will need to be implemented regarding invasive species present within the site.

A precautionary pre-commencement check for badger setts is recommended prior to works beginning on site. Bat surveys undertaken have confirmed a bat roost in one of the buildings. A suitable mitigation and enhancement scheme is provided within the accompanying Bat Survey Report. Work at the site will be delayed until such a time that a Natural England Licence is applied for and granted to legally permit work to commence which would affect bats or their roosts. Habitat retention, enhancement and compensatory planting will maintain foraging potential for bats (in conjunction with a sensitive lighting strategy) and birds and nesting habitat for birds within the site. To negate interim habitat losses, ideally several bat and bird boxes of various types should be located within adjacent woodland or on retained trees around the site. Potential increased recreational pressure on statutory designated sites will be addressed via opting-in to the mitigation measures set out within the Halton Recreational Management Interim Approach (Anon., 2020). Recommendations are also made to provide ecological enhancement within the site and deliver a minimum 10% net gain for biodiversity in line with the National Planning Policy Framework (NPPF, 2021). and the mandatory requirement under the Environment Act 2021 which is due to come into effect later in 2023.

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1.0 Introduction

1.1 Ecology Services Limited was commissioned by Taylor Wimpey in February 2022, to update the ecological appraisal previously undertaken in April 2019 of land at Chapel Lane, Widnes, hereinafter referred to as 'the site'. The centre of the site is located by National Grid Reference (NGR) 350000, 387800. The location of the site is shown on Figure 1.

1.2 This Ecological Appraisal report has been prepared by Ecology Services Limited on behalf of Taylor Wimpey UK Ltd to assist the local planning authority's consideration of an outline planning application for a site at Chapel Lane, Widnes for:

"Outline planning application (with all matters other than access reserved) (to be determined by Halton Borough Council only) for the development of up to 350 dwellings, public open space, landscaping and associated infrastructure works. Full details for site access arrangements via a new junction on Chapel Lane (to be determined by Knowsley Borough Council only) and emergency access via Sandy Lane (to be determined by Halton Borough Council)."

1.3 The proposed development site is located to the north-west of the Widnes urban area. The site is situated within the boundary of two separate allocations for residential development within the adopted Halton Delivery and Allocations Local Plan [DALP] (March 2022) under Policy RD1 (Residential Development Allocations). The allocations comprise two separate land parcels separated by Sandy Lane, (Site Ref. W4 to the west of Sandy Lane and Site Ref. W5 to the east). The application red line boundary does not extend to the full extent of the allocation.

1.4 The site currently comprises approximately 14.11 hectares (ha) of agricultural land in low intensity uses such as grazing pasture and hay/ haylage.

1.5 The proposed application site is bounded to the:

1. North by Alder Brook which is marked by mature trees and a hedgerow. There is open countryside beyond the brook.
2. To the east by an area of young woodland situated adjacent to Queensbury Way;
3. The site is bounded to the south by the curtilage of residential properties along Old Upton Lane.
4. To the west by Chapel Lane and a group of modern and traditional farm buildings fronting onto Chapel Lane (Rose Farm).

1.6 The purpose of this report is to identify the baseline ecological conditions of the site and of wildlife habitat bordering the site and identify any potential constraints to the development proposals. Where habitats and / or species are significantly affected, the report assesses the impacts and makes further recommendations. The site is included in the adopted Halton Borough Council Delivery and Allocations Local Plan 2014-2037 (2022) as a residential development site. Outline planning permission is being sought for around 350 dwellings. At the time of compiling this report, no detailed development scheme has been prepared and only outline biodiversity enhancements are provided. This report shall be updated to ensure that mitigation and enhancement measures are incorporated at the detailed design stage.

Site Description and Context

1.7 The site is located on the outskirts of the town of Widnes, within the Borough of Halton but on the boundary with Knowsley Council (with a small part of the site (access only) in Knowsley). The site contains a mix of habitats including: improved and poor semi-improved

grassland, species-rich and species-poor hedgerows, running water (Alder Brook), dry ditches, three ponds, scattered trees and buildings. The land to the north and west of the site is largely under arable cultivation crossed by hedgerows and ditches with further ponds and an area of broadleaved woodland. To the east of the site lies broadleaved semi-natural woodland, a pond/swamp, semi-improved and poor semi-improved grassland, beyond which lies residential development. To the south lie further small areas of semi-natural broadleaved woodland and further residential development.

- 1.8 To conduct an ecological appraisal at the site, the aims of the survey were to:
- Undertake a desktop study up to 2km from the site including a review of existing maps and aerial photographs of the area up to 250m from the development site;
 - Undertake an extended Phase 1 habitat survey of the development site and up to 30m from the development site; and
 - Identify any further detailed survey requirements.
- 1.9 The site's ecological values will be assessed in context with current UK planning and legislative policy, including:
- Statutory protected species
 - Species/Habitat of Principal Importance
 - Local Biodiversity Action Plan (BAP) habitat/species
 - Statutory protected sites
 - Non-statutory protected sites or species of conservation concern
- 1.10 The purpose of this report is to state the survey methodology, present the results of the survey, evaluate the findings, assess the impacts and make recommendations concerning the protection and enhancement of existing ecological features within and bordering the development plot.
- 1.11 This report should be read in conjunction with the further survey reports (Ecology Services Limited 2023a-h).

2.0 Planning Policy and Legislation

Planning Policy

- 2.1 The National Planning Policy Framework (NPPF, 2021) places a clear responsibility on Local Planning Authorities (LPA) to contribute to conserving and enhancing the natural and local environment. LPAs should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species (e.g. Species of Principal Importance, Local Biodiversity Action Plan species); and identify and pursue opportunities for securing measurable net gains for biodiversity. The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation.
- 2.2 A Local Planning Authority (LPA) has a duty to ensure that protected species and habitats within the UK are a 'material consideration' in the determination of a planning application. Therefore, an LPA is unlikely to determine an application until all relevant information relating to protected species or habitats is submitted to fully inform the application. Relevant information includes adequate surveys and, where required, mitigation strategies, which will need to be submitted to inform a planning application.

- 2.3 Most Local Planning Authorities have a system of sites of local importance for nature conservation which complement the series of internationally and nationally designated wildlife and geological site. These sites are usually afforded protection through the Local Plan.
- 2.4 There are around 1,000 Local Wildlife Sites (LWS) across Cheshire West & Cheshire, Cheshire East, Halton, Warrington and Wirral. Their selection takes into account the most important, distinctive and threatened species and habitats within the Cheshire region. Many of them also provide opportunities for recreation and education, and are highly valued by the local community. Linear Local Wildlife Sites along rivers, green lanes and hedgerows form living 'green corridors' that link the other sites together. Sites are identified, selected, monitored and protected through the Local Wildlife Sites Partnership. Cheshire Wildlife Trust administers the system on behalf of the partners which include: relevant local authorities, local wildlife groups, Natural England, and rECOrd (the county biological records centre). Site survey results are assessed against strict local selection criteria by a panel representing the members of the LWS Partnership¹.
- 2.5 In North Merseyside (Knowsley, Liverpool, St. Helens and Sefton which the site adjoins) Local Wildlife Sites are designated using the North Merseyside Local Sites designation guidelines (MEAS, 2008). The designation guidelines are based on Ratcliffe (1977) A Nature Conservation Review (i.e. rareness, diversity, naturalness, fragility etc.) as well as guidelines which highlight protected species and Biodiversity Action Plan species and habitats. In 2012, the North Merseyside Local Sites Partnership had responsibility for 265 Local Sites (both Local Wildlife and Local Geological Sites) in North Merseyside (MEAS, 2012).
- 2.6 Although the UKBAP has been superseded by the UK Post-2010 Biodiversity Framework and, in England, Biodiversity 2020: A strategy for England's wildlife and ecosystem services (2011), many Local Authorities have prepared and operate Local Biodiversity Action Plans (LBAPs). LBAPs not only highlight habitats and species that are of Principal Importance but also habitats and species that are of local importance. LBAPs will be prepared for these habitats and species. Listing of habitat or species in a LBAP does not confer any new statutory or planning policy protection. However, impacts upon species prioritised in LBAPs may be a material consideration in a planning application. Under its 25 Year Environment Plan (2018), the Government proposes to publish a new strategy for nature building on Biodiversity 2020.

Legislation

Statutory Designated Sites

- 2.7 Certain sites are afforded statutory protection at the European or National Level. European Designated Sites include Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar Sites. Sites of Special Scientific Interest (SSSIs) are afforded national protection. For further details on these designations refer to Appendix 1.
- 2.8 Impact Risk Zones (IRZs) are a Geographic Information System (GIS) tool developed by Natural England to enable developers and Local Planning Authorities (LPAs) to make a rapid initial assessment of the potential risks to Sites of Special Scientific Interest (SSSIs) posed by development proposals. They define zones around each SSSI according to the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

¹ <https://www.cheshirewildlifetrust.org.uk/wildlife/our-work-wildlife/our-work-wildlife/local-wildlife-sites>

- 2.9 European sites are underpinned by the SSSI designation and their interest features and sensitivities are covered by the SSSI IRZs. Where the notified features of the European site and SSSI are different, the SSSI IRZs have been set so that they reflect both. The SSSI IRZs can therefore be used as part of a Habitats Regulations Assessment (HRA) to help determine whether there are likely to be significant effects from a particular development on the interest features of the European site.
- 2.10 Habitats Regulation Assessment is one of the most powerful tools currently available to control the environmental impacts of development with input from both Natural England (NE) and the Competent or Planning Authority. The assessment tests whether a plan or a project is likely to have a significant negative impact upon European designated sites.
- 2.11 LNRs are statutorily designated sites at the local level, designated by local authorities. The Local Plan for an area will detail any additional protection given to the LNR such as protection against damaging operations and/or protection against development within or adjacent to the LNR. For further information on LNRs refer to Appendix 1.

Protected Species

- 2.12 All British bats, great crested newts (*Triturus cristatus*), otter (*Lutra lutra*) and hazel dormouse (*Muscardinus avellanarius*) and the habitat they use for protection and shelter are protected under Conservation of Habitats and Species Regulations 2017 (as amended)² and the Wildlife and Countryside Act 1981 (WCA, as amended) (European protected species).
- 2.13 Water vole (*Arvicola amphibious*), crayfish (*Austropotamobius pallipes*), red squirrel (*Sciurus vulgaris*), pine marten (*Martes martes*) and common reptiles receive protection through the Wildlife and Countryside Act 1981 (as amended) (Nationally protected species). Certain plant species are similarly protected at the European or National level.
- 2.14 All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). Under the WCA, it is an offence to kill, injure or take any wild bird, to take damage or destroy the nest of any wild bird or to take or destroy the egg of any wild bird. Birds listed on Schedule 1 of the WCA are afforded additional protection and it is also an offence to disturb any Schedule 1 listed bird while it is building a nest, is on or near a nest containing young or disturb dependent young of such a bird.
- 2.15 Badgers (*Meles meles*) and their active setts are protected under the Protection of Badgers Act (1992). The Protection of Badgers Act 1992 was designed to protect badgers from baiting and deliberate harm or injury. It also contains restrictions that apply more widely.
- 2.16 Developments with potential to affect protected species will mostly require a licence from Natural England, which permits otherwise illegal actions.
- 2.17 For further information on protected species legislation, refer to Appendix 1.

Invasive Species

- 2.18 Schedule 9 of The Wildlife and Countryside Act 1981 (as amended) lists invasive non-native plant species that are considered to have a detrimental effect upon native flora wherever they occur. It is therefore an offence to “plant or otherwise cause them to grow in the wild”. This includes allowing the species to grow/spread, causing the species to spread or transferring polluted ground material from one area to another. Waste containing these species may be

² The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 will continue the same provision for European protected species, licensing requirements and protected areas after Brexit.

classed as controlled waste under the Environmental Protection Act (Duty of Care) Regulations 1991, which requires all producers, carriers and disposers of waste to follow a code of practice and keep records and must comply with section 34 of the Environmental Protection Act 1990.

- 2.19 Section 23 of the Infrastructure Act 2015 amended the Wildlife and Countryside Act 1981 to introduce a statutory regime of species control agreements and orders. This schedule ensures that, in appropriate circumstances, landowners take action on Schedule 9 invasive species, or permit others to enter the land and carry out those operations, to prevent their establishment and spread.
- 2.20 The EU Invasive Alien Species Regulation (1143/2014) imposes strict restrictions on a list of species known as “Species of Union Concern” and is implemented by the European Commission Implementing Regulation 2016/1141. Under the EU Regulation, it is a requirement for management measures to be put in place for widespread invasive species. The Invasive Alien Species (Enforcement and Permitting) Order 2019 which implements the requirements of the EU Regulation in England and Wales came into effect on 1st October 2019. The European Union (Withdrawal) Act 2018 as amended by the European Union (Withdrawal Agreement) Act 2020 (EUWA) provides for the retention of most EU law, including the above Regulations relating to invasive alien species, as it stands on exit day, by “converting” or “transposing” it into a freestanding body of domestic law.
- 2.21 The Regulation ensures that a landowner must act responsibly and not allow an invasive species to grow or spread outside their land, which could be an offence and/or contrary to the Regulation. Where this cannot be guaranteed the landowner is required to consider safely removing and disposing of any listed plant.

Natural Environment and Rural Communities (NERC) Act 2006

- 2.22 Section 41 (S41) of the NERC Act 2006 (as amended) requires the Secretary of State, as respects England, to publish a list of the living organisms and types of habitat which are of Principal Importance for the purpose of conserving or enhancing biodiversity. Section 40 of the NERC Act 2006 (as amended) places a duty to conserve and enhance biodiversity on every public body. The Local Planning Authority and Natural England will expect account to be taken of these species in the overall layout and landscape strategy for the development.

Environment Act 2021

- 2.23 The Environment Act 2021 introduces a mandatory requirement for 10% biodiversity net gain by amending the Town and Country Planning Act 1990 (TCPA) which is likely to come into effect in 2023.

3.0 Methodology

- 3.1 This Preliminary Ecological Appraisal has been undertaken in accordance with CIEEM’s guidelines (CIEEM, 2017a & b).

Desktop Study

- 3.2 Ecological data and historic records of protected species and sites was collated from the following sources; listed in Table 1.

Table 1: Desktop Study Resources and Record Centres Consulted

Source of information	Information supplied
Multi-Agency Geographic Information for the Countryside (https://magic.defra.gov.uk/)	To identify National and Local Nature Reserves, statutory protected sites, Habitats of Principal Importance or features of interest within 2km of the site. To identify European Protected Species Records (granted licences, class licences and District Level Licensing pond surveys) within 2km of the site (great crested newt - <i>Triturus cristatus</i>) or 2km of the site (Bat species).
Natural Environment and Rural Communities (NERC) Act 2006 (as amended)	Review of Habitats/Species of Principal Importance known to occur in the region.
Local Biodiversity Action Plan (LBAP) – Halton	Identification of LBAP species and habitats known to occur in the region.
RECORD (Cheshire Region Biological Records Centre) and Merseyside BioBank	To identify locally protected sites or species of interest within 2km of the site.

3.3 The data searches with Merseyside Biobank and RECORD were undertaken on 15th and 27th June 2022 respectively.

3.4 The aim of the desktop study was to assist the surveyor undertaking the extended Phase 1 habitat survey by providing background information on the likely habitats and species that occur within the local area.

3.5 A review was undertaken using existing maps and aerial photographs of the area (up to 250m of the development site) to identify any features of ecological interest; for example, a pond that may support amphibian species such as great crested newts or common toad (*Bufo bufo*).

Extended Phase 1 Habitat Survey

3.6 The extended Phase 1 habitat survey was undertaken of the site and within 30m of the site where access was permitted. Habitats were assessed by using Phase 1 habitat survey techniques, which is a system for environmental audit widely used within the environmental consultancy field.

3.7 The extended Phase 1 habitat survey followed Phase 1 habitat survey methodology (JNCC, 2010). This involves walking over the site, mapping and target noting any semi-natural habitats. The survey area includes the footprint of the proposed development and up to 30m from the proposed development site.

3.8 A habitat map will be prepared to show the locations and extent of habitats and detailed descriptions of the principal and important plant communities will be provided as Target Notes.

3.9 Plant species abundances were recorded within the target notes, using DAFOR ratings, as Dominant, Abundant, Frequent, Occasional or Rare (Rare in the sense of having a very low abundance). Species recorded as locally abundant are abundant only in certain parts of the target noted habitat, rather than being abundant throughout. The ratings have no precise definition and are affected by plant size and season of survey however they have been shown to correlate with more quantitative measures.

3.10 The extended Phase 1 habitat survey is a modified approach to the Phase 1 habitat survey, extended for use in environmental assessment (Institute of Environmental Assessment,

1995). The survey recorded any signs of protected species/Species of Principal Importance or other valuable ecological components of the site. Direct observations of the species were noted. Furthermore, sites/habitats with potential to support the species were also noted, even if direct signs of presence were not apparent. Features of note recorded during the survey are mapped (Figure 1) and marked with target notes; target note descriptions are provided in Appendix 2. Photos of habitats and features of ecological importance are provided in Appendix 3.

- 3.11 The locations of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and others were also mapped.
- 3.12 As part of the extended Phase 1 habitat survey, surveyors also recorded any wildlife observed.
- 3.13 Habitats and species identified as present or potentially present are valued with reference to statutory and non-statutory status and inclusion in Local Biodiversity Action Plans or other conservation listings such as red lists.

Timing

- 3.14 The extended Phase 1 habitat survey was undertaken on the 10th April 2019 and updated on 24th June 2022 both of which were within an optimal time of year to undertake such a survey.

Weather Conditions

- 3.15 Weather conditions during the survey were reasonable, with no appreciable rain or wind affecting survey.

Personnel

- 3.16 All survey works were carried out by Principal Ecologist Ms L. Redgrave MA (Oxon), MSc, CEcol, CEnv, MCIEEM.

Limitations

- 3.17 Surveys only provide a snapshot of habitats and species that are there at that time. Further surveys at other times of the year are likely to find additional species.
- 3.18 There was no access to the field to the south west of the pond at TN8 due to the presence of a bull. The field was viewed from the perimeter fences and this is not considered a significant constraint to the survey.

4.0 Results and Evaluation

Desktop Study

Statutory Designated Sites

- 4.1 The desktop study found no European / nationally / locally designated sites within 2 km of the proposed development site.

Natural England Impact Risk Zones (IRZs)

- 4.2 The ecological desktop study search found the site to be within a Natural England (NE) SSSI Impact Risk Zone (IRZ) associated with the Mersey Estuary SSSI, SPA and Ramsar Site designated on the basis of their ornithological and botanical interest, approximately 3.7 km south of the site.
- 4.3 Local planning authorities (LPAs) have a duty to consult Natural England before granting planning permission on any development that is in or likely to affect a SSSI. The SSSI IRZs

can be used by LPAs to consider whether a proposed development is likely to affect a SSSI and determine whether they will need to consult Natural England to seek advice on the nature of any potential SSSI impacts and how they might be avoided or mitigated.

- 4.4 The SSSI IRZs can be used by developers, consultants and members of the public, who are preparing to submit a planning application. They will help them to consider whether a proposed development is likely to affect a SSSI and choose whether to seek pre-application advice from Natural England. This will allow any potential impacts to be taken into account within the planning application and so minimise the risk of delays at the formal planning stage (Natural England, 2021). The details of the relevant IRZ are provided below.

SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?

2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications

Infrastructure

Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.

Wind & Solar Energy

Solar schemes with footprint > 0.5ha, all wind turbines.

Minerals, Oil & Gas

Planning applications for quarries: new proposals or extensions, outside or extending outside existing settlements/urban areas affecting greenspace, farmland or semi natural habitats. Oil & gas exploration/extraction.

Rural Non Residential

Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.

Residential

Rural Residential

Any residential development of 50 or more houses outside existing settlements/urban areas.

Air Pollution

Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t).

Combustion

General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

Waste

Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.

Composting

Discharges

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.

Water Supply

Notes 1

New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. Please consider this issue in the HRA screening.

Notes 2

GUIDANCE - How to use the Impact Risk Zones

[/Metadata for magic/SSSI IRZ User Guidance MAGIC.pdf](#)

Non-Statutory Designated Sites

- 4.5 The ecological desktop study identified the following records of non-statutory protected sites within 2km of the proposed development:

- Alder Brook Local Wildlife Site (LWS), part of which lies along the northern boundary of the site;

- Pex Hill Country Park LWS, c. 310 m north of the site;
- George's Wood and adjacent land LWS, c. 940 m north west of the site;
- Dog Clog Brook, Tarbock LWS, c. 1,150 m west of the site;
- Tarbock Green ditch LWS, c. 1,440 m south west of the site;
- Rough Head Wood LWS, c. 1,520 m north west of the site;
- Land off Lunts Heath Road LWS, c. 1,740m east of the site;
- Pond off Meadway LWS, 1,750 m south west of the site; and
- Lane east of Fox's Bank Brook, c. 1,870 m north west of the site.

- 4.6 The desktop study found several non-statutory designated Local Wildlife Sites (LWS) which are located c.0-1,870m from the development site, indicating that the development site is located relatively close to areas of high biological diversity, particularly relating to botanical species. The proposed development has potential to impact Alder Brook, part of which lies along the northern boundary of the site. There will be no direct impacts to the rest of the sites as a result of the current development proposals.

Alder Brook LWS

- 4.7 The Alder Brook LWS is described as a brook flowing through high-quality agricultural land with good habitat diversity as at designation in 2003. The criteria for designation include the presence of two priority BAP habitats (unimproved neutral grassland and swamp), of which is unimproved neutral grassland is regionally important. A total of 33 plant species were recorded including one locally rare species (lesser bulrush, *Typha angustifolia*). 93.9% of the plants are native to North Merseyside.

Habitats of Principal Importance (NERC)

- 4.8 The desktop study identified no Habitats of Principal Importance within the proposed development, although the site lies immediately north of an area of Lowland mixed deciduous woodland.

Local Biodiversity Action Plan (LBAP)

- 4.9 There are no habitats listed within the Halton BAP which the site may be classified under.
- 4.10 The species of local concern which might potentially use the site, based upon information gathered from the sources listed in Table 1 are identified in Table 2 below.

Protected Species/ Species of Principal Importance (S41)/ LBAP Species

- 4.11 The desktop study identified the following records of protected species/ Species of Principal Importance within 2km of the development site:

Table 2: Desktop Study Species Results

Common name	Scientific name	Date of record(s)	Legally protected	NERC S41	LBAP (Halton)
Reptiles and amphibians					
Great crested newt	<i>Triturus cristatus</i>	2005-2010	✓	✓	✓
Common toad	<i>Bufo bufo</i>	2001-2021		✓	
Slow worm	<i>Anguis fragilis</i>	2006	✓	✓	
Common lizard	<i>Zootoca vivipara</i>	1984-1996	✓	✓	
Mammals					
All bat species			✓	Several species	
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	2003-2019	✓		
Water vole	<i>Arvicola amphibius</i>	2000-2010	✓	✓	
Western European hedgehog	<i>Erinaceus europaeus</i>	1997-2021		✓	
Brown hare	<i>Lepus europaeus</i>	1988-2014		✓	
Badger	<i>Meles meles</i>	2018	✓		
Birds					
Song thrush	<i>Turdus philomelos</i>	1997-2013		✓	✓
Fieldfare	<i>Turdus pilaris</i>	2002-2013	Sch1		
Redwing	<i>Turdus iliacus</i>	2002-2010	Sch1		
Reed bunting	<i>Emberiza schoeniclus</i>	1998-2010		✓	✓
House sparrow	<i>Passer domesticus</i>	1997-2019		✓	
Brambling	<i>Fringilla montifringilla</i>	2003	Sch1		
Starling	<i>Sturnus vulgaris</i>	1997-2019		✓	
Skylark	<i>Alauda arvensis</i>	1997-2008		✓	✓
Yellowhammer	<i>Emberiza citrinella</i>	2003-2015		✓	
Firecrest	<i>Regulus ignicapilla</i>	2016	Sch1		
Lapwing	<i>Vanellus vanellus</i>	1997-2016		✓	
Curlew	<i>Numenius arquata</i>	2003		✓	
Whimbrel	<i>Numenius phaeopus</i>	2002	Sch1		
Herring gull	<i>Larus argentatus</i>	2012-2019		✓	
Corn bunting	<i>Emberiza calandra</i>	1998-1999		✓	
Grey partridge	<i>Perdix perdix</i>	1997-2013		✓	
Kingfisher	<i>Alcedo atthis</i>	1997-1999	Sch1		
Barn owl	<i>Tyto alba</i>	1997-2003	Sch1		
Little ringed plover	<i>Charadrius dubius</i>	1999	Sch1		
Peregrine	<i>Falco peregrinus</i>	2003-2012	Sch1		
Merlin	<i>Falco columbarius</i>	2002	Sch1		

Common name	Scientific name	Date of record(s)	Legally protected	NERC S41	LBAP (Halton)
Goshawk	<i>Accipiter gentilis</i>	2011	Sch1		
Bulfinch	<i>Pyrrhula pyrrhula</i>	1999-2011		✓	
Cuckoo	<i>Cuculus canorus</i>			✓	
Dunnock	<i>Prunella modularis</i>	1998-2019		✓	
Grasshopper warbler	<i>Locustella naevia</i>	1998-1999		✓	
Linnet	<i>Linaria cannabina</i>	1997-2007		✓	
Spotted flycatcher	<i>Muscicapa striata</i>	1999		✓	
Tree sparrow	<i>Passer montanus</i>	1997-2013		✓	
Tree pipit	<i>Anthus trivialis</i>	2002			
Willow tit	<i>Poecile montana</i>	1998		✓	
Plants					
Bluebell	<i>Hyacinthoides non-scripta</i>	1981-2021	✓ (partially)		✓
Invertebrates					
Cinnabar	<i>Tyria jacobaeae</i>	2001-2013		✓	
Wall	<i>Lasiommata megera</i>	2010		✓	
Small heath	<i>Coenonympha pamphilus</i>	1992-1993		✓	
Tormentil mining bee	<i>Andrena tarsata</i>	2014		✓	
Buff ermine	<i>Spilosoma lutea</i>	2003-2014		✓	
Rosy minor	<i>Litoligia literosa</i>	1993		✓	
Sallow	<i>Cirrhia ictericia</i>	2001		✓	
Centre-barred sallow	<i>Atethmia centrargo</i>	2013		✓	
Dark-barred twin-spot carpet	<i>Xanthorhoe ferrugata</i>	2001-2010		✓	
Dot moth	<i>Melanchra persicariae</i>	2001-2014		✓	
Dusky brocade	<i>Apamea remissa</i>	2001-2011		✓	
Ghost moth	<i>Hepialus humili</i>	2001		✓	
Grey dagger	<i>Acronicta psi</i>	2001-2005		✓	
Mouse moth	<i>Amphipyra tragopoginis</i>	2001		✓	
Oak hook-tip	<i>Watsonalla binaria</i>	2001		✓	
Rosy rustic	<i>Hydraecia micacea</i>	2001		✓	
Rustic	<i>Hoplodrina blanda</i>	2001		✓	
Small phoenix	<i>Ecliptopera silaceata</i>	2001		✓	
Small square-spot	<i>Diarsia rubi</i>	2004-2010		✓	
Spinach	<i>Eulithis mellinata</i>	2010		✓	
White ermine	<i>Spilosoma lubricipeda</i>	2003-2004		✓	

Sch1 – birds afforded additional protection during the breeding season

Invasive Species

4.12 The ecological desktop study identified the following invasive plant species within 2km of the proposed development:

- Giant hogweed (*Heracleum mantegazzianum*)
- Indian (Himalayan) balsam (*Impatiens glandulifera*)
- Japanese knotweed (*Fallopia japonica*)
- *Cotoneaster horizontalis* agg.
- Hollyberry cotoneaster (*C. bullatus*)
- Montbretia (*Crocasmia x crocosmiiflora*)
- Rhododendron (*Rhododendron ponticum*)
- Japanese rose (*Rosa rugosa*)
- New Zealand pigmyweed (*Crassula helmsii*)
- Three-cornered garlic (*Allium triquetrum*)

4.13 Based on information gathered from the sources listed in Table 1 and the surveyor's knowledge, the following protected species were taken into account when the site assessment was carried out:

- Amphibians
- Badger
- Bats (all species)
- Birds (all species)
- Reptiles (all species)
- Water vole
- Otter

Extended Phase 1 Habitat Survey

4.14 An extended Phase 1 habitat survey of the site was undertaken during April 2019 and updated in June 2022. Descriptions of the principal habitats are provided below and are illustrated on Figure 1. In brief the site contained the following habitats.

4.15 The footprint of the development site, which also includes all habitats affected by the development works, consists of:

- Woodland broadleaved (semi-natural/plantation)
- Scrub (dense/continuous or scattered)
- Scattered trees
- Improved grassland
- Poor semi-improved grassland
- Tall ruderal
- Standing water
- Running water
- Arable
- Boundaries (hedgerows/fencing and walls)
- Buildings
- Bare ground

4.16 The wider survey area, which includes habitats within 30m of the development site and features of ecological interest located up to 250m from the development site, contains:

- Woodland broadleaved (semi-natural/plantation)
- Scrub (dense/continuous or scattered)
- Scattered trees
- Neutral semi-improved grassland
- Poor semi-improved grassland
- Swamp
- Standing water
- Arable
- Amenity grassland
- Boundaries (hedgerows/fencing and walls)
- Buildings

- 4.17 Descriptions of the principal habitats types that are to be impacted by the development found within the extended Phase 1 habitat survey are reviewed within the following sections. This also covers the potential for protected species and species of conservation concern to be supported by the habitats present. Features of ecological interest located within the wider survey area that may be affected by the development works are also described. Features separated from the site that are unaffected by the development have been omitted.
- 4.18 Target notes have been provided for all semi-natural habitats that are deemed either ecologically important or have the potential to support protected species/Species of Principal Importance; see Appendix 1: Extended Phase 1 Habitat Survey Target Notes.

Woodland Broadleaved Semi-Natural

- 4.19 There is no semi-natural broadleaved woodland within the site.
- 4.20 Semi-natural broadleaved woodland is present in the wider survey area at target notes 1-3. The area at target note 1 has an open canopy comprising locally dominant sycamore (*Acer pseudoplatanus*) and silver birch (*Betula pendula*), locally frequent goat willow (*Salix caprea*) plus occasional oak (*Quercus* sp.), locally occasional grey poplar (*Populus canescens*) and rare ash (*Fraxinus excelsior*). More mature trees were present around the periphery including a mature lime (*Tilia* sp.). The understorey is coppiced and comprises frequent birch (*Betula* sp.) and sycamore with occasional hazel (*Corylus avellana*) and hawthorn (*Crataegus monogyna*) plus rare goat/grey willow (*Salix caprea/cinerea*), cherry laurel (*Prunus laurocerasus*) and oak (*Quercus* sp.). The groundflora was locally dominated by ivy (*Hedera helix*) and Spanish bluebell (*Hyacinthoides hispanica*) with locally abundant bramble (*Rubus fruticosus* agg.) and ground elder (*Aegopodium podagraria*) around the margins of the woodland) and occasional to frequent common nettle (*Urtica dioica*), occasional cleavers (*Galium aparine*), locally frequent cow parsley (*Anthriscus sylvestris*), rare holly (*Ilex aquifolium*, seedling), hart's-tongue fern (*Asplenium scolopendrium*) and broad buckler-fern (*Dryopteris dilatata*).
- 4.21 The area at target note 2 comprised coppiced crack willows (*Salix fragilis*), approximately 10-15m in height and rare goat/grey willow. A line of mature oaks (*Quercus* sp.) was present along the boundary of the field to the south west with scattered mature oaks and two large crack willows along the boundary with the field to the north west. Bramble was frequent and locally dominant. Species recorded in the groundflora included cow parsley (*Anthriscus sylvestris*), common nettle, red campion (*Silene dioica*), rosebay willowherb (*Chamerion angustifolium*), cleavers and ox-eye daisy (*Leucanthemum vulgare*). Himalayan balsam was rare.

- 4.22 There is a sizeable area of semi-natural broadleaved woodland at target note 3 with a canopy (10-15m high) dominated by multi-stemmed goat willow with occasional ash and silver birch. Mature oak trees were scattered along the boundary of the woodland with hawthorn and blackthorn (*Prunus spinosa*) and rare elder (*Sambucus nigra*) plus a single mature ash tree. Ash saplings were abundant in the understorey with locally frequent raspberry (*Rubus idaeus*) and rare hawthorn and oak. Scattered bramble was present towards the woodland edge. The ground flora was sparse, locally dominated by mosses including common feather-moss (*Kindbergia praelonga*) and rough-stalked feather-moss (*Brachythecium rutabulum*). Marked ridges were conspicuous in part of the woodland, possibly historic plough ridges. From a review of on line aerial photography, the woodland seems to have developed since 2005.
- 4.23 Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 identifies six types of woodland as Habitats of Principal Importance. Included amongst these are lowland mixed deciduous woodland, upland oak woodland, upland mixed ash-woods and wet woodland. Woodland is not included in the Halton BAP.
- 4.24 Woodlands existing since before 1600AD that mainly comprise native species are classified as Ancient Semi-Natural Woodlands (ASNW). ASNW is important in conservation terms because of their richness of flora and fauna communities that have developed over centuries. The NPPF (2018) states that development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.
- 4.25 The area of semi-natural broadleaved woodland between Sandy Lane and Old Upton Lane is listed as a Habitat of Principal Importance (lowland mixed deciduous woodland) but is not listed on the ancient woodland inventory. The woodland is considered of value at the local level.
- 4.26 The semi-natural broadleaved woodland to the east of the site is not listed as a Habitat of Principal Importance. The woodland is not especially diverse, however, the woodland is likely to provide habitat for a range of fauna and is considered to be of value at the local level.

Scrub Dense/Continuous and Scattered

- 4.27 There is a strip of dense scrub 3-5m wide along the bank of the brook in the north west of the site. The eastern end was dominated by bramble with frequent elm (*Ulmus* sp.) suckers in the central section and rare elder. The western end was dominated by blackthorn with rare grey willow and bramble. There is an area of dense bramble dominated scrub with rosebay willowherb and traveller's-joy (*Clematis vitalba*) in the wider survey area immediately west of the woodland at target note 1.

Scattered Trees

- 4.28 Three mature oak trees are present along the western side of Sandy Lane. There was a large crack willow close to the northern boundary of the site towards the eastern end of the site. There are rows of pines (*Pinus* sp.) and tall cypress (*Cupressus* sp.) trees along the northern boundary at the western end of the site. To the north of Rose Farm at the western end of the site are a few scattered trees comprising horse chestnut (*Aesculus hippocastanum*), conifers, an oak and an ornamental cherry (*Prunus* sp.) with a weeping crack willow (*Salix x pendulina*), silver birch, cherry, two conifers and an ash within the farm yard. To the east of Rose Farm are a horse chestnut, ash, some mature sycamore, silver birch and alder (*Alnus glutinosus*) trees. A line of spruce trees is present to the south of Rose Farm and there is a purple beech (*Fagus sylvatica* f. *purpurea*) and a horse chestnut and sycamore trees in the

allotment area to the south of the farm buildings in the 30m site buffer. Scattered ash and sycamore are present amongst the dilapidated buildings to the south of Rose Farm. There are also a crack willow and horse chestnut adjacent to the pond at target note 8. The wider survey area contains few scattered trees. The scattered trees are considered to be of value at the local level.

Semi-improved Grassland (Neutral)

- 4.29 The semi-improved field at the eastern end of the site (target note 4) comprised frequent to abundant Yorkshire fog (*Holcus lanatus*), with frequent creeping buttercup (*Ranunculus repens*) and common bent (*Agrostis capillaris*), occasional to frequent perennial rye-grass (*Lolium perenne*) plus occasional white clover (*Trifolium repens*) and Timothy (*Phleum pratense*). cat's-ear (*Hypochaeris radicata*) was rare to occasional and red fescue (*Festuca rubra*), cock's-foot (*Dactylis glomerata*), meadow buttercup (*Ranunculus acris*, locally occasional), compact rush (*Juncus conglomeratus*), common mouse-ear (*Cerastium fontanum*), ribwort plantain (*Plantago lanceolata*) and a marsh orchid (*Dactylorhiza* sp., SJ5013287808), rare. Common vetch (*Vicia sativa*) was locally abundant, sweet vernal grass (*Anthoxanthum odoratum*) locally frequent, lesser trefoil (*Trifolium dubium*) locally occasional to frequent and hairy tare (*Vicia hirsuta*) locally occasional.
- 4.30 There was a small area of recently cut semi-improved grassland at the western end of the site (target note 5) with frequent Yorkshire fog and ribwort plantain, occasional cock's-foot, common mouse-ear, sweet vernal-grass and creeping buttercup. Ground elder (*Aegopodium podagraria*) and ox-eye daisy (*Leucanthemum vulgare*) were locally abundant and common bird's-foot trefoil (*Lotus corniculatus*), locally occasional. Cut-leaved crane's-bill (*Geranium dissectum*), cat's-ear and red fescue were rare. Patches of ox-eye daisy had been left uncut.
- 4.31 The semi-improved grassland is not thought to fall into the Habitat of Principal Importance and is not included within the Halton BAP.

Poor Semi-Improved and Improved Grassland

- 4.32 The majority of the poor semi-improved grassland comprised Yorkshire fog, perennial rye-grass and creeping bent in varying proportions. Timothy was occasional in one of the fields and sweet vernal-grass locally present in two of the fields. Typical associated species included white clover and ribwort plantain. Other species recorded in low frequency in some of the fields included red clover (*Trifolium pratense*), creeping thistle (*Cirsium arvense*), hairy tare (*Vicia hirsuta*), common mouse-ear, cat's-ear, spear thistle (*Cirsium vulgare*), dandelion (*Taraxacum officinale* agg.) and meadow buttercup (*Ranunculus acris*).
- 4.33 The southernmost field supported locally abundant common couch (*Elymus repens*), locally frequent common sorrel (*Rumex acetosa*), rare (locally occasional) meadow buttercup, locally occasional field horsetail (*Equisetum arvense*) and occasional (locally abundant broadleaved dock (*Rumex obtusifolius*).
- 4.34 The areas of improved grassland typically had a greater frequency of perennial rye-grass and lower species-diversity compared with the poor semi-improved grassland.
- 4.35 There are small areas of poor semi-improved and improved grassland in the wider survey area.
- 4.36 By their very nature, poor semi-improved and improved grasslands generally do not have any noteworthy plant diversity.

Tall Ruderal

- 4.37 There is a disturbed area at the edge of the field at target note 6 with manure heaps, dumped silage bales, piles of timber, logs and brash and a couple of farm trailers. Within this area is an area of tall ruderal vegetation with frequent common nettle and broadleaved dock, occasional (locally frequent) comfrey (*Symphytum* sp.), plus occasional cleavers and spear thistle. Creeping thistle, hedge bindweed (*Calystegia sepium*) and melilot (*Melilotus* sp.) were locally frequent.
- 4.38 There is an area of tall ruderal in the south of the site dominated by creeping thistle.
- 4.39 No other significant areas of were noted in the wider survey area. Although small in extent this habitat adds to the diversity of habitat types within the site.

Swamp

- 4.40 There is a small area of swamp vegetation within the wider survey area dominated by common reed (*Phragmites australis*) at target note 7, most of which had no standing water. There was a small area of shallow standing water at the southern end near an inlet pipe with no aquatic or emergent vegetation. There is an outfall from this swamp area to the ditch to north. This swamp area may be designed to take run-off from Queensbury Way to the east. Although small in extent this habitat adds to the diversity of habitat types within the wider survey area. The swamp lies within the wider survey area, will not be affected by the proposed development and is therefore excluded from further assessment.
- 4.41 Larger reedbeds are a Habitat of Principal Importance and a Halton BAP habitat.

Standing Water

- 4.42 Two ponds were identified within the site, with a third falling partly within the site.
- 4.43 The circular field pond at target note 8 was approximately 60m in perimeter and located within the west of the development site. The pond has steep banks with an approximately 1m water depth and very turbid water and a sediment base. There was no aquatic vegetation and occasional soft-rush (*Juncus effusus*) around the margin. Bramble scrub was locally dominant on the banks with locally abundant cleavers, locally frequent common nettle and creeping thistle, occasional false oat-grass (*Arrhenatherum elatius*) and locally occasional foxglove (*Digitalis purpurea*). Honeysuckle (*Lonicera periclymenum*) and tufted vetch (*Vicia cracca*) were rare. No water fowl signs were found at the time of survey although waterfowl have previously been recorded and the farmer previously advised that the pond is stocked with carp. The pond was found to have shading by both trees and scrub (a small horse chestnut tree (*Aesculus hippocastanum*), hawthorn bushes and a large crack willow were present).
- 4.44 The pond at target note 9 is a circular pond with a perimeter of around 35m that is located on the southern boundary, partly inside the site with most of the pond found just outside the site boundary. It is mostly located within a residential garden. The pond has engineered stone banks for 75% of the perimeter with steep banks that are fenced at one side. The water depth was estimated to be at least 1.5m with a concrete base overlaid with sediment. The water was turbid. Watercress (*Rorippa nasturtium-aquaticum*) covered approximately 15% and approximately 30% of the pond was shaded by sycamore, silver birch and a conifer. Some bramble was present on one of the banks. The invasive species American skunk cabbage (*Lysichiton americanus*) was also present. There were signs of waterfowl at the time of survey.

- 4.45 The pond at target note 10 is an oval pond with a perimeter of around 70m and is located within the site. It was very overgrown and silted up with much leaf litter from the surrounding scrub and trees and collapsed goat/grey willows within the pond. The pond has both steep and shallow banks, with a water level of less than 0.5m. The pond is shaded by around 70% trees and there had been some recent vegetation clearance around the margins to allow for access. Reed canary-grass (*Phalaris arundinacea*) was locally frequent in the pond and rosebay willowherb and some bracken (*Pteridium aquilinum*), hawthorn, bramble and black bryony (*Tamus communis*) were present on the banks. There was a mallard (*Anas anas*) with ducklings and two nests on the pond.
- 4.46 There was a widened area of the largely dry ditch bordering the broadleaved plantation woodland at target note 11. It was approximately 10 m long and 3 m wide, with average water quality and contained a lot of leaf litter. Floating sweet-grass (*Glyceria fluitans*) covered approximately 70% of the area with a few clumps of soft rush. The area was completely shaded by oak trees on the field boundary and willows within the woodland. It only seasonally contains shallow water.
- 4.47 The pond shown on Ordnance Survey maps in the north of the woodland (target note 1) was a dry depression at the time of survey.
- 4.48 A further five ponds are shown on Ordnance Survey maps/ aerial photographs within 250 m of the site boundary. This area of countryside supports a particularly high density of ponds and these provide important habitats features generally increasing species diversity.
- 4.49 Ponds generally form ecological hotspots within the countryside. In July 2008 a new UK Pond Habitat Action Plan (PondHAP) was introduced, which aimed to identify 'Priority Ponds' as part of the Million Ponds Project, led by Pond Conservation (now the Freshwater Habitats Trust). Although Habitat Action plans are no longer used as part of the Government's biodiversity protection plans, the Freshwater Habitats Trust still considers that the priorities for protecting ponds that were identified at the time are still relevant. Not all ponds will fall under the criteria and it is estimated that around 40% of all UK ponds will meet this.
- 4.50 The pond(s) located within the site and the wider survey area meet the initial criteria set under the UK BAP and used to select Habitats and Species of Principal Importance of being either permanent/seasonal water body up to 2ha in size. To be considered further, an additional criterion has to be met, which includes the ponds supporting key species of plants and/or animals. Additional surveys of these ponds would be required to determine whether or not the ponds meet the classification of a 'Priority Pond'.
- 4.51 Ponds are not included in the Halton BAP, however all ponds are included in the North Merseyside BAP, which applies to some of the ponds within 250m to the north of the site.

Running Water

- 4.52 There is a ditch along the northern boundary of the site (target note 12) with shallow, running water flowing in a westerly direction. The banks of the ditch were steep and approximately 2m high. No aquatic or emergent vegetation was noted and the banks were generally very overgrown with abundant bramble, frequent common nettle, occasional hogweed (*Heracleum sphondylium*) and rare to occasional cock's-foot. Bracken was locally dominant with locally frequent rosebay willowherb and locally occasional Yorkshire fog and tufted vetch. Species which were rare included Himalayan balsam (locally abundant), red campion (*Silene dioica*), meadow vetchling (*Lathyrus pratensis*), common vetch, soft-rush, hedge woundwort (*Stachys sylvatica*), reed canary-grass and remote sedge (*Carex remota*). There is a defunct hedgerow along the northern side of the ditch and gorse (*Ulex europaeus*) was

occasional on the southern side of the ditch. The ditch is culverted under Queensbury Way to the east and under Chapel Lane to the west. At the westernmost end the ditch is heavily shaded by tall conifers.

- 4.53 There are a number of drainage ditches shown on Ordnance Survey maps within the wider survey area. The majority of the drains are in association with field boundaries.
- 4.54 Rivers, streams and drainage ditches can be ecological hotspots that form part of a network of corridors throughout the wider survey area.
- 4.55 The botanical value of the ditch within the site was low but provides valuable diversity of habitats within the site.
- 4.56 Rivers are a Habitat of Principal Importance, but not included under the Halton LBAP.

Arable

- 4.57 There was a small area of recently re-seeded grassland at the eastern end of the site. The surrounding countryside to the north and west is predominantly under arable cultivation.
- 4.58 Although arable crops themselves can help to sustain wildlife, the diversity and value of arable cropland as a wildlife habitat is limited. The annual cycle of farming practices associated with arable land means that the disturbance arising from the works is likely to have negligible impact upon wildlife in the long term. It is considered that because of the likely intensive use of pesticides and fertilizers, the biodiversity interest of the arable fields is likely to be limited.
- 4.59 The area of recently reseeded grassland within the site is small with no associated field margin habitats and is considered to be of low ecological value. Arable habitat is not considered further in this report.

Amenity Grassland

- 4.60 Mown amenity grassland was present in the gardens of properties in the wider survey area. There was no access to these areas during the survey. Amenity grassland is generally species-poor and is of low ecological value and will not be affected by the proposed development. Amenity grassland is, therefore, excluded from further appraisal.

Hedgerows

- 4.61 The majority of the hedgerows within the site were species-poor (defunct and intact), dominated by hawthorn, some with oak and ash trees.
- 4.62 The hedgerow along the eastern side of Sandy Lane was dominated by hawthorn with frequent hop (*Humulus lupulus*) and occasional black bryony (*Tamus communis*). There was a shallow ditch on the western side.
- 4.63 The hedgerow along the northern boundary, east of Sandy Lane was defunct, dominated by hawthorn with frequent bramble, occasional sycamore, rare to occasional pedunculate oak and goat willow. Cherry, crack willow and grey willow were rare. Dead elms (*Ulmus* sp.) were present at the western end. Himalayan balsam was locally occasional.
- 4.64 The hedgerow to the east of target note 6 was defunct and dominated by blackthorn with frequent bramble and rare oak with two ash trees. Common nettle was occasional to frequent and cow parsley, rare.

- 4.65 The hedgerow along Chapel Lane to the west was species-poor, but intact, dominated by hawthorn with occasional hazel (*Corylus avellana*), rare elder and blackthorn plus young oak, ash, horse chestnut and sycamore trees (including a purple sycamore, *A. pseudoplatanus* f. *purpureum*). Ivy (*Hedera helix*) was frequent to abundant and black briony, occasional.
- 4.66 There was a short section of low-cut ornamental hedgerow along Chapel Lane comprising red claw (*Escallonia* sp.), barberry (*Berberis* sp.), holly and Darwin's barberry (*Berberis darwinii*) amongst other ornamental species. Young shoots of Japanese knotweed were scattered along the hedgerow.
- 4.67 The species-poor defunct hedgerow with trees east of Rose Farm comprised locally abundant sycamore, hawthorn and plum (*Prunus* sp.) with rare elder. There was a shallow ditch on the eastern side with field horse-tail.
- 4.68 There is a defunct hawthorn dominated hedgerow along the southern boundary with sycamore and young ash trees. Honeysuckle and hazel were also present. There is a ditch along the northern side with shallow water in places with some duckweed (*Lemna* sp.) and some escaped montbretia (*Crocsmia x crocosmiiflora*).
- 4.69 The hedgerow to the north and north east of the pond at target note 10 comprises white willow (*Salix alba*), oak and ash trees with frequent hawthorn, locally frequent elm, rare to occasional sycamore and rare birch and hazel.
- 4.70 The hedgerow running through the centre of the site at target note 13 was defunct, but relatively species-rich with frequent hawthorn and bramble, rare to occasional sycamore, elder, grey willow, hazel, and with occasional medium sized oak trees. Blackthorn was locally abundant, gorse (*Ulex europaeus*) locally occasional and goat willow, holly, ash, field maple (*Acer campestre*) and cherry, rare. Ground flora species included locally frequent field horse-tail, locally occasional common nettle and foxglove, rare to occasional cow parsley plus rare cleavers and male fern (*Dryopteris filix-mas*). There is a dry ditch associated with the hedgerow.
- 4.71 Hedgerows that are over 20m in length and are composed of at least 80% of one or more UK native species are classed as a Habitat of Principal Importance for their conservation value within the landscape.
- 4.72 The hedgerows located within the wider survey area and the development site are considered to be a Habitat of Principal Importance as they are over 20m in length and are composed of at least 80% of one or more UK native species.
- 4.73 Hedgerows 20m long or more or which meet another hedgerow at each end are protected under the Hedgerow Regulations 1997 and cannot be removed without the consent of the local planning authority. Hedgerows are not protected if they mark the boundary of a private garden. The Regulations also set out criteria defining important hedgerows. Important hedgerows under the Regulations are at least 30 years old and also qualify as of value in an archaeological, historical, landscape or wildlife perspective. Local Planning Authorities cannot refuse consent to remove hedgerows that do not qualify as important, but there is a presumption in favour of protecting and retaining important hedgerows. The majority of the hedgerows located in the development site are species-poor (fewer than four woody species per 30m) and therefore are not considered to qualify as ecologically important under the Hedgerow Regulations 1997 (but may qualify as important under other criteria). A Hedgerow Regulations assessment of the hedgerow at target note 13 undertaken in 2020 (Ecology

Services Limited, 2023a) confirmed the hedgerow to qualify as 'important' under the Regulations.

Fences/Walls/Dry Ditches/Earth Banks

- 4.74 Many of the hedgerows also have sheep fences along them and there are some internal sheep fences. There was a dry ditch along the western boundary of the broadleaved semi-natural woodland to the east. There was some shallow water in places, but it is considered that the ditch is dry for the majority of the year. Dry/ seasonal ditches were also associated with some of the hedgerows as described under hedgerows above. These features are of low ecological value.

Buildings and Structures

- 4.75 There are a number of buildings associated with Rose Farm at the western end of the site (target note 14). These comprise a couple of small wooden buildings with corrugated asbestos roofs; a recently constructed timber, open slatted barn; a corrugated metal/asbestos barn with a lean to on the eastern aspect and a long, low timber shed with a corrugated metal shed to the west. Within the wider survey area are two brick built bungalows with tiled roofs along Chapel Lane, a corrugated metal cow barn, various other timber built sheds, many in a dilapidated state and other residential properties.

Bare Ground

- 4.76 There is some bare ground/hardstanding surrounding the farm buildings at the western end of the site. This is of limited ecological value and is excluded from further appraisal.
- 4.77 The following section evaluates habitats and their suitability to support species that are affected by the proposed development works.

Protected and Notable Plant Species

- 4.78 No plant species fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) were found on the site. No nationally rare/scarse/LBAP species were recorded on the site.

Invasive Plant Species

- 4.79 The following invasive species listed on Schedule 9 of the Wildlife and Countryside Act were recorded during the survey.

Japanese Knotweed

- 4.80 Japanese knotweed (*Fallopia japonica*) is present on the western boundary of the site within an ornamental hedgerow on Chapel Lane. This species is listed on the Wildlife and Countryside Act 1981 (as amended) Schedule 9.

Himalayan Balsam

- 4.81 Himalayan balsam was recorded along the ditch target note 12 along the northern boundary of the site. Himalayan Balsam is listed within Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and as a Species of European Union Concern under the EU Invasive Alien Species Regulation (1143/2014).

American Skunk Cabbage

- 4.82 American skunk cabbage was recorded outside the site boundary within the pond which lies partly within the site (target note 9). This species is a Species of European Union Concern under the EU Invasive Alien Species Regulation (1143/2014).

Montbretia

- 4.83 Montbretia was recorded along the southern boundary of the site. Montbretia is listed on the Wildlife and Countryside Act 1981 (as amended) Schedule 9.

Amphibians

- 4.84 The desktop study returned four records of great crested newt with records ranging from 2005 to 2010 located approximately 2km to north of the site. The nearest record, albeit a low resolution record, is c. 835m to the north-east of the site on the opposite side of the A5080, which is a busy kerbed road likely to provide a barrier to movement of GCN. There are no European Protected Species records (granted licences, class licences and District Level Licensing pond surveys) within 2km of the site.
- 4.85 Three ponds are present/ partly present within the site providing potential breeding habitat for amphibians.
- 4.86 The development site contains suitable terrestrial habitats that provide ideal refuge and hibernation habitat in the form of: scrub, ungrazed grassland, tall ruderal, hedgerows and piles of timber and other discarded materials.
- 4.87 The development site contained habitats of lower value to amphibians which included: grazed improved grasslands and bare ground.
- 4.88 The wider survey area contains suitable terrestrial habitat in the form of woodland and hedgerows and several ponds that may provide suitable breeding habitat for amphibians and could support great crested newts and common toad.
- 4.89 The two ponds wholly within the site plus one ponds to the north east of the site were sampled for eDNA in 2020 returning negative results although for all ponds the percentage of pond margin sampled was below the desired 80% for all ponds due to access constraints. The three ponds within/ partly within plus a further five ponds within 250m of the site boundary were sampled in 2022, with all returning negative results (Ecology Services Limited, 2023b). Access to five of the ponds, including the three within/ partly within the site, was constrained with less than the desired 80% of the pond margin sampled. While there were constraints to sampling, given that:
- all of the samples have come back negative;
 - some of the ponds have been sampled in 2020 and 2022 and both times have been negative; and
 - there are no records of GCN within 500m, with only 4 records within 2km (the nearest record, albeit a low resolution record, is c. 835m to the north-east of the site on the opposite side of the A5080 which is a busy kerbed road likely to provide a barrier to movement of GCN) it is considered unlikely that great crested newts are present on site.
- 4.90 Great crested newts and the habitat they use for protection and shelter are protected under Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended).
- 4.91 Common toad and great crested newt are Species of Principal Importance listed under the NERC Act 2006. Great crested newt is a Halton BAP species.

Badger

- 4.92 The desktop study found no records of badger within 2km of the development site.

- 4.93 A probable badger sett was identified within the bank of the dry ditch on the northern boundary of the broadleaved woodland to the east of the site during the previous Preliminary Ecological Appraisal undertaken in 2019. There were at least seven entrances plus at least a further three scattered along the ditch. The development site and wider survey area contain habitats suitable to support badger.
- 4.94 Further badger surveys undertaken in 2020 and 2022 (Ecology Services Limited, 2023c) found some of the holes to have collapsed inside and many were covered with leaf litter. No evidence of badger was found in any of the holes or in the vicinity of the holes, therefore it was considered that they were not in use by badger at that time.
- 4.95 An additional isolated mammal hole of a size and shape to permit badger was also identified approximately 235m to the south of the group of mammal holes above on the eastern bank of the dry ditch. No evidence of recent use by badger was identified during either the 2020 or 2022 surveys.
- 4.96 Badgers and their setts are protected under the Protection of Badgers Act (1992). Sett interference includes: disturbing badgers whilst they are occupying a sett, as well as destroying a sett or obstructing it.

Bats

- 4.97 The data search undertaken in 2022, found 26 records of common pipistrelle, 4 records of pipistrelle sp. and one record of an un-identified species of bat within 2km of the site, dating from between 1988 to 2019.
- 4.98 Records of European Protected Species mitigation licences for bats in the area surrounding the site include; a licence relating to common pipistrelle at a location approximately 3.3km to the south of the site and a further licence for the same species located c.3km to the north of the site. A licence pertaining to common pipistrelle, soprano pipistrelle, brown long-eared and natterer's located c. 3.45km to the north west of the site. Hedgerows, trees and woodland within the site connect with the hedgerow network in the wider countryside providing suitable foraging and commuting habitat for bats.
- 4.99 The woodland areas and certain hedgerows contain trees that are of an age and structure that are ideal for roosting bats. The development site contains buildings and trees that may provide suitable bat roost habitat.
- 4.100 The wider survey area contains buildings, trees and woodland that are considered to be suitable for roosting bats. Linear features within the wider landscape such as hedgerows and associated waterbodies (including running and standing water) are likely to be those associated with greatest bat activity. Habitats within the local area are considered to provide low potential for foraging bats and it is highly likely that bats are present in the survey area.
- 4.101 Preliminary Roost Assessment surveys undertaken in 2022 found the buildings and trees on site to contain varying levels of potential to support roosting. Presence/ absence activity surveys in 2022 have confirmed common pipistrelle day roost(s) within one of the buildings (Ecology Services Limited, 2023d).
- 4.102 The bat habitat activity surveys (Ecology Services Limited, 2023h) recorded six bat species/ species groups foraging and/ or commuting within the site including common pipistrelle, soprano pipistrelle, *Pipistrellus* spp., noctule, brown long-eared, *Myotis* spp. The majority of activity comprised common pipistrelle bats. Generally low levels of bat activity were identified within the survey area. Activity was distributed over the survey area as a whole, with numbers

of bat passes being greater to the west of the survey area and along the hedgerow through the centre of the site. The majority of bat activity at the site was associated with interfaces between woodland, trees, hedgerows and grassland habitats which are located around the margins of the site and the hedgerow through the centre of the site, in addition to neighbouring residential gardens. Bat foraging was also noted around the pond at target note 8.

- 4.103 All British bats and their roosts are afforded protection under the 1981 Wildlife and Countryside Act (as amended) and are listed under Annex IV of the Habitats Directive as in need of protection. Certain species of bat are Species of Principal Importance under the NERC Act 2006, including noctule bat (*Nyctalus noctula*), soprano pipistrelle bat (*Pipistrellus pygmaeus*) and brown long-eared bat (*Plecotus auritus*). Serotine and barbastelle are considered vulnerable and Leisler's and Nathusius' pipistrelle, near threatened in Britain and England in the Red List for Britain's Terrestrial Mammals (Mathews and Harrower, 2020). No bat species are included in the Halton BAP.

Breeding Birds

- 4.104 The desktop study identified records for the Schedule 1 bird species kingfisher, peregrine falcon, little ringed plover, goshawk, fieldfare, redwing, brambling, firecrest, whimbrel and barn owl to be present within 2 km of the development site. The development site does not provide suitable habitat for breeding peregrine falcon, little ringed plover, kingfisher or whimbrel. Goshawk is a rare breeding bird in Cheshire and the Wirral with at least some of the birds having escaped or been released from captivity (Norman, 2008). Goshawks breed in dense woodland, particularly coniferous woodland and considered highly unlikely to breed within the vicinity of development site. Fieldfare, redwing, brambling and firecrest breed in woodland with fieldfare, redwing and brambling largely or entirely restricted to Scotland with breeding firecrests mainly confined to south-east England. The site may, however, provide suitable habitat for barn owls. The data search found three records of barn owl, two tetrad level records dated between 1997 and 1999, located between 1.1km and 3.95km to the west and south west and one record dated 2003 from a 1km grid square located approximately 1.75km to the south west of the site at the nearest point, dated 1999. The desktop study also identified a range of bird Species of Principal Importance and three Halton BAP species (song thrush, reed bunting and skylark) which may potentially occur within the site.
- 4.105 Birds recorded during the 2019 extended Phase 1 habitat survey included: great tit (*Parus major*), wren (*Troglodytes troglodytes*), robin (*Erithacus rubecula*), chiffchaff (*Phylloscopus collybita*), goldfinch (*Carduelis carduelis*), blackcap (*Sylvia atricapilla*), yellowhammer (*Emberiza citrinella*), magpie (*Pica pica*), woodpigeon (*Columba palumbus*) and buzzard (*Buteo buteo*). The farmer mentioned that they used to get lapwing and skylark. Yellowhammer is a Species of Principal Importance.
- 4.106 Robin, wren, dunnoek (*Prunella modularis*), chiffchaff, yellowhammer, greenfinch (*Carduelis chloris*), blackbird (*Turdus merula*), magpie and an alarm calling great spotted woodpecker (*Dendrocopus major*) were recorded during the 2022 extended Phase 1 habitat survey. A female mallard (*Anas platyrhynchos*) with ducklings and two nests were recorded in the pond at TN11. Dunnock and yellowhammer are Species of Principal Importance.
- 4.107 The development site provides a range of habitats suitable for birds such as buildings, scattered trees, scrub, hedgerows and woodland.
- 4.108 The wider survey area provides a range of habitats suitable for birds such as buildings, woodland, scattered trees, hedgerows and arable.

- 4.109 A breeding bird survey was undertaken in 2020 (Ecology Service Limited, 2023e) which identified a range of common and widespread bird species to be using the site including six species of Species of Principal Importance (dunnock, house sparrow, linnet, song thrush, starling and yellowhammer), one LBAP species (song thrush) and nine red and amber listed Birds of Conservation Concern (including the six Species of Principal Importance plus willow warbler (*Phylloscopus trochilus*), greylag goose (*Anser anser*) and tawny owl (*Strix aluco*), the latter two only having been recorded flying over the site). No breeding Schedule 1 bird species were recorded within the site. Of the species of conservation concern, none were confirmed as breeding, with two as probable breeders (dunnock and yellowhammer), the remainder being possible breeders (excluding greylag goose and tawny owl recorded flying over the site).
- 4.110 The species of conservation concern included declining farmland species such as linnet and yellowhammer, declining urban species including house sparrow and starling. Birds were generally associated with the outer boundary habitats plus the east-west hedgerow running along the public footpath in the centre of the site and around the perimeter of the farmyard (there was no access within the farmyard due to COVID-19 restrictions). Due to the range of bird species present (albeit at relatively low breeding density), including a number of species of conservation concern, the site is considered to be of value for birds at the Borough level.
- 4.111 A barn owl survey was undertaken in 2020 in conjunction with a preliminary roost assessment for bats (Ecology Services Ltd, 2023d). Three buildings were considered to have suitability to support barn owl, however, no signs of occupation past or present were found in any of the buildings. None of the trees on site or adjacent to the site were suitable to support roosting or nesting barn owl. No observations of barn owl were made during any of the bat presence/absence or bat transect surveys undertaken at the site. Habitats on site and in the local area are of low value to barn owls generally. There are no records of barn owls within 1km of the site and the three records between 1km and 2km of the site are all post 2003.
- 4.112 The Wildlife and Countryside Act (WCA) 1981 (as amended), states that all wild birds are protected at all times against killing or injury. Under the WCA, it is an offence to kill, injure or take any wild bird, to take damage or destroy the nest of any wild bird, or to take or destroy the egg of any wild bird.
- 4.113 Schedule 1 birds are afforded additional protection against disturbance during the breeding bird season at or near the nest. Whilst it is considered unlikely that a Schedule 1 bird species would breed within the site, options to avoid disturbance for Schedule 1 species will need implementing if a Schedule 1 species is found to be present on site during the breeding bird season.

Wintering Birds

- 4.114 The desktop study found no records of the wintering birds within 2km of the development site. The ecological desktop study search found the site to be within a Natural England (NE) SSSI Impact Risk Zone (IRZ) associated with the Mersey Estuary SSSI, SPA and Ramsar Site designated on the basis of their ornithological interest, approximately 3.7 km south of the site. The details of the IRZ state that new residential developments in the area should consider recreational disturbance impacts on the coastal designated sites in the Habitats Regulations Assessment screening.
- 4.115 Following consultation with the Merseyside Environmental Advisory Service (MEAS) further data searches with the Lancashire County Bird Recorder and Cheshire and Wirral Ornithological Society (CAWOS) were undertaken along with wintering bird surveys (Ecology Services Limited, 2023c). The Lancashire County Bird Recorder returned records of golden

plover from tetrad (2x2km square) SJ58E plus black-headed gull, herring gull and lesser black-backed-gull from tetrad SJ48Z from the 2008-2011 Lancashire Wintering Bird Survey. CAWOS returned records of black-headed gull (2010-2019), common gull (2012-2019), herring gull (2010-2019) and lesser black-backed gull (2010-2019) from the tetrads (2x2km squares) SJ58D, & SJ48Y. Records of lesser black-backed gull were also returned for the tetrad SJ58E and pink-footed goose (2018 & 2019), located approximately 1km south of the site. The site lies on the northern edge of tetrads SJ48Y and SJ58D, the tetrads SJ48Z and SJ58E lying to the north. The records of pink-footed goose are considered likely to be fly-overs as there is no suitable foraging habitat for the species at that location.

- 4.116 None of the species associated with the Mersey Estuary SSSI, SPA and Ramsar site were recorded during the wintering bird surveys undertaken during winter 2021/22 (Ecology Services Limited, 2023f). Gulls were recorded during all survey visits where they were recorded feeding and roosting on areas of cultivated land and roosting and flying over areas of grassland. However, once the rapeseed (*Brassica napus* var. *napus*) crops became established, numbers of gulls decreased on site. One area commonly used for roosting is the sports field at the Cronton Sixth Form College in the wider survey area. Gulls recorded comprised the Red listed herring gull and Amber listed black-headed gull, common gull and lesser black-backed gull (only black-headed gull was recorded within the site itself). The numbers, however, represent very low percentages of the Great British populations of these species and it is not considered that the site and/or wider survey area comprise an important area of habitat for these species. Red listed lapwing was recorded once on the last survey in March 2022. It was recorded as a flyover heading from the site to the east over an area of housing.
- 4.117 Other notable species recorded during the wintering bird surveys but not associated with the designated sites included fieldfare (*Turdus pilaris*), count of 100+ foraging along a hedgerow on the 13th October 2021 and 2 redwing (*Turdus iliacus*) feeding along hedgerows in the site on the 10th of December 2021. Both species are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), however, redwing and fieldfare are non-breeding visitors to Lancashire. Fieldfare is on the Red list and redwing on the Amber list.

Reptiles

- 4.118 The desktop study found records of slow worm and common lizard within 2km of the development site. The common lizard records are all from Pex Hill, approximately 310 m north of the site. The records for slow worm are from Rainhill, Cronton, approximately 830m north of the site on the opposite side of the A5080.
- 4.119 Habitats within the site and wider survey area are considered unlikely to support common lizard or slow worm. The intervening habitat between the slow worm records at Rainhill, Cronton and the development site is largely under arable cultivation, which provides poor quality habitat for slow worms, with interconnecting hedgerows. The site is relatively isolated and it is considered unlikely that reptiles would be present within the site.
- 4.120 Common reptiles receive protection against killing and injuring through the Wildlife and Countryside Act 1981 (as amended). The habitats for these widespread species are not protected. Slow-worm, grass snake, adder and common lizard are Species of Principal Importance.

Water Vole

- 4.121 The desktop study returned 18 records of water vole within 2km of the development site, 10 from Dog Clog Brook, approximately 1.025km south west of the site. Other records include

Heathfield Park Pond, Upton Rocks, approximately 330m west of the site³, Upton Rocks Park Pond, approximately 445m south east of the site, Rainhill, approximately 1.500km north west of the site, Pex Hill approximately 1.400km north of the site and Fox's Bank Brook, approximately 1.720km north west of the site.

- 4.122 It is considered unlikely that water voles will be present within the site. The ditch along the northern boundary of the site (Alder Brook) is considered unsuitable in that it contained very little water at the time of survey and was largely overgrown and with no aquatic/emergent vegetation, limiting food sources for this species. Alder Brook is potentially connected to Dog Clog Brook to the west, however if it is, there must be a culvert of approximately 65m under Chapel Lane which may provide a barrier to movement. The brook is also culverted under Queensbury Way to the east before disappearing beneath residential housing. There is no obvious connectivity with the records to the north of the site, which lie to the north of the A5080. It is possible that ponds within the site could support water vole, the nearest record for water vole being from Heathfield Park Pond (located either on the opposite side of Chapel Lane to the west or within the residential development to the south).
- 4.123 Habitats within the wider survey area are present that could support water voles with drains and ponds shown on Ordnance Survey maps.
- 4.124 Water vole surveys of the two ponds within the site were undertaken in 2020 and of all three ponds within/ partly within the site in 2022 (Ecology Services Limited, 2023d). No evidence of water voles was found during either survey.
- 4.125 The water vole and its habitat receive full protection under the Wildlife and Countryside Act 1981 (as amended). Water vole is one of the Species of Principal Importance listed under the Natural Environment and Rural Communities (NERC) Act 2006. Water vole is considered to be endangered in Britain and England in the Red List for Britain's Terrestrial Mammals (Mathews and Harrower, 2020).

Otter

- 4.126 The desktop study returned a single record of otter within 2km of the development site from Hockenhull Platts and River Gow, approximately 2km south west of the site, dated 2017.
- 4.127 There are no significant watercourses within the site or within 2km which are considered likely to sustain otters. The habitats within the site and wider survey area are therefore considered unlikely to support otter. Otters are not considered further in this report.
- 4.128 Otters are protected under the Wildlife and Countryside Act 1981 (as amended) and Annex IV of the EC Habitats Directive which has been transposed into national legislation by means of the Conservation of Habitats and Species Regulations 2017 (as amended). Otters are one of the Species of Principal Importance listed under the Natural Environment and Rural Communities (NERC) Act 2006.

Hedgehog

- 4.129 The desktop study identified 37 records of hedgehog within 2km of the development site.
- 4.130 The site and the wider survey area contains residential gardens, scrub, woodland and tussocky grassland that are suitable to support hedgehog foraging and hibernation.

³ The grid reference for this record may be incorrect, Heathfield Park being located approximately 375m south of the site.

- 4.131 Hedgehog is a Species of Principal Importance for the purpose of conserving biodiversity and covered under section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006. It is considered to be vulnerable throughout Britain in the Red List for Britain's Terrestrial Mammals (Mathews and Harrower, 2020). They therefore need to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity. Hedgehog numbers in the UK suffered a 20% decline over four years (2001-2005). This is equivalent to >50% decline over 25 years.

Invertebrates

- 4.132 The desktop study identified records of a range of butterflies and moths which are Species of Principal Importance within 2km of the development site.
- 4.133 The butterflies ringlet (*Aphantopus hyperantus*), meadow brown (*Maniola jurtina*) and small tortoiseshell (*Aglais urticae*) were recorded during the survey.
- 4.134 Habitats within the development site and wider survey area of value to invertebrates include: woodland and mature trees, species-rich grassland, scrub and hedgerows (especially species-rich) and ponds.

5.0 Impacts and Recommendations

- 5.1 The National Planning Policy Framework (NPPF) (2021) states that if significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused. Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity. This section, therefore, makes recommendations to avoid ecological impacts, mitigate and/or compensate unavoidable impacts and provide ecological enhancement.
- 5.2 S.40 of the NERC Act 2006 sets out the duty for public authorities to conserve and enhance biodiversity in England. Habitats and Species of Principal Importance for the conservation of biodiversity are identified by the Secretary of State in consultation with NE, under S.41 of the NERC Act for England. The Local Planning Authority and Government Conservation Organisations (e.g. Natural England and the Environment Agency) will expect account to be taken of these habitats and species in the overall layout and landscape strategy for the development.

Designated Sites Impacts and Recommendations

- 5.3 There are no statutory designated sites within 2km of the site, however the site falls within Natural England's Impact Risk Zone for the Mersey Estuary SSSI, SPA and Ramsar site.
- 5.4 In order to assess the impacts of the development upon this statutory designated site, Natural England's Impact Risk Zones (IRZs) have been reviewed to assess whether consultation is required. The Site Check Report generated using the Multi-Agency Geographic Information for the Countryside (<https://magic.defra.gov.uk/>), detailed the following consultation requirements for the site location:
- Rural residential - any residential development of 50 or more houses outside existing settlements/urban areas.

- 5.5 The details for the IRZ also states that new residential developments in the area should consider recreational disturbance impacts on the coastal designated sites which should be considered in the HRA screening.
- 5.6 Taking into consideration the scale of the development works, consultation with Natural England regarding likely effects on the SSSI will be required.
- 5.7 Natural England can be consulted for pre-application advice on how impacts might be avoided or mitigated. See the GOV.UK website for further information on the pre-application Discretionary Advice Service (DAS).
- 5.8 Potential increased recreational pressure will be addressed via opting-in to the mitigation measures set out within the Halton Recreational Management Interim Approach (Anon., 2020).
- 5.9 There are nine non-statutory sites (LWS) within 2km of the site including Alder Brook LWS, part of which lies along the northern boundary of the site.
- 5.10 With the exception of Alder Brook LWS, no direct impacts are anticipated to these sites as a result of any future development proposals.
- 5.11 The section of Alder Brook within the site was not found to be of significant ecological value. No rare or notable species were found within the section of the brook along the northern boundary of the site. The citation for the site is dated 2003.
- 5.12 It is recommended that the brook is retained with an appropriate habitat buffer (8m) between the brook and the development. Appropriate pollution prevention measures must be implemented when working close to water to ensure full protection.
- 5.13 All pollution prevention guidance, known as PPGs, previously maintained by the Environment Agency have been withdrawn from use, however, this guidance still provides useful information on pollution prevention when working within or near the water bodies, dependant on the development proposed.

Habitats Impacts and Recommendations

- 5.14 The survey found the site to contain Habitats of Principal Importance lowland mixed deciduous woodland, hedgerows and ponds (subject to further surveys).
- 5.15 Habitats within the development site and the wider survey area are considered suitable to support European and Statutory Protected Species, Species of Principal Importance and Local BAP species.
- 5.16 The following sections briefly considers each habitat that is impacted by, or adjacent to the site that may be impacted by the proposed development and provides advice upon each habitat of ecological value and the species it is considered suitable to support.

Woodland Broadleaved Semi-natural

- 5.17 Areas of lowland mixed deciduous woodland (a Habitat of Principal Importance) lie adjacent to the site. The proposed development incorporates buffers to the woodland (approximately 10m minimum). All development works near to woodland must take great care to avoid impact or to ensure the absolute minimum of disturbance. Any works near to retained trees will be carried out with adequate provision for root protection to prevent compaction in accordance with BS 5837:2012 Trees in relation to design, demolition and construction. The

tree preservation officer should be contacted prior to disturbance to trees to check whether any trees are protected by preservation orders (TPO).

Scrub Dense/Continuous and Scattered

- 5.18 There is limited scrub habitat within the site, is not considered to be a significant habitat feature and does not require any particular mitigation measures.
- 5.19 Any works within scrub habitat may need to take into account protected and priority species prior to works. Please refer to the relevant species section prior to works.

Scattered Trees

- 5.20 Scattered mature trees within the development site, should be retained, where possible and protected during development in particular the large crack willow close to the northern boundary towards the eastern end of the site and the oak trees within the site. Based on the parameters plan, it appears that five trees will be lost comprising two ash trees, two cherry and one silver birch. Loss of scattered trees will be compensated on a minimum two for one basis to ensure that there is no net loss of biodiversity at the site. Tree species should be native and of local provenance.
- 5.21 Any works in the vicinity of retained trees should be carried out according to BS 5837:2012 Trees in relation to design, demolition and construction. Any trees that are affected by development should be checked prior to any works, to see if they are protected under any Tree Preservation Orders (TPOs).
- 5.22 Consideration for tree dwelling species such as breeding birds and roosting bats may also need to be taken into consideration if trees are impacted by the proposed development.

Semi-improved Grassland

- 5.23 The semi-improved grassland is not thought to fall into the Habitat of Principal Importance and is not included within the Halton BAP. The habitat condition assessment undertaken for the Biodiversity Metric calculation has confirmed that the habitat is not diverse enough to qualify as other neutral grassland or the Habitat of Principal Importance Lowland Meadow and therefore constitutes modified grassland. Nonetheless it is considered to be more diverse than the rest of the grassland within the site. The majority of the grassland will be lost to the proposed development. To compensate the loss of this grassland, retained areas of grassland within the site will be enhanced to the Habitat of Principal Importance Lowland Meadow.

Poor Semi-improved and Improved Grassland

- 5.24 The proposed development will result in the loss of areas of poor semi-improved and improved grassland. This grassland is of low ecological value and its loss will be compensated by enhancement of retained grassland within the site to the Habitat of Principal Importance Lowland Meadow. The retained grassland within the site will be protected during construction.
- 5.25 Any works within grassland habitat may need to take into account protected and priority species prior to works. Please refer to the relevant species section prior to works.

Tall Ruderal

- 5.26 The tall ruderal habitat is of low ecological value and does not require any particular mitigation measures.

- 5.27 Any works within tall ruderal habitat may need to take into account protected and priority species prior to works. Please refer to the relevant species section prior to works.

Standing Water

- 5.28 Ponds (fulfilling certain criteria) are a Habitat of Principal Importance. The retention of ponds, ditches and associated habitats is therefore important. The ponds within the site will be retained and protected during construction. All three ponds will be incorporated within or be buffered by areas of green space (minimum 4m buffer). When working close to water bodies appropriate pollution prevention measures must be implemented. Although withdrawn, The Environment Agency's guidance still provides useful advice.
- 5.29 The development also offers the opportunity to enhance the existing ponds by partially clearing accumulated silt and leaf litter and clearing fallen and overshading trees. Any work on ponds should take full account of wildlife including amphibians and aquatic invertebrates
- 5.30 Two attenuation basins will be created within the site which will have locally deepened areas to provide permanent water aiming to create two new Habitat of Principal Importance ponds.

Running Water

- 5.31 The Client is advised that works in and adjacent to watercourses may need to take account of the Environment Agency North West Region Land Drainage Byelaws (1979) and the Salmon and Freshwater Fisheries Act (1975).
- 5.32 While the watercourse is currently not considered to be of high ecological value, its designation as an LWS indicates that it has been of higher value in the past and/or forms part of a water course of higher value. The watercourse will be retained with an appropriate buffer (minimum 8m). Development of the site raises the opportunity to enhance the watercourse for biodiversity. At a landscape level, watercourses provide wildlife corridors and can provide suitable habitats for breeding birds, foraging bats and invertebrates, and potentially for water vole, which need to be taken into consideration. Any works to the watercourse would need to implement appropriate management procedures in areas where Himalayan balsam is present (see Invasive Plants).
- 5.33 Under the terms of the Water Resources Act 1991, and the Land Drainage Byelaws 1981, the prior written consent of the Environment Agency is required for any proposed works or structures, in, under, over or within 8 metres of the top of the bank of a main river. The water course is classified as a main river by the Environment Agency⁴.
- 5.34 The Local Planning Authority (the Lead Local Flood Authority) has responsibility for granting consent for works to ordinary watercourses, under sections 23 and 24 of the Land Drainage Act 1991. The Land Drainage Act (1991), as amended by the Flood and Water Management Act (2010). This covers works (including temporary works) that affect water flow within the channel of an ordinary watercourse.

Hedgerows

- 5.35 The majority of native species hedgerows qualify as a Habitat of Principal Importance. The hedgerows within the site will be retained and protected during construction, with the exception of removal of four short sections of hedgerows to create accesses for roads. The affected hedgerows include the species rich hedgerow with oak trees at target note 13 which

⁴ <https://www.arcgis.com/apps/webappviewer/index.html?id=17cd53dfc524433980cc333726a56386>

has been assessed as hedgerow H1 within the site has been confirmed as being 'important' under The Hedgerow Regulations 1997.

- 5.36 Removal of hedgerow to create accesses will be kept to a minimum. Where hedgerow removal is unavoidable, compensatory hedgerow planting will be undertaken within the site of a minimum equivalent length and species diversity using native stock of local provenance. The creation of species-rich hedgerows between the proposed residential garden boundaries could help offset any hedgerow loss and also provide ecological enhancement. There is also opportunity to enhance existing hedgerows by planting up gaps, planting trees and increasing species diversity.
- 5.37 Any works near to hedgerows should be carried out with adequate provision for root protection.
- 5.38 Works in or affecting hedgerows may need to take into account the Hedgerow Regulations 1997 and protected and priority species prior to works. Please refer to the relevant species section prior to works.

Invasive Plant Species

Japanese Knotweed

- 5.39 Japanese knotweed was located at one location in the roadside hedgerow along Chapel Lane, north of the public right of way. It is recommended that a Japanese knotweed survey is undertaken by a suitably qualified contractor to advise on appropriate measures to prevent the spread of this invasive weed.
- 5.40 A method statement will need to be agreed and implemented to ensure full compliance will all relevant legislation.

Himalayan Balsam

- 5.41 Himalayan balsam was recorded along the ditch target note 12 along the northern boundary of the site. If works are to be undertaken in this area, to prevent the spread of this species due to development, it is recommended that a method statement is agreed prior to works being undertaken and implemented throughout the works.

American Skunk Cabbage

- 5.42 The American skunk cabbage currently lies outside the site boundary, although in close proximity, and at present will not be affected by the proposed development.

Montbretia

- 5.43 Montbretia was recorded along the southern boundary of the site. Small areas of montbretia can be controlled manually by digging out and disposing of entire plants, corms and rhizomes. Corms and rhizomes should be disposed of appropriately in order to avoid re-sprouts. Herbicides may be used to control larger areas if they are away from native plants and watercourses. Regular checks for re-growth and digging out/ spot treating should be undertaken as required.

Burying Invasive Plants

- 5.44 Before burying non-native invasive plant waste, the Environment Agency should be contacted to see if this is permitted. You may need to inform the Environment Agency a week before the plant waste is buried.

Species Impacts and Recommendations

- 5.45 An assessment of the potential for the site to support protected species or species of conservation interest was undertaken as part of the extended Phase 1 habitat survey. This was undertaken in order to scope the potential for protected species being present to advise the Client on potential further survey and mitigation requirements.
- 5.46 The following sections provide impacts and recommendations upon species that the development has the potential to affect. Species reviewed in Section 4 that are not affected by the proposals have been omitted.

Amphibians

- 5.47 Suitable aquatic and terrestrial habitats for amphibians exist within the site and within 250m of the proposed development. eDNA surveys have confirmed great crested newts to be likely absent, however, limited amphibian surveys undertaken in 2020 confirmed smooth newt and common frog to be present within the vicinity of the site.
- 5.48 The three ponds present/ partially present within the site will be retained within or buffered by areas of greenspace. Two new ponds will also be created within attenuation basins within areas of greenspace providing additional aquatic habitat. Areas surrounding the ponds should be sensitively managed to provide suitable terrestrial habitat for amphibians.
- 5.49 Although common toad was not recorded during the surveys, only limited amphibian surveys were undertaken and the pond at target note 8 is considered suitable for breeding common toad. Common toad, is a Species of Principal Importance in England (Section 41 of the Natural Environmental and Rural Communities (NERC) Act 2006). Therefore, as a precautionary measure, all construction contractors should be made aware of the potential presence of common amphibians, including common toad, on site and the potential risks to them. Should any common amphibians be encountered, they should be moved to suitable cover away from development works. If large numbers of common toad are found, then the acting consultant should be contacted for further advice on measures to minimise impacts.

Badger

- 5.50 The probable badger sett identified during the previous Preliminary Ecological Appraisal undertaken in 2019 and additional isolated mammal hole subsequently identified have been found to be not currently in use by badger. Therefore, there are no apparent implications with regards to development and badgers at the time of survey.
- 5.51 If the holes were to become occupied by badger, it is considered that there will be no direct impacts to the mammal holes by the proposed development as they are located outside of the site, in the wider survey area. All of the tunnels are leading away from the site into the woodland and are located on the banks of a deep ditch which acts as a barrier to any potential tunnels leading into the site. Indirect impacts such as disturbance caused by the development works, however, may occur.
- 5.52 As there is the potential for the mammal holes to become occupied by badger in the interim time between this survey being undertaken and the works commencing and therefore the potential for disturbance to occur during the development, it is recommended that a precautionary pre-commencement check is undertaken prior to works beginning on site. Contractors must be mindful of the potential for badgers at all times. If a badger/s is/are or a badger sett/s is/are identified or suspected during the works then all works must cease and the ecologist notified for advice.

Bats

- 5.53 The development site and wider survey area contain habitats that provide low potential for foraging bat species. Therefore, it is highly likely that bats are present within the survey area.
- 5.54 The results of the Preliminary Roost Assessment surveys at Chapel Lane (Ecology Services Limited, 2023d) found the buildings and trees on site to contain varying levels of potential to support roosting bats. Presence/ absence activity surveys have confirmed a common pipistrelle day roost(s) in one of the buildings which will be demolished. As roosting bats have been confirmed within one building then in the absence of suitable mitigation/ compensation measures under the appropriate Natural England licence, if works are undertaken that impact a bat roost either directly or indirectly, then this would result in an offence being committed under the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended).
- 5.55 A suitable mitigation and enhancement scheme that demonstrates how the continued favourable conservation status of bat species found at the site will be maintained and that there will be no detrimental effect upon roosting bats by the proposed development is provided within the Bat Survey Report (Ecology Services Limited, 2023d), in line with current Planning Policy. Work at the site will be delayed until such a time that a Natural England Licence is applied for and granted to legally permit work to commence which would affect bats or their roosts.
- 5.56 A Natural England Licence can only be applied for once planning consent is gained. Natural England, the licensing authority, will require the species, numbers and use of a roost to be ascertained before granting a licence and there may be delays in obtaining a Licence and time constraints as to when mitigation can be undertaken.
- 5.57 The Local Planning Authority should also consider Biodiversity Net Gains in relation to bats.
- 5.58 A Section 106 agreement or similar legally binding covenant should be in place attached to any planning permission. Adequate roost provision should be agreed to ensure the favourable conservation status of bat species at the site.
- 5.59 Opportunities for roosting bats shall be incorporated as a general enhancement measure across the site in new buildings and retained trees.
- 5.60 All the trees with bat roost potential will be retained. One tree within the farmyard with moderate bat roost potential, may be affected by disturbance. No evidence of roosting bats was recorded during the 2022 presence/ absence surveys of the tree.
- 5.61 The development site is of a relatively large size and it contains features that provide suitable habitat for foraging bats such as woodland, hedgerows, scattered trees, scrub, ponds and a watercourse. The development proposals will include the demolition of the majority of the agricultural buildings within the site and the loss of the majority of the grassland habitats within the site to facilitate construction of the proposed residential dwellings, associated infrastructure and landscaping. The ponds and the majority of the trees and hedgerows within the site will be retained. Small sections of four hedgerows will need to be removed to create necessary access through the site. Where there are existing gaps in hedgerows and where possible, these should be utilised for road accesses to minimise the loss of hedgerow. Two additional areas of permanent open water will be created within the attenuation basins within the area of green infrastructure along the northern boundary.

- 5.62 The habitats around the site boundary will be retained and protected during construction. A buffer of at least 5m should be maintained along retained hedgerows which prohibits storage of materials or machinery within these areas. These buffers should be retained post development to maintain the commuting corridors throughout the site. There will also be a minimum 8m easement within the site along the watercourse which runs along the northern boundary of the site, which will allow a foraging corridor to be retained. Gardens and areas of public open space within the proposed development will provide some compensatory habitat in the long term. Bat species are reliant on Core Sustenance Zones around their roosts for foraging. The core sustenance zones for the species identified within the site range from 1km to 4km, therefore it is important that foraging and commuting habitats within the site are maintained to ensure no net loss of quality or availability for local bat colonies.
- 5.63 It is recommended that any habitat lost to the proposed development is compensated on a minimum like for like basis. Compensatory habitat could include planting up of gaps within retained hedgerows with native species of local provenance. Compensatory habitat should comprise native species of local provenance or wildlife friendly berry/nectar rich shrubs. To negate interim losses while new habitats establish, ideally several bat boxes of various types should be located within adjacent woodland or on retained mature trees within the site.
- 5.64 In order to minimise potential effects of artificial lighting, both during construction and the operational phase upon completion of the proposed development, a sensitive lighting scheme should be designed and implemented in accordance with ILP (2018) to maintain the site as suitable for foraging and commuting bat species which are sensitive to light such as brown long-eared and *Myotis* spp. bats. Lighting levels should be at the minimum required for health and safety, and avoided wherever possible. The effects of lighting could be reduced through the use of low-level lighting and/ or using bulbs emitting low UV light and should be directed away from more sensitive habitats that could be used by foraging or commuting bats such as boundary trees, hedgerows, and neighbouring gardens. The lighting strategy should be reviewed at an appropriate stage of design by a suitably qualified ecologist.
- 5.65 Additional enhancement measures for bats across the site could include planting of species-rich hedgerows on the boundaries of the proposed residential gardens, for foraging and commuting bats. A species-rich hedgerow could be planted on the northern side of the footpath to provide a hedged corridor which will act as a commuting and foraging corridor for bats and also as a buffer to the residential gardens from the public footpath. There will also be a minimum 8m easement within the site along the watercourse which runs along the northern boundary of the site, which will allow a foraging corridor to be retained.

Breeding Birds

- 5.66 The development site provides suitable habitat for nesting birds in the form of hedgerows, scrub, trees, buildings and ponds. It is recommended that as much of these habitats as possible are retained and protected during development.
- 5.67 Ideally, all affected breeding bird habitat should be cleared at the end of breeding bird season (September/October) to avoid any adverse effects upon hibernating hedgehog. If works are to be undertaken during the breeding bird season, which runs from March to September inclusive, then an assessment by an ecologist for breeding birds should be undertaken prior to works. If breeding birds are found, it is likely that works will have to be delayed until breeding has ceased. It is good practice to replace any breeding bird habitat lost to development. All replacement should be made on a minimum like for like basis. To negate interim losses, ideally several bird boxes of various types should be located within adjacent woodland or on scattered trees around the site. To mitigate potential impacts on declining farmland species yellowhammer and linnet, it is recommended that the hedgerow along the

northern boundary of the site, bordering fields to the north, is enhanced by planting gaps and increasing species diversity. It is recommended that the minimum 8m wide habitat buffer to the brook along the northern boundary of the site is managed as species-rich rough grass to provide food in the form of insects and seeds for yellowhammer.

- 5.68 It is considered unlikely that barn owl or other Schedule 1 species are present within the site, however, options to avoid disturbance for Schedule 1 species and appropriate mitigation measures will need implementing if a Schedule 1 species, such as barn owl, is subsequently found to be present on site.

Wintering Birds

- 5.69 No qualifying bird species associated with the statutory designated sites were recorded at the site with all other bird species representing low percentages of the Great British populations. No direct or indirect impacts are therefore anticipated on wintering birds as a result of loss of habitat or disturbance during construction or operation. Potential increased recreational pressure will be addressed via opting-in to the mitigation measures set out within the Halton Recreational Management Interim Approach (Anon., 2020). Retention of the majority of hedgerows within the site along with planting of native berry bearing species within the landscaping scheme will provide a continued foraging resource for wintering fieldfare and redwing.

Reptiles

- 5.70 Habitats within the site are considered unlikely to support common reptiles. In the unlikely event that a reptile is encountered on site during the works, all works must stop and an ecologist contacted for advice.

Water Vole

- 5.71 It is highly unlikely that water vole and potential colonies will be affected by the proposed development, therefore there are currently no apparent implications with regards to the proposed residential development and water vole.
- 5.72 The three ponds within or partially within the site will be retained within or buffered by areas of greenspace (minimum 4m). It is proposed that the two ponds entirely within the site are enhanced by partially de-silting and reduction in shading. Two new ponds will also be created within the proposed attenuation basins within the site. Best practices of working near to and within water bodies should be implemented to safeguard potential water vole habitat.
- 5.73 Water vole can be very transient and can travel up to 1km to form new colonies if the habitat is found to be suitable. Habitats are present within the wider survey area that are connected to the site and are considered suitable to support water vole. Therefore, if works have not commenced within 12 months as of the writing of this report, it is recommended that the survey is repeated within 12 months prior to the commencement of works, to determine if water voles have moved into the area.

Hedgehog

- 5.74 The site and the wider survey area contain suitable habitat for foraging and hibernating hedgehog. Hedgehog is a Species of Principal Importance, therefore the following measures are recommended.
- Removal of suitable hibernation habitat (e.g. dense scrub/hedgerows) should be avoided during their hibernation season. The hedgehog hibernation season is weather dependant and can commence from November to January and finish around

mid-March to early April. To avoid conflicts with the nesting bird season, all affected habitat should be cleared at the end of breeding bird season (September/October).

- During development works open pits and trenches shall either be covered overnight or have means of escape i.e. ramp.
- Residential boundary fences shall have a gap (at least 130mm) at the base to allow hedgehog to access all residential areas.
- Hedgehog houses or log piles suitable for hibernating shall be incorporated in suitable areas within the site.
- Enhancement/creation of boundary features to maintain linkages between the on site population and the wider area.

Invertebrates

- 5.75 Retention of the ponds, as much of the hedgerows, mature trees and scrub as possible, plus retention and enhancement of grassland will provide continued habitat for invertebrates. Compensation will be provided for unavoidable loss of hedgerows, mature trees and scrub.

Wildlife Friendly Landscape Proposals

- 5.76 It is recommended that any planting schemes within the development should adhere to the local planning policy and use native species of local provenance. Landscape proposals should ensure that there is no net loss of habitats of ecological value, including semi-improved grassland, hedgerows, scrub and scattered trees. All loss should be replaced on a minimum like for like basis and the proposals should aim to achieve a measurable net gain for biodiversity as encouraged by the NPPF. Planting schemes should aim to meet Local BAP targets. The landscape proposals should also show the locations and provide details of habitat and species mitigation measures, advice should be sought from the acting ecological consultant.

Management Plan

- 5.77 It is recommended that all areas where habitat enhancement works are proposed, including the site boundaries, shall be managed for wildlife and placed under a 30 year management plan, to ensure that there is no net loss of biodiversity to development in the long-term. The Biodiversity Net Gain assessment will be updated/ finalised at the Reserved Matters stage and accompanied by a 30 year management plan. This can be secured via a suitably worded planning condition.

Enhancement Recommendations

- 5.78 In line with national planning policy new developments should integrate opportunities to improve biodiversity, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate. The mandatory requirement for 10% Biodiversity Net Gain under the Environment Act 2021 is likely to come into effect in 2023 and will be required to be maintained for a period of at least 30 Years.
- 5.79 A Biodiversity Net Gain (BNG) calculation has been undertaken for the site using the Biodiversity Metric 3.1 based on the Parameters Masterplan (drawing no. 022-009-P004 RevF) to determine the net change in biodiversity value of the site resulting from the proposed development. A Biodiversity Net Gain Strategy (Ecology Services Limited, 2023i) has also been prepared and submitted to accompany the outline planning application. At the time of compiling this report, only an outline parameters masterplan has been prepared and the Biodiversity Metric calculation is therefore only indicative. The BNG calculation and strategy will be reviewed and updated at the Reserved Matters stage.

- 5.80 Based on the information currently available, taking into account the habitat retention and potential enhancement within the site, the BNG calculation has resulted in a net gain of 10.18% at the site for area based habitats (assuming delivery of certain enhancements two years in advance of commencement on site) and 94.73% for hedgerows and lines of trees through enhancement of existing hedgerows and/ or planting of new native species-rich hedgerows. Full river condition assessment and rivers and streams metric calculation will be undertaken at the detailed design stage. Different habitat condition scenarios have been run through the Biodiversity Metric and it is considered that a minimum 10% net gain for rivers can be achieved through ecological enhancement.
- 5.81 In addition to the habitat based Biodiversity Metric, as good practice biodiversity net gain should also consider net gain for species. Further possible recommendations to ensure that there is an overall biodiversity gain are as follows:
- Installation of additional nesting bird boxes, including within new buildings.
 - Enhancement of existing ponds and hedgerows to increase species diversity.
 - Increase links between the garden areas by planting up front and rear gardens with native or wildlife friendly berry/nectar rich shrubs.
 - Trellis on fencing and on walls for nectar rich wall climbers.
 - The use of Sustainable Urban Drainage Systems (SUDS).
 - Enhancement of the brook and creation of a species-rich habitat corridor along the northern boundary of the site.
- 5.82 **Table 3** overleaf summarises the potential impacts on each ecological feature along with proposed mitigation and enhancement measures.

Table 3: Summary of potential impacts with proposed mitigation and enhancement measures

Ecological Receptor	Value of feature	Potential Impacts	Proposed Mitigation	Proposed Enhancement
Statutory designated sites	European	No direct impacts. Potential increased recreational pressure.	Opt-in to the mitigation measures set out within the Halton Recreational Management Interim Approach (Anon., 2020).	N/A
Non-statutory designated sites – Alder Brook	County/ Borough	No direct impacts. Risk of pollution.	8m habitat buffer to river. Implementation of appropriate pollution prevention measures.	Enhancement of the brook and creation of a species-rich habitat corridor along the northern boundary of the site.
Broadleaved semi-natural woodland (adjacent to site)	Local	No direct impacts. Potential damage to trees/ compaction within root protection zone.	10m (minimum) buffer to woodland edge. Works near to retained trees will be carried out with adequate provision for root protection in accordance with BS 5837:2012.	N/A
Scattered trees	Local	Loss of c. 5 trees. Potential damage to trees/ compaction within root protection zone.	Compensatory planting. Works to be carried out according to BS 5837:2012. Affected trees checked to see if they are protected under any Tree Preservation Orders (TPOs).	Planting of additional trees beyond that required for compensation.
Semi-improved grassland	Local	Loss of habitat/ damage to retained habitat.	Protection and enhancement of retained grassland within the site to the Habitat of Principal Importance Lowland Meadow.	Enhancement of retained grassland within the site to the Habitat of Principal Importance Lowland Meadow beyond that required for compensation.
Poor semi-improved and improved grassland	Low	Loss of habitat/ damage to retained habitat.	Protection and enhancement of retained grassland within the site to the Habitat of Principal Importance Lowland Meadow.	Enhancement of retained grassland within the site to the Habitat of Principal Importance Lowland Meadow beyond that required for compensation.
Standing water	Local	No direct impacts. Potential damage/ pollution.	Protection and implementation of pollution prevention measures during construction. Minimum 4m buffer to ponds.	Enhance existing ponds. Two new ponds to be created within attenuation basins.
Running water	County/ Borough (LWS)	No direct impacts. Risk of pollution.	8m habitat buffer to river. Implementation of appropriate pollution prevention measures.	Enhancement of the brook and creation of a species-rich habitat corridor along the northern boundary of the site.
Hedgerows	Local	Removal of short sections for access. Potential damage/	Compensatory hedgerow and/ or enhance existing hedgerows. Any works near to hedgerows should	Enhancement of existing hedgerows to increase species diversity. The creation of

Ecological Receptor	Value of feature	Potential Impacts	Proposed Mitigation	Proposed Enhancement
		compaction within root protection zone.	be carried out with adequate provision for root protection.	species-rich hedgerows between the proposed residential garden boundaries could help offset any hedgerow loss and also provide ecological enhancement.
Invasive plant species	N/A	Causing invasive plant species to spread.	Method statements to be agreed and implemented throughout site works to ensure full compliance with legislation. Monitoring to check for re-growth/ further treatment as required.	Control/ eradication of invasive plant species.
Amphibians	Local	Loss of suitable terrestrial habitat (scrub, ungrazed grassland, tall ruderal, hedgerows and piles of timber and other discarded materials). Potential killing/ injury of common amphibians, potentially including common toad (Species of Principal Importance)	Areas surrounding the ponds should be sensitively managed to provide suitable terrestrial habitat for amphibians. All construction contractors should be made aware of the potential presence of common amphibians and the potential risks to them. Any common amphibians encountered should be moved to suitable cover away from development works. If large numbers of common toad are found, then the acting consultant should be contacted for further advice on measures to minimise impacts.	Two new ponds to be created within attenuation basins within areas of greenspace providing additional aquatic and enhanced terrestrial habitat.
Badger	N/A	No direct impacts. Potential disturbance impacts if mammal holes become occupied by badger prior to commencement.	Pre-commencement badger survey to be undertaken prior to works beginning on site.	N/A
Bats	Local	Loss of confirmed bat roost. Loss of small sections of 4 hedgerows to facilitate access. Artificial light pollution of foraging/ roost habitat.	A Natural England licence to be secured and suitable mitigation and enhancement scheme implemented (see Bat Survey report, ESL 2023d). Utilise existing gaps in hedgerows for road accesses, where possible. Compensatory hedgerow planting and/ or enhancement of existing hedgerows. Minimum 5m buffer to be maintained along retained hedgerows during and post construction to protect hedgerows and maintain commuting corridors throughout the site.	Opportunities for roosting bats shall be incorporated measure across the site in new buildings and retained trees. Two additional areas of permanent open water will be created within the attenuation basins within the area of green infrastructure along the northern boundary providing additional foraging opportunities. Planting of species-rich hedgerows on the boundaries of the proposed residential gardens. Planting a species-rich hedgerow

Ecological Receptor	Value of feature	Potential Impacts	Proposed Mitigation	Proposed Enhancement
			Provision of several bat boxes of various types to negate interim losses while new habitats establish. Sensitive lighting scheme to be designed and implemented in accordance with ILP (2018).	on the northern side of the footpath to provide a hedged corridor acting as a commuting and foraging corridor for bats and as a buffer to the residential gardens from the public footpath.
Breeding birds	County/Borough	Loss of nesting habitat (hedgerows, scrub, trees, buildings and ponds).	All affected breeding bird habitat to be cleared at the end of breeding bird season (September/October) avoiding the hedgehog hibernation season or following an assessment by an ecologist for breeding birds confirming nesting birds to be absent. Options to avoid disturbance for Schedule 1 species and appropriate mitigation measures will need implementing if a Schedule 1 species, such as barn owl, is subsequently found to be present on site. Compensatory habitat to be provided on a minimum like for like basis. Provision of several bird boxes of various types around the site to negate interim losses. The hedgerow along the northern boundary of the site, to be enhanced and the minimum 8m wide habitat buffer to the brook managed as species-rich rough grass to provide nesting habitat and food for declining yellowhammer and linnet.	Installation of additional nesting bird boxes, including within new buildings. Creation of additional nesting and foraging habitat beyond that required for compensation.
Wintering birds	Local	No direct impacts. Potential increased recreational pressure on statutory designated sites and associated wintering bird interest.	Opt-in to the mitigation measures set out within the Halton Recreational Management Interim Approach (Anon., 2020).	N/A
Reptiles	N/A	None anticipated.	In the unlikely event that a reptile is encountered on site during the works, all works must stop and an ecologist contacted for advice.	N/A

Ecological Receptor	Value of feature	Potential Impacts	Proposed Mitigation	Proposed Enhancement
Water vole	N/A	None anticipated.	If works have not commenced within 12 months as of the writing of this report, it is recommended that the survey is repeated within 12 months prior to the commencement of works, to determine if water voles have moved into the area.	Enhancement of ponds and the Alder Brook within the site, plus creation of two new ponds providing suitable habitat for water voles in the longer term.
Hedgehog	Local	Potential killing/ injury of hedgehogs and loss of foraging and hibernation habitat (e.g. dense scrub/hedgerows).	All affected habitat should be cleared at the end of breeding bird season (September/October) to avoid the hedgehog hibernation season. Open pits and trenches to either be covered overnight or have means of escape i.e. ramp. Residential boundary fences to have a gap (at least 130mm) at the base to allow hedgehog to access all residential areas. Hedgehog houses or log piles suitable for hibernating to be incorporated in suitable areas within the site. Enhancement/creation of boundary features to maintain linkages between the on site population and the wider area	Creation of additional foraging/ hibernation habitat beyond that required for compensation.
Invertebrates	Local	Loss of habitat including trees, moderately diverse grassland, scrub and hedgerow (especially species-rich).	Enhancement of retained grassland and compensatory planting for loss of hedgerow, trees and scrub.	Enhancement of existing ponds. Two new ponds to be created within attenuation basins providing additional aquatic habitat. Trellis on fencing and on walls for nectar rich wall climbers.

- 5.83 Ecological surveys are generally considered likely to be valid for 12 months and up to 18 months unless the site has potential to support mobile species which could colonise the site such as bats, otter, water vole and badger. Between 18 months and three years, a professional ecologist will need to undertake a site visit and potentially update the desk study information to review the validity of the report and advise on which surveys require updating and the scope, timing and methods of those surveys. Beyond three years, the report is unlikely to still be valid and most, if not all, of the surveys are likely to need to be updated (CIEEM, 2019). If required during determination of the application, the relevant surveys would be updated at the appropriate point in time and updated reports submitted to support the application.

6.0 Conclusion

- 6.1 This Ecological Appraisal report presents the results of the desk study and extended Phase 1 habitat survey undertaken at the site and summarises the findings of the accompanying further ecological survey reports and Biodiversity Net Gain calculation (Ecology Services Limited 2023a-i). This Ecological Appraisal and associated further surveys and reports have been completed by suitably experienced ecologists in line with current guidance.
- 6.2 The surrounding environs and wider landscape are protected by a number of Local Wildlife Sites, one of which (Alder Brook) partly lies adjacent to the northern boundary. The site also lies within a Natural England Impact Risk Zone associated with the Mersey Estuary Site of Scientific Interest (SSSI), Special Protection Area (SPA) and Ramsar site designated on the basis of their ornithological and botanical interest, approximately 3.7 km south of the site. Consultation with Natural England will therefore be required.
- 6.3 The site predominantly comprises semi-improved, poor semi-improved and improved pasture divided by largely species-poor, defunct hedgerows, some of which had trees. One hedgerow was species-rich with trees, although defunct and confirmed the hedgerow to qualify as ecologically 'important' under the Hedgerow Regulations 1997. Other features of note include three ponds and a brook along the northern boundary of the site. A number of buildings are also present within the site. The invasive species Japanese knotweed, Himalayan balsam and Montbretia were recorded within the site and American skunk cabbage in close proximity to the site within a pond which partly lies within the site.
- 6.4 Further surveys have been undertaken with respect to amphibians, badger, bats, breeding birds (including barn owl), water voles and wintering birds. The further surveys have confirmed great crested newt, badger, barn owl and water vole to be likely absent at the site.
- 6.5 Bat surveys have confirmed a common pipistrelle day roost(s) in one of the buildings which will be demolished. Bat habitat activity surveys recorded six bat species/ species groups foraging and/ or commuting within the site with the majority of activity comprising common pipistrelle bats. The majority of bat activity at the site was associated with interfaces between woodland, trees, hedgerows and grassland habitats which are located around the margins of the site, the hedgerow through the centre of the site and around one of the ponds.
- 6.6 The development site provides suitable habitat for nesting birds in the form of hedgerows, scrub, trees, buildings and ponds. No breeding Schedule 1 bird species were recorded within the site. The bird Species of Principal Importance or species of conservation concern recorded included declining farmland species such as linnet and yellowhammer together with declining urban species including house sparrow and starling.

- 6.7 No qualifying wintering bird species associated with the statutory designated sites were recorded at the site with all other bird species recorded representing low percentages of the Great British populations.
- 6.8 The proposed development primarily impacts on grassland, whilst retaining the ponds, Alder Brook and the majority of the hedgerows and trees. Buffers of greenspace have been retained around ponds and between development areas and the woodland and Alder Brook. Retained grassland will be enhanced to compensate the loss of grassland within the site and compensatory planting will be provided to address loss of trees and short sections of hedgerow. Appropriate mitigation measures will need to be implemented regarding invasive species present within the site.
- 6.9 A precautionary pre-commencement check for badger setts is recommended prior to works beginning on site.
- 6.10 A suitable mitigation and enhancement scheme for bats has been prepared that demonstrates how the continued favourable conservation status of bat species found at the site will be maintained and that there will be no detrimental effect upon roosting bats by the proposed development. Work at the site will be delayed until such a time that a Natural England Licence is applied for and granted to legally permit work to commence which would affect bats or their roosts. Habitat retention, enhancement and compensatory planting will maintain foraging potential for bats (in conjunction with a sensitive lighting strategy) and birds and nesting habitat for birds within the site. To negate interim habitat losses, ideally several bat and bird boxes of various types should be located within adjacent woodland or on retained trees around the site.
- 6.11 No direct or indirect impacts are anticipated on wintering birds as a result of loss of habitat or disturbance during construction or operation. Potential increased recreational pressure on statutory designated sites will be addressed via opting-in to the mitigation measures set out within the Halton Recreational Management Interim Approach (Anon., 2020).
- 6.12 Recommendations are also made to provide ecological enhancement within the site and deliver a minimum 10% net gain for biodiversity in line with the National Planning Policy Framework (NPPF, 2021) and the mandatory requirement under the Environment Act 2021 which is due to come into effect later in 2023.

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**Figure 1:
Extended Phase 1 Habitat Survey Map**

0 100 200 300 m

Chapel Lane, Widnes

Figure 1:
Extended Phase 1 Habitat Plan

Map Ref (NGR) 350000, 387800
Map Scale 1:2,500 at A3

Key:

Site boundary

30m buffer

No access

Target note

Scattered scrub

Broadleaved scattered tree

Coniferous scattered tree

Broadleaved woodland
- semi-natural

Scrub - dense/continuous

Neutral grassland
- semi-improved

Improved grassland

Poor semi-improved grassland

Other tall herb and fern - ruderal

Standing water

Running water

Swamp

Cultivated/disturbed land - arable

Cultivated/disturbed land
- amenity grassland

Intact hedge - species-poor

Defunct hedge - species-poor

Hedge with trees
- native species-rich

Hedge with trees - species-poor

Fence

Wall

Dry ditch

Buildings

Bare ground

**Figure 2:
Parameters Masterplan (Rev F)**

Accommodation Schedule

Site Area (excl. Sandy Lane/Chapel Lane/Old Upton Lane Improvements): 14.11 ha
 Undeveloped Land: 5.26 ha
 Development Parcels: 8.85 ha
 Number of Homes: 350 homes
 Gross Density: 25 homes/ha
 Net Density: 40 homes/ha

Homes on rural interface not exceeding 25 homes/hectare to create soft incremental transition.

Potential future link to adjoining allocated land

Key

- Site Boundary
- Existing Trees
- Existing Hedgerows
- Existing Wetlands & Watercourses
- Indicative Attenuation Basins
- Green Infrastructure
- Development Parcels
- Public Right of Way Footpath/Cycleway
- Avenue
- Streets/Lanes
- Shared Drives
- Feature Buildings
- Vehicle gateways/Pedestrian gateways

e*SCAPE 10 years
 urbanists 2009 - 2019

Project Title
 Chapel Lane, Widnes
 e*SCAPE Job No.
 022-009
 Client
 Taylor Wimpey North West
 Drawing Number
 022-009-P004
 Drawing Title
 Parameters Masterplan
 Scale
 1:2,500 @ A3
 Revision
 REV F
 Date
 December '22



Appendix 1: Legislation

Statutory Designated Sites

Special Area of Conservation (SAC)

Special Areas of Conservation are designated under Regulation 12 the Conservation of Habitats and Species Regulations 2017 (as amended). Special Areas of Conservation are sites of national importance which contribute significantly to the maintenance, or restoration, at favourable conservation status in their natural range of the 189 natural habitat types listed in Annex I to the Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) or the 788 species listed in Annex II to that Directive and to the maintenance of biological diversity within the Atlantic biogeographic region. The listed habitat types and species are those considered to be most in need of conservation at a European level (excluding birds). The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 continue the same provision for European protected species, licensing requirements and protected areas after Brexit.

Special Protection Areas (SPA)

Special Protection Areas are classified under the Conservation of Habitats and Species Regulations 2017 (as amended). SPAs are those sites across the United Kingdom's territory which are most suitable in number and size for (a) the conservation of the species listed in Annex 1 to Directive 2009/147/EC on the conservation of wild birds (the Birds Directive) which naturally occur in that territory, and (b) the conservation of regularly occurring migratory species of birds not listed in Annex 1 which naturally occur in that territory. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 continue the same provision for European protected species, licensing requirements and protected areas after Brexit.

Ramsar Sites

The Convention on Wetlands was formed in Ramsar, Iran in 1971 and is now termed the Ramsar Convention. The Ramsar Convention came into action in 1975. It is an international government treaty whereby all countries, that are members, have a commitment to maintain the ecological value of their designated Wetlands of International Importance. It is the only global treaty that deals with a specific ecosystem (wetlands).

The Ramsar Convention provides a framework for the international cooperation and national action for the use of and conservation of wetland habitats and their associated resources.

Site of Special Scientific Interest (SSSI)

Sites of Special Scientific Interest are designated under The Wildlife and Countryside Act (WCA) 1981 (as amended). The WCA 1981 (as amended) is the domestic implementation of the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention).

Local Nature Reserves (LNR)

Local Nature Reserve (LNR) is a statutory designation under Section 21 of the National Parks and Access to the Countryside Act 1949 and amended by Schedule 11 of the Natural Environment and Rural Communities Act 2006 (NERC). LNRs are local sites that have been designated by the local authorities. To qualify for LNR status the site must be of importance for any of the following reasons; wildlife, geology, education or public enjoyment. The Local Plan for an area will detail any additional protection given to the LNR such as protection against damaging operations and/or protection against development within or adjacent to the LNR. LNRs are statutorily designated sites at the local level. There is no national legal protection specifically for LNRs.

European Protected Species

European protected species (EPS) and their habitat are afforded strict protection under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended).

Taken together, this legislation makes it an offence to:

- Deliberately (intentionally) kill, injure or take an EPS;
- Possess or control any live or dead specimen or anything derived from an EPS;
- Deliberately (intentionally) or recklessly damage, destroy or obstruct access to a breeding site or any structure or place used for shelter or protection by an EPS; or
- Deliberately (intentionally) or recklessly disturb an EPS while it is occupying a structure or place which it uses for that purpose.
- Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

The above legislation applies to all life stages, including eggs, juveniles and adults.

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 will continue the same provision for European protected species, licensing requirements and protected areas after Brexit.

Nationally Protected Species

In England and Wales nationally protected species are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). The Wildlife and Countryside Act 1981, together with amending legislation, lists the following as offences:

- intentionally capture, kill a listed species;
- damage, destroy or block access to their places of shelter or protection (on purpose or by not taking enough care);
- disturb them in a place of shelter or protection (on purpose or by not taking enough care); and
- possess, sell, control or transport live or dead listed species or parts of them.

The Office of the Deputy Prime Minister (ODPM) Circular 06/2005, states that the presence of a protected species (European or National) is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.

Badgers and their active setts are protected under the Protection of Badgers Act (1992). The Protection of Badgers Act 1992 was designed to protect badgers from baiting and deliberate harm or injury. It also contains restrictions that apply more widely.

Under this legislation it is an offence to:

- Wilfully kill, injure or take, or attempt to kill, injure or take a badger.
- Cruelly ill-treat a badger, dig for badgers, use badger tongs, use a firearm other than the type specified under the exceptions within the Act.
- Intentionally or recklessly damage, destroy or obstruct access to any part of a sett.
- Disturb a badger whilst it is occupying a sett.
- causing a dog to enter a sett,
- Sell or offer for sale or possess a live badger,
- Have possession or control of a live badger.
- Mark a badger or attach any ring, tag, or other marking device to a badger.

Developments with potential to disturb, destroy or obstruct an active badger sett will require a badger development licence from Natural England/ Natural Resources Wales, which permits otherwise illegal actions.

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). Under the WCA, it is an offence to kill, injure or take any wild bird, to take damage or destroy the nest of any wild bird or to take or destroy the egg of any wild bird. A special penalty is levied to any of the above offences being committed in conjunction with a bird listed on Schedule 1 of the WCA. It is also an offence if a person disturbs any bird listed on Schedule 1 while it is building a nest, is on or near a nest containing young or disturbs dependent young of such a bird.

The Countryside and Rights of Way Act 2000 has made it an offence to intentionally or recklessly disturb Schedule 1 species as above and also an offence to intentionally or recklessly take, damage or destroy the nest of any wild bird or its eggs or dependent young.

Invasive Species

Schedule 9 of The Wildlife and Countryside Act 1981 (as amended) lists invasive non-native plant species that are considered to have a detrimental effect upon native flora wherever they occur. It is therefore an offence to “plant or otherwise cause them to grow in the wild”. This includes allowing the species to grow/spread, causing the species to spread or transferring polluted ground material from one area to another. Waste containing these species may be classed as controlled waste under the Environmental Protection Act (Duty of Care) Regulations 1991, which requires all producers, carriers and disposers of waste to follow a code of practice and keep records and must comply with section 34 of the Environmental Protection Act 1990.

Section 23 of the Infrastructure Act 2015 amended the Wildlife and Countryside Act 1981 by inserting a new Schedule 9A to introduce a statutory regime of species control agreements and orders. This schedule ensures that, in appropriate circumstances, landowners take action on Schedule 9 invasive species, or permit others to enter the land and carry out those operations, to prevent their establishment and spread.

Under Section 23 of the Infrastructure Act 2015, the environmental authority has powers to make a species control order to require an owner to take action against an invasive non-native species. The environmental authorities with the powers to make species control agreements or orders in England are the Secretary of State, Natural England, the Environment Agency and the Forestry Commission and in Wales, the Welsh Ministers and Natural Wales.

The EU Invasive Alien Species Regulation (1143/2014) imposes strict restrictions on a list of species known as “species of Union concern” and is implemented by the European Commission Implementing Regulation 2016/1141, which came into force on 3 August 2016. A further 12 species were added to the list on the 13th July 2017 and came into force on 2nd August 2017. This list is drawn up by the European Commission and managed with Member States using risk assessments and scientific evidence.

Under the EU Regulation, it is a requirement for management measures to be put in place for widespread invasive species. The Invasive Alien Species (Enforcement and Permitting) Order 2019 came into effect on 1st October 2019.

The Regulation ensures that a landowner must act responsibly and not allow an invasive species to grow or spread outside their land, which could be an offence and/or contrary to the Regulation. Where this cannot be guaranteed the landowner is required to consider safely removing and disposing of any listed plant.

Appendix 2: Extended Phase 1 Habitat Survey Target Notes

TN1 – Semi-natural broadleaved woodland

A small area of semi-natural broadleaved woodland with an open canopy comprising locally dominant sycamore and birch, locally frequent goat willow plus occasional oak, locally occasional grey poplar with rare ash. More mature trees were present around the periphery including a mature lime, which may provide roosting opportunities for bats. The understorey is coppiced and comprises occasional birch and sycamore with occasional hazel and hawthorn and rare willow, cherry laurel and oak. The groundflora was locally dominated by ivy and Spanish bluebell with locally abundant bramble and ground elder (around the margins of the woodland) and occasional to frequent common nettle, occasional cleavers, locally frequent cow parsley, rare holly (seedling), hart's-tongue fern, broad buckler-fern. The pond shown on Ordnance Survey maps in the north of the woodland was a dry depression at the time of survey. The woodland provides nesting habitat for birds; species noted during the survey included great tit, wren, robin and chiffchaff.

TN2 – Semi-natural broadleaved woodland

A small area of semi-natural broadleaved woodland to the north east of the site comprising coppiced crack willows, approximately 10-15m in height and rare goat/grey willow. A line of mature oaks was present along the boundary of the field to the south west with scattered mature oaks and two large crack willows along the boundary with the field to the north west. The mature trees may provide opportunities for roosting bats. Bramble was frequent and locally dominant. Species recorded in the groundflora included cow parsley, common nettle, red campion, rosebay willowherb, cleavers and ox-eye daisy. Himalayan balsam was rare. The woodland provides suitable habitat for nesting birds.

TN3 – Semi-natural broadleaved woodland

An area of semi-natural broadleaved woodland with a canopy (10-15m high) dominated by multi-stemmed goat/grey willow with occasional ash and silver birch. Mature oak trees were scattered along the western boundary of the woodland with hawthorn, blackthorn and rare elder plus a single mature ash tree. The mature trees may provide suitable opportunities for roosting bats. Ash saplings were abundant in the understorey with locally frequent raspberry, rare hawthorn and oak. Scattered bramble was present towards the woodland edge. The groundflora was sparse, locally dominated by mosses including common feather-moss and rough-stalked feather-moss. Marked ridges were conspicuous in part of the woodland, possibly historic plough ridges. The woodland provides suitable habitat for nesting birds.

TN4 – Semi-improved neutral grassland

The semi-improved field at the eastern end of the site comprised frequent to abundant Yorkshire fog with frequent creeping buttercup and common bent, occasional to frequent perennial rye-grass plus occasional white clover and Timothy. Cat's-ear was rare to occasional and red fescue, cock's-foot, meadow buttercup, locally occasional. Compact rush, common mouse-ear, ribwort plantain and a marsh orchid (SJ5013287808) were rare. Common vetch was locally abundant, sweet vernal grass locally frequent, lesser trefoil locally occasional to frequent and hairy tare locally occasional.

TN5 – Semi-improved neutral grassland

There was a small area of recently cut semi-improved grassland at the western end of the site with frequent Yorkshire fog and ribwort plantain, occasional cock's-foot, common mouse-ear, sweet vernal-grass and creeping buttercup. Ground elder and ox-eye daisy were locally abundant and

common bird's-foot trefoil, locally occasional. Cut-leaved crane's-bill, cat's-ear and red fescue were rare. Patches of ox-eye daisy had been left uncut.

TN6 – Tall ruderal vegetation

There is a disturbed area at the edge of the field with manure heaps, dumped silage bales, piles of timber, logs, brash and a couple of farm trailers providing shelter for fauna such as small mammals and amphibians. Within this area is an area of tall ruderal vegetation with frequent common nettle and broadleaved dock, locally frequent creeping thistle, melilot and hedge bindweed, occasional (locally frequent) comfrey plus occasional cleavers and spear thistle.

TN7 - Swamp

An area of swamp vegetation dominated by common reed with no standing water. There was a small area of shallow standing water at the southern end near an inlet pipe with no aquatic or emergent vegetation. There is an outfall from this swamp area to the ditch to north. This swamp area may be designed to take run-off from Queensbury Way to the east.

TN8 – Standing water (pond)

A field pond approximately 25m in diameter with no aquatic and occasional soft rush towards the pond margin. Locally dominant bramble scrub was present on the banks with locally abundant cleavers, locally frequent common nettle and creeping thistle, occasional false oat-grass, plus rare honeysuckle and tufted vetch together with a small horse chestnut tree, hawthorn bushes and a large crack willow. The water quality appeared average and a little turbid. Four mallards (2 males and 2 females) were present on the pond and the farmer advised that the pond is stocked with carp.

TN9 – Standing water (pond)

A shallow pond, approximately 10m diameter, bordered by stone walls within the garden of an adjacent property. Watercress covered approximately 15% and approximately 30% of the pond was shaded by sycamore, silver birch and a conifer. Some bramble was present on one of the banks. The water was turbid.

TN10 – Standing water (pond)

A very overgrown and silted up pond, approximately 15m diameter, with collapsed goat/grey willows within the pond. The pond probably contains a lot of leaf litter, however the water quality appeared to be reasonable. No aquatic vegetation was present, reed canary-grass was locally frequent and rosebay willowherb, bramble, hawthorn and some bracken were present on the banks. Pedunculate oak and ash were present on the southern boundary with horse chestnut and sycamore to the west.

TN11 – Standing water

A shallow area of standing water within a widened area of the largely dry ditch bordering the woodland. It was approximately 10m long and 3m wide, with average water quality and contained a lot of leaf litter. Flote-grass covered approximately 70% of the area with a few clumps of soft rush. The area was completely shaded by oak trees on the field boundary and willows within the woodland. It is considered likely that this area of water will dry out later in the year.

TN12 – Running water

A ditch along the northern boundary of the site with shallow, running water flowing in a westerly direction. The banks of the ditch were steep and approximately 2 m high. No aquatic or emergent vegetation was noted and the banks were generally very overgrown with abundant bramble, frequent common nettle, locally dominant bracken, locally frequent rosebay willowherb, occasional hogweed locally occasional tufted vetch, rare/occasional cock's-foot, plus rare (locally abundant) Himalayan balsam, red campion, meadow vetchling, common vetch, soft rush, hedge woundwort and reed

canary-grass. Also recorded were Yorkshire fog, cow parsley, cleavers and bush vetch. Remote sedge was present on the banks in the north east of the site. Some gorse was recorded on the southern bank west of Sandy Lane. The ditch is culverted under Queensbury Way to the east and under Chapel Lane to the west. At the westernmost end the ditch is heavily shaded by tall conifers.

There is a defunct hedgerow along the northern side of the ditch.

TN13 – Species-rich hedgerow (defunct)

A relatively species-rich defunct hedgerow with trees running east-west through the centre of the site comprising frequent hawthorn and bramble, locally abundant blackthorn, rare/occasional sycamore, grey willow, elder and hazel, locally occasional gorse and rare holly, goat willow, ash, field maple and cherry with occasional oak trees. The ground flora comprised locally frequent rosebay willowherb and field horsetail, locally occasional common nettle and foxglove, rare/occasional cow parsley plus rare male fern and cleavers.

TN14 - Buildings

There are a number of buildings associated with Rose Farm at the western end of the site. These comprise two brick built bungalows with tiled roofs along Chapel Lane; a couple of small wooden buildings with corrugated asbestos roofs; a recently constructed timber, open slatted barn; a corrugated metal/asbestos barn with a lean to on the eastern aspect; a long, low timber shed with a corrugated metal shed to the west; a corrugated metal cow barn and various other timber built sheds, many in a dilapidated state.

Appendix 3: Photographs



TN1 – Semi-natural broadleaved woodland (April 2019)



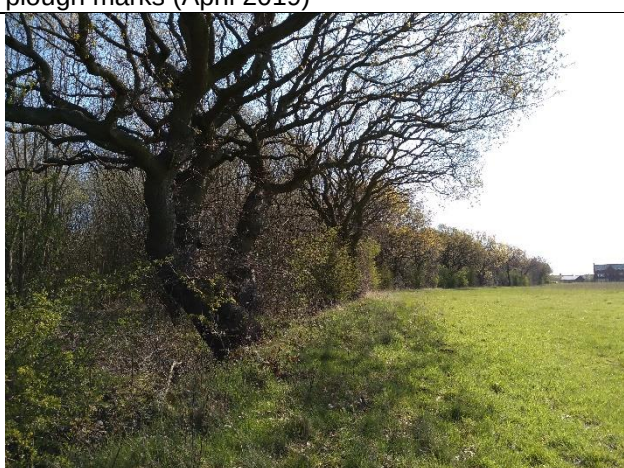
TN1 – Semi-natural broadleaved woodland (June 2022)



TN3 – Semi-natural broadleaved woodland showing plough marks (April 2019)



TN3 – Semi-natural broadleaved woodland (June 2022)



TN3 – Mature oak trees along the boundary of the broadleaved plantation (April 2019)



TN 4 – Semi-improved grassland (June 2022)



TN7 – Area of swamp vegetation in the wider survey area dominated by common reed (April 2019)



TN8 – Field pond (April 2019)



TN8 – Field pond (June 2022)



TN9 – A shallow pond with stone lined banks within a residential garden (June 2022)



TN10 – A very overgrown pond (April 2019)



TN10 – A very overgrown pond (June 2022)



TN12 – The overgrown brook along the northern boundary of the site (April 2019)



TN12 – The overgrown brook along the northern boundary of the site (June 2022)



TN14 – Two bungalows (outside proposed development site) and outbuildings associated with Rose Farm (April 2019)



TN14 – Farm building associated with Rose Farm (April 2019)



TN14 – Farm building associated with Rose Farm (April 2019)



TN14 – Farm building associated with Rose Farm (April 2019)