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Haul Roads & Accesses - Hoyles Lane, Cottam

Preliminary Ecological Appraisal Report

Compiled by Ecology Services Ltd.

on behalf of

Emerald Green on behalf of Bethell Construction Ltd.

December 2023 V3

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Executive Summary

Ecology Services Limited was commissioned by Emerald Green on behalf of Bethell Construction Ltd. in October 2023, to carry out an ecological appraisal of a proposed haul access routes in associated with a proposed 4km pipeline starting at Hoyles Lane, Cottom, Preston, PR4 0LB. The access points 1, 3, 4, 5, 6A and 6B are concluded under four planning applications, whereas access 2 and 7 do not require planning.

The survey found habitats indicative of broad-leaved and plantation woodland, scattered trees, scrub, grasslands (arable, semi-improved, and marshy grassland), tall ruderal, standing and running water, hedgerows, and buildings / structures. The wider landscape is mainly characterised by agricultural fields with associated hedgerows and rural development, as well as Savick Brook and Lancaster Canal.

Access points and the wider landscape falls within SSSI Impact Risk Zones (IRZ) associated with Newton Marsh, and Ribble Estuaries. Designated sites within the wider area include Fishwick Bottoms, Savick Bridge, Lea Marsh, Mason's Wood, BNFL Springfields Works Ponds, and Lancaster Canal.

The evaluation took into consideration habitats and species that are directly and indirectly likely to be impacted by the development. There will be no direct or indirect impacts on designated sites, however, consultation via the Natural England DAS has been undertaken and a Shadow Habitat Regulations Assessment issued.

Generally, the development will have temporary impacts upon habitats and species, as a full reinstation will be undertaken once works have been completed. The development will disrupt mainly species-rich hedgerows and potentially working within close proximity to habitats such as woodland, semi-mature/mature/veteran trees, and standing and running water.

Recommendations have been made to avoid / minimise any adverse impacts of the development, mitigate unavoidable impacts, and provide net gain.

Contents

Tables

Figures

Appendices

1.0 Introduction

1.1 In October 2023, Ecology Services Limited were commissioned by Emerald Green on behalf of Bethell Construction Ltd. to carry out an ecological appraisal of proposed temporary haul accesses, associated with a proposed pipeline starting at Hoyles Lane, Cottam, Preston, PR4 0LB.

1.2 It is understood the main works involve laying approximately 4km of pipeline and the full reinstatement of habitats upon completion of the works. Please refer to Ecology Services Ltd Hoyles Lane Preliminary Ecological Appraisal Report, dated September 2023, for ecology surveys for the main scheme.

1.3 The haul roads fall under permitted development but the accesses require planning permission, as shown in Figure 1-6 with Figures 7-10 showing the accesses only. The planning approach agreed with Lancashire County Council is that the access points will be submitted as four separate planning applications referred to as follows;

- Planning Application (PA) 1 – Lea Road (Access 3) & Sidgreaves Lane South (Access 4)
- Planning Application 2 – Sidgreaves Lane North (Access 5)
- Planning Application 3 – Darkinson Lane West (Access 6A) & Darkinson Lane East (Access 6B)
- Planning Application 4 – Riversway (Access 1)

1.4 It is noted that no modifications are required for Access 2 and 7, but are included in this report to cover any ecology issues.

1.5 Haul roads and accesses are temporary works and shall be reinstated within a period of two years.

1.6 It is noted that a couple of the haul roads and accesses are already subject to existing planning permissions for residential developments. Every endeavour will be made to reinstate these habitats prior to commencement of the residential developments. However, if the residential developments commence prior to reinstatement, reinstatement and Biodiversity Net Gain will be covered by the existing applications.

1.7 The report has been produced to identify the baseline ecological conditions of the haul roads and the access 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.

Site Description and Context

1.8 The sites are proposed to act as temporary access routes by creating and widening current existing access points. See Figures 1-5 showing location of access points and haul roads. The sites are as described below: Figures 7-10 show just the Accesses only where there is a connecting haul road.

- Figure 1 (Planning Application 1) contains the Access 3 and Access 4 and the proposed haul road from Lea Road through fields westwards and onto Sidgreaves Lane, south of Lancashire Canal. The plans include creating new temporary access (Access 3) across a footpath and through a hedge on Lea Road, located by National Grid Reference (NGR) SD 49487 31390, and widening an existing access (Access 4) on Sidgreaves Lane, south of the Canal, located by National Grid Reference (NGR)

SD 49124 31364 Planning Application 1 is situated between Lancaster Canal to the north and a railway line to the south.

- Figure 2 (Planning Application 2) contains Access 5, on Sidgreaves Road which forms the link to Access 4 and the haul road to Access 5. The plans include creating a new access through a recently planted hedgerow to the north of the Lancaster Canal off Sidgreaves Lane, located by National Grid Reference (NGR) SD 49045 31702. Planning Application 2 is situated immediately north of the Lancaster Canal.

- Figure 3a (Planning Application 3) contains Access 6A and 6B off Darkinson Lane North, near Read Oak Stable, these will be new access either side of the road and will require hedgerow removal, located at National Grid Reference (NGR) SD 48816 31194.

- Figure 3b shows Access 7 (No planning permission required) which links directly to the proposed pipe route of Darkinson Lane South, near the Preston Western Distribution Road, using the existing access gate, located at National Grid Reference (NGR) SD 48456 30900. Access 7 is located to the north west of Ashton and Lea Golf Club.

- Figure 4 (Planning Application 4) contains Access 1 and the proposed haul road off Riversway via a Bloor Homes site and widening existing access through a field to form a haul road. Access 1 is located at National Grid Reference (NGR) SD 48684 30138 and is shown in Figure 4. Planning Application 4 is situated below Savick Brook with residential development to the east.

- Figure 5 shows Access 2 (No planning permission required) and is proposed to be a temporary haul road off Blackpool Road via an existing road for Lea Gate Pump Station entrance heading eastwards into a field and then northwards towards Savick Brook. The site is located approximately by National Grid Reference (NGR) SD 48065 29818.

1.9 To conduct an ecological appraisal at the site, the aims of the survey were to:

- Undertake a desktop study up to 1km 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.

1.10 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

1.11 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.

1.12 Further surveys will be recommended, where required. If further surveys are recommended, then this report should be read in conjunction with any recommended survey reports.

2.0 Planning Policy and Legislation

Planning Policy

2.1 The National Planning Policy Framework (NPPF, 2023) 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 Biological Heritage Sites (BHS) are Lancashire's non-statutory wildlife sites, which are just below the conservation value of its statutory Sites of Special Scientific Interest. They are very important, however, for their role in contributing to the biological diversity of Lancashire, and their survival and conservation is a key indicator of sustainable development in the county (Lancashire County Council, 1998).

2.5 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

2.6 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.

2.7 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.

2.8 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.

2.9 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.

2.10 Local Nature Reserves (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

2.11 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)[1] and the Wildlife and Countryside Act 1981 (WCA, as amended) (European protected species).

2.12 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.

2.13 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.

2.14 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.

2.15 Developments with potential to affect protected species will mostly require a licence from Natural England, which permits otherwise illegal actions.

[1] 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.

2.16 For further information on protected species legislation, refer to Appendix 1.

Invasive Species

2.17 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.

2.18 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.

2.19 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.

2.20 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

2.21 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 habitats 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

2.22 The Environment Act 2021 will introduce a mandatory requirement for 10% biodiversity net gain in England by amending the Town and Country Planning Act 1990 (TCPA) which is likely to come into effect in 2024.

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 1km of the site. To identify European Protected Species Records (granted licences, class licences and District Level Licensing Pond surveys) within 1km of the site (great crested newt -*Triturus cristatus*) 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)	Identification of LBAP species and habitats known to occur in the region.
National Biodiversity Network (NBN)	To identify locally protected species of interest within 1km of the site (commercially available records only).
Maps and Related Information Online (MARIO)	To identify locally protected sites within 1km of the site.

3.3 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.

3.4 Where habitats of high ecological value are encountered during the extended Phase 1 habitat survey or habitats suitable to support protected species or Species of Principal Importance, a further detailed desktop study will be recommended to identify county designated sites such as Biological Heritage Sites (BHS) and the local information on protected/ Species of Principal Importance records 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. 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 (Figures 1-5) and marked with target notes; target note descriptions are provided in Appendix 3. Photos of habitats and features of ecological importance are provided in Appendix 4.

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.

Walkover Survey

3.5 A walkover survey was undertaken on land up to 250-500m of the proposed pipeline where access was granted, to confirm the presence of waterbodies, check for new waterbodies and undertake Habitat Suitability Index assessment. The walkover also checked for amphibian barriers. It is taken into account the physical barriers such as Blackpool Road to the south and the new link road to the west which is partly fenced with amphibian exclusion fencing as well as a concrete central barrier along the road. Ponds beyond these points have been excluded as the barriers prevent dispersal of amphibians to the development sites.

Habitat Suitability Index (HSI) Assessment

3.6 The Habitat Suitability Index (HSI) for the great crested newt was developed by Oldham et al. (2000). It is a scoring system of evaluating habitat quality and quantity using a numerical index, between 0 and 1. 0 indicates unsuitable habitat, and 1 represents optimal habitat. The HSI for the great crested newt incorporates ten suitability indices, all of which are factors thought to affect great crested newts (NARRS, undated).

3.7 The HSI is a geometric mean of ten suitability indices: HSI = (SI1 (Geographic Location) x SI2 (Pond area) x SI3 (Pond permanence) x SI4 (Water quality) x SI5 (Shading) x SI6 (Presence of water fowl) x SI7 (presence of fish) x SI8 (Pond density in area) x SI9 (Terrestrial Habitat Quality) x SI10 (Macrophyte cover in pond))1/10.

3.8 Lee Brady has developed a system for using HSI scores to define pond suitability for great crested newts on a categorical scale (NARRS, undated):

HSI Scores	Pond Suitability
<0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

3.9 The great crested newt HSI is potentially a useful tool in survey and mitigation. One benefit is that it can be undertaken in a single field visit (with supporting desk work), and at any time of the year (though some variables are more easily measured in spring and summer). Its main uses are:

- In surveys, to assess habitat quality in a repeatable, objective manner. In particular, the HSI allows individual factors that influence newt presence to be easily identified. These factors could help explain a very high or very low count. A high HSI can justify employing additional survey effort or methods if no newts are found initially.
- In impact assessments, to allow a measure of how damaging a development could be. HSI might also be used as a screening tool to select no impact or minimal impact options in conjunction with (3) below.
- In risk assessments, helping to decide whether an offence might be committed, and therefore whether a licence should be applied for. If a pond has a very low HSI score (say <0.5) then there would typically be a minimal chance of great crested newt presence. Hence, with due care and in limited circumstances (see also caveats below), the HSI might be used in the absence of newt survey to help conclude that an offence is highly unlikely and therefore work could proceed in that area without a licence. This application of the HSI should only be used where the predicted impacts - were newts to be present - would be low (e.g., development at least 100m from pond, permanent habitat loss <0.5ha or temporary habitat loss <5ha). The developer and consultant should realise that there would still be a risk of committing an offence, but it would typically be so low as to be negligible. Obviously, note that if HSI >0.5, this is not confirmation of newt presence; a newt survey would be required to confirm this.
- In habitat enhancement, HSI could be used to identify the low-scoring factors in an existing pond that need addressing to improve its quality for newts.
- In post-development monitoring, to allow an assessment of habitat condition.

3.10 The HSI is not a substitute for undertaking newt surveys; it indicates but cannot confirm presence or absence. In general, ponds with high HSI scores are more likely to support great crested newts than those with low scores. However, the system is not sufficiently precise to allow the conclusion that any particular pond with a high score will support newts, or that any pond with a low score will not do so. Very low HSI scores may be used along with scheme details to infer a minimal chance of committing an offence in low impact situations, as explained above. Whilst current data indicate a generally good relationship, HSI scores should not be used to predict population size. Care should be taken when interpreting low HSI scores; for example, a low scoring pond close to an occupied newt pond may still support newts (Natural England Great Crested Newt Licence Method Statement Template, 2015).

Timing

3.14 The extended Phase 1 habitat survey for the main scheme was undertaken between the 12th March and 31st March 2023, and the Phase 1 habitat survey for the haul roads was undertaken between 12th October and 13th November 2023 which are sub-optimal ties of year to undertake such surveys. The pond walkover and HSI surveys were conducted on the 25th October 2023.

Weather Conditions

3.15 Weather conditions during the survey were moderate with 70-100% cloud coverage, little rain and light winds. This did not have any effect on the surveys undertaken.

Personnel

3.16 Survey works were carried out by Senior Consultant Ecologist Mr. S. Booth, Assistant Ecologist Miss. S. Cork BSc (Hons), and Mr. S. Smithurst BSc (Hons).

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 Some areas within the 30m buffer were not accessed at the time of survey as shown in Figures 1-5.

4.0 Results and Evaluation

Desktop Study

Statutory Designated Sites

4.1 The desktop study found no internationally or nationally designated site within 1km of the proposed development. It is worth noting the following sites are found approximately less than 2.5km southwest of Access Area 2: Newton Marsh Site of Special Scientific Interest (SSSI), Ribble & Alt Estuaries Special Protection Area (SPA, Ramsar), and Ribble Estuary (SSSI) as detailed below.

Ribble & Alt Estuaries SPA, Ramsar

4.2 The Ribble and Alt Estuaries compromise two estuaries are located on the coasts of Lancashire and Sefton. The site consists of extensive areas of sand, mudflats, and saltmarshes which are significant in supporting internationally important populations of birds. The large areas of coast and associated habitats are majorly important during migrating periods, supporting several species such as: swans, geese, ducks, waders, and waterfowl including Pink-footed goose (*Anser brachyrhynchus*).

Newton Marsh SSSI

4.3 Newton Marsh is closely located to the Ribble Estuary SSSI and compromises 162 acres of grazed, improved pasture reclaimed from former saltmarsh with a number of retained pools and ditches. The site is of national importance as it provides a major migration route for birds down the west coast of Britain. With the lack of disturbance and its size and proximity to the Ribble Estuary, over 10,000 birds and over 100 bird species use the site for its valuable source of refuge.

Ribble Estuary SSSI

4.4 The Ribble Estuary is situated on the Lancashire coast, west of Preston between Southport and Lytham St. Annes, extending inland to Longton. The site provides one of the largest areas of grazed greenmarsh in Britain as well as sand-slit flats and saltmarshes. The estuary is of significant importance as it provides a major link to a chain of estuaries in the north and south, supporting the passage of wintering and migrating waterfowl.

4.5 The desktop study found one locally statutory designated site within 1km of the site:

- Fishwick Bottoms (LNR Ref. 1421556) approximately 0.2km west of access area 2 and approximately 1.2km east from access area 3.

Fishwick Bottoms LNR

4.6 Fishwick Bottoms is the name given to three LNRs in the area and covers approximately 146.62ha in total. Habitats include woodland, wetlands, wildflower meadows, orchards and hedgerows. Much of the woodland here is made up of non-native species, but management is increasing the biodiversity by replacing these with more appropriate species.

4.7 The ecological desktop study search found the sites to be within a Natural England (NE) SSSI Impact Risk Zone (IRZ) associated with two statutorily protected sites. These include Newton Marsh SSSI approximately 2.3km west of access 2 and Ribble Estuary SSSI approximately 2.km southwest of Access Area 2.

4.8 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.

4.9 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).

4.10 A consultation with Natural England (NE) has been undertaken and their officer has confirmed that no assent is needed.

Non-Statutory Designated Sites

4.11 The data search from the desktop study found five non-statutory designated (Lancashire) Biological Heritage Sites (BHS) within 1km of site:

- Savick Bridge (BHS Ref. 42NE04) is located approximately 0.3km northwest of Access Area 2;
- Lea Marsh (BHS Ref. 42NE06) is located approximately 0.5km south of Access Area 1;
- Masons Wood (BHS Ref. 42NE07) is located approximately 0.5km south of access area 1 and 0.7km southeast of Access Area 2;
- BNFL Springfields Works Ponds (BHS Ref. 43SE03) is located approximately 1km northwest of Access Area 7; and
- Lancaster Canal (BHS Ref. LSCLA) is located approximately 41m south of access area 5, 0.3km north of Access Areas 3 and 4.

Savick Bridge BHS

4.12 Savick Bridge is situated immediately north of the A583, grid reference SD477298. The site compromises a short tidal section of Savick Brook with associated swamp, tall herb, scrub, and deciduous woodland communities.

Lea Marsh BHS

4.13 The site is located the north side of the River Ribble, grid reference SD482293. The site includes a tidal section and associated creek drainages which lead into Savick Brook. A mosaic of habitats supports flora such as sea couch, sea aster, English scurvygrass, sea club-rush, mayweed, and nationally scarce species such as long-stalked orache.

Mason's Wood BHS

4.14 Mason's Wood is a band of broad-leaved woodland which once formed part of the coastline of Ribble Estuary, located by grid reference SD487296. The canopy includes species such as sycamore, ash, beech, crack willow, and wych elm over ground flora composing of wood avens, blue bell, lesser celandine, dog's mercury, red campion, hogweed, and cleavers.

BNFL Springfields Works Ponds BHS

4.15 The site comprises an area of undeveloped land situated in the north east corner of the SFL Springfields Works, grid reference SD475315. The main feature of the site is a narrow 'L'-shaped water filled trench which supports a large number of amphibians including frogs, toads, smooth and great crested newts. The land surrounding includes vegetation which is locally diverse which provide terrestrial habitat for the amphibia.

Lancaster Canal BHS

4.16 This site compromises the entire length of Lancaster Canal, starting from the Cumbria border near Burton-in-Kendal (SD527302) to Preston (SD521767). The canal is the largest and most species-rich water body in the county, supporting up to 250 aquatic and semi-aquatic plants, breeding birds such as mallard, coot, and moorhen, and marginal vegetation for invertebrates such as blue-tailed damselfly, common darter, and brown hawker.

Habitats of Principal Importance (NERC)

4.17 The desktop study identified no Habitats of Principal Importance within any of the proposed development sites.

Local Biodiversity Action Plan (LBAP)

4.18 Habitats listed within the Lancashire BAP which the sites may be classified under are as follows:

- Arable farmland
- Broad-leaved woodland
- Rivers and streams

4.19 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

4.20 The desktop study identified the following records of protected species / Species of Principal Importance within the 1km of the development site:

Table 2: Desktop Study Species Results

Common name	Scientific name	Most recent year of record(s)	Distance from sites (km)	Legally protected	NERC S41	LBAP	Notes
Amphibians							
Common toad	*Bufo bufo*	2019	Within 1km of sites		✓		
Great crested newt	*Triturus cristatus*	2020	Within 1km of sites	EPS, WCA5	✓	✓	
Birds							
Artic tern	*Sterna paradisaea*	2015	Within 1km of sites			✓	
Barn owl	*Tyto alba*	2021	Within 1km of sites	Sch1		✓	
Black-headed gull	*Chroicocephalus ridibundus*	2021	Within 1km of sites			✓	
Bullfinch	*Pyrrhula pyrrhula*	2017	Within 1km of sites		✓	✓	
Common gull	*Larus canus*	2014	Within 1km of sites			✓	
Common tern	*Sterna hirundo*	2014	Within 1km of sites			✓	
Corn bunting	*Emberiza calandra*	2014	Within 1km of sites		✓	✓	
Curlew	*Numenius arquata*	2015	Within 1km of sites		✓	✓	
Dunnock	*Prunella modularis*	2017	Within 1km of sites		✓	✓	
Fieldfare	*Turdus pilaris*	2015	Within 1km of sites			✓	
Goldeneye	*Bucephala clangula*	2015	Within 1km of sites			✓	
Great black-headed gull	*Larus marinus*	2015	Within 1km of sites			✓	
Greenfinch	*Chloris chloris*	2019	Within 1km of sites			✓	
Grey partridge	*Perdix perdix*	2014	Within 1km of sites		✓	✓	
Grey wagtail	*Motacilla cinerea*	2015	Within 1km of sites			✓	
Herring gull	*Larus argentatus*	2015	Within 1km of sites		✓	✓	
House martin	*Delichon urbicum*	2020	Within 1km of sites			✓	
House sparrow	*Passer domesticus*	2019	Within 1km of sites		✓	✓	
Kestrel	*Falco tinnunculus*	2021	Within 1km of sites			✓	
Kingfisher	*Alcedo atthis*	2015	Within 1km of sites	Sch1		✓	

Common name	Scientific name	Most recent year of record(s)	Distance from sites (km)	Legally protected	NERC S41	LBAP	Notes
Lapwing	*Vanellus vanellus*	2018	Within 1km of sites			✓	
Lesser black-backed gull	*Larus fuscus*	2015	Within 1km of sites			✓	
Linnet	*Linaria cannabina*	2015	Within 1km of sites			✓	
Mallard	*Anas platyrhynchos*	2019	Within 1km of sites			✓	
Meadow pipit	*Anthus pratensis*	2016	Within 1km of sites			✓	
Mediterranean gull	*Larus melanocephalus*	2015	Within 1km of sites	Sch1		✓	
Mistle thrush	*Turdus viscivorus*	2015	Within 1km of sites			✓	
Moorhen	*Gallinula chloropus*	2019	Within 1km of sites			✓	
Oystercatcher	*Haematopus ostralegus*	2015	Within 1km of sites			✓	
Pink-footed goose	*Anser brachyrhynchus*	2015	Within 1km of sites			✓	
Redshank	*Tringa totanus*	2018	Within 1km of sites			✓	
Redwing	*Turdus iliacus*	2016	Within 1km of sites	Sch1		✓	
Reed bunting	*Emberiza schoeniclus*	2016	Within 1km of sites		✓	✓	
Shelduck	*Tadorna tadorna*	2015	Within 1km of sites			✓	
Short-eared owl	*Asio flammeus*	2012	Within 1km of sites			✓	
Skylark	*Alauda arvensis*	2016	Within 1km of sites		✓	✓	
Snipe	*Gallinago gallinago*	2016	Within 1km of sites			✓	
Song thrush	*Turdus philomelos*	2016	Within 1km of sites		✓	✓	
Sparrowhawk	*Accipiter nisus*	2015	Within 1km of sites			✓	
Spotted flycatcher	*Muscicapa striata*	2005	Within 1km of sites		✓	✓	
Starling	*Sturnus vulgaris*	2019	Within 1km of sites		✓	✓	
Swift	*Apus apus*	2015	Within 1km of sites			✓	
Tawny owl	*Strix aluco*	2019	Within 1km of sites			✓	
Teal	*Anas crecca*	2018	Within 1km of sites			✓	
Tree sparrow	*Passer montanus*	2016	Within 1km of sites				

Common name	Scientific name	Most recent year of record(s)	Distance from sites (km)	Legally protected	NERC S41	LBAP	Notes
					✓	✓	
Willow tit	*Poecile montana*	2015	Within 1km of sites		✓	✓	
Willow warbler	*Phylloscopus trochilus*	2015	Within 1km of sites			✓	
Woodcock	*Scolopax rusticola*	2015	Within 1km of sites			✓	
Wren	*Troglodytes troglodytes*	2016	Within 1km of sites			✓	
Yellowhammer	*Emberiza citrinella*	2014	Within 1km of sites		✓	✓	
Invertebrates							
Broom moth	*Melanchra pisi*	2006	Within 1km of sites		✓		
Buff ermine	*Spilosoma luteum*	2015	Within 1km of sites		✓		
Centre-barred sallow	*Atethmia centrago*	2015	Within 1km of sites		✓		
Cinnabar	*Tyria jacobaeae*	2014	Within 1km of sites		✓		
Crescent	*Helotropha leucostigma*	2014	Within 1km of sites		✓		
Dark-barred twin-spot carpet	*Xanthorhoe ferrugata*	2014	Within 1km of sites		✓		
Dot moth	*Melanchra persicariae*	2014	Within 1km of sites		✓		
Dusky thorn	*Ennomos fuscantaria*	2016	Within 1km of sites		✓		
Ghost moth	*Hepialus humuli*	2009	Within 1km of sites		✓		
Powdered quaker	*Orthosia gracilis*	2009	Within 1km of sites		✓	✓	
Rosy minor	*Mesoligia literosa*	2009	Within 1km of sites		✓	✓	
Rosy rustic	*Hydraecia micacea*	2015	Within 1km of sites		✓	✓	
Rustic	*Hoplodrina blanda*	2009	Within 1km of sites		✓	✓	
September thorn	*Ennomos erosaria*	2014	Within 1km of sites		✓	✓	
Shoulder-striped Wainscot	*Mythimna comma*	2008	Within 1km of sites		✓	✓	
Two-toned reed beetle	*Donacia bicolora*	2015	Within 1km of sites		✓	✓	
White-letter hairstreak	*Satyrium w-album*	2015	Within 1km of sites		✓	✓	
Mammals							
All bat species			Within 1km of sites	EPS, WCA5	Several species	Several species	
European otter	*Lutra lutra*	2018	Within 1km of sites	EPS, WCA5	✓	✓	
Noctule	*Nyctalus noctula*	2019	Within 1km of sites	EPS, WCA5	✓	✓	

Common name	Scientific name	Most recent year of record(s)	Distance from sites (km)	Legally protected	NERC S41	LBAP	Notes
Pipistrelle spp.	*Pipistrellus*	2020	Within 1km of sites	EPS, WCA5	✓	✓	
Western European hedgehog	*Erinaceus europaeus*	2020	Within 1km of sites		✓	✓	
Plants							
Himalayan balsam	*Impatiens glandulifera*	2019	Within 1km of sites	WCA9			
Japanese knotweed	*Fallopia japonica*	2021	Within 1km of sites	WCA9			
Japanese rose	*Rosa rugosa*	2018	Within 1km of sites	WCA9			
Montbretia	*Crocosmia x crocosmiiflora*	2018	Within 1km of sites	WCA9			
Rhododendron ponticum	*Rhododendron ponticum*	2018	Within 1km of sites	WCA9			
Reptiles							
Slow worm	*Anguis fragilis*	2015	Within 1km of sites	EPS, WCA5	✓	✓	

Invasive Species

4.21 The ecological desktop study identified the following invasive species within 1km of the proposed development:

- Indian (Himalayan) balsam (*Impatiens glandulifera*)
- Japanese knotweed (*Fallopia japonica*)
- Japanese rose (*Rosa rugosa*)
- Montbretia (*Crocosmia x crocosmiiflora*)
- *Rhododendron ponticum*

4.22 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)
- Otter
- Water vole
- Reptiles (all species)
- Hedgehog
- Invertebrates

Extended Phase 1 Habitat Survey

4.23 An extended Phase 1 habitat survey of the sites were accessed in October and November 2023.

4.24 Descriptions of the principal habitats are provided below and are illustrated on Figures 1-5.

4.25 The development areas, habitats within 30m of the sites, and ecological features of interest within 250m of site consists of:

- Broad-leaved woodland (Semi-natural & plantation)
- Scattered trees
- Scrub (Scattered)
- Grasslands (Arable, semi-improved & marshy grassland)
- Tall ruderal
- Water (Standing & running)
- Hedgerow (Species rich & species poor)
- Buildings and structures

4.26 Descriptions of the principal habitat 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.

4.27 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 3: Extended Phase 1 Habitat Survey Target Notes.

Woodland broad-leaved

Semi-natural

4.28 Southeast of Access 3 is a dense area of semi-natural broad-leaved woodland (TN11) which is bounded by common hawthorn (*Crataegus monogyna)*. It continues into the wider landscape across Lea Road and eastwards parallel to the railway. The trees within the woodland appear unmanaged and outgrown and comprise abundant oak species (*Quercus spp.*) and beech (*Fagus sylvatica*), frequent sycamore (*Acer pseduoplatanus*) and elm (*Ulmus procera*), with rare holly (*Ilex aquifolium*). The ground flora is mostly bare but dominated by ivy (*Hedera helix*) and bramble (*Rufus fruticosus*).

Plantation

4.29 East of Access 1 is a small verge of plantation (TN12) situated above Riversway A583 and continues eastwards until it reaches residential development. The woodland is bounded to the east by an area of hardstanding and arable fields to the north, separated by a hawthorn hedge. The trees are young and consist of cherry (*Prunus sp.*) and whitebeam (*Sorbus aria*). This area falls outside of the 30m boundary from Access point 1 and is unlikely to be directly impacted by the works, therefore it is removed from further discussion within this report.

4.30 An area of woodland plantation can be found west of Access 2, situated above Blackpool Road A583 and heading west into the wider landscape. It is a dense mix of trees of varying ages from young to early semi-mature with an open canopy and looks to be unmanaged. Species identified include abundant birch (*Betula pendula*), oak sp., frequent common hawthorn, and rare goat willow (*Salix caprea*), hazel (*Corylus avellana*), Lombardy poplar (*Populus nigra*), ash (*Fraxinus excelsior*), and alder (*Alnus glutinosa*). The ground is densely covered in a bramble scrub layer with elements of hawthorn.

4.31 A small line of young plantation is seen at Access 5, on the verge of Sidgreaves Lane, north of Lancaster Canal where the proposed access is to be developed. The area is bounded by a fence to the west which separates it from the field of semi-improved grassland. The area is recently planted with little succession. This woodland plantation in particular is not of ecological interest as it is so young and recently planted, and is therefore not discussed further within this report.

4.32 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. All four of these woodlands occur in Lancashire, but are often in intimate mixes with each other and other woodland types.

4.33 Woodlands existing since before 1600AD that mainly compromise 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 NPFF (2023) 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.

4.34 The woodlands identified within the sites are not listed as Habitat of Principal Importance, or Ancient Semi-Natural Woodlands (ASNW), but likely qualifies as a Lancashire BAP habitat, and is therefore considered locally valuable habitat.

Scattered Trees

4.35 Scattered trees were frequently found which have been acknowledged within previous surveys associated with the main scheme and formally identified as T11, T12, T13, T14, T15, and T16 mainly found where Access 5 is to be developed. The findings are discussed within Ecology Services Ltd Hoyles Lane Preliminary Ecological Appraisal Report, dated September 2023.

4.36 The survey sites and wider areas contain a large number of scattered trees, in particular within hedgerows and field boundaries, though few are free standing. The trees vary in age and include veteran and mature trees with species such as oak sp., sycamore, ash, alder, elm, beech, horse chestnut (*Aesculus hippocastanum*), and lime (*Tillia cordata*). Many of the trees have developed features suitable for roosting bats and breeding birds. The trees of particular interest are discussed below.

4.37 The proposed haul road between Access 3 and 4 is positioned within 30m of a large sessile oak tree (TN6) which sits north of the haul track, and a brittle dead tree (TN7) which sits directly in the proposed haul route. There is a young sycamore located within Access 4, this was checked during the PEA has no bat roost potential.

4.38 Northeast of Access 2 and east of where the proposed haul road is to be developed, a large mature sessile oak (TN15) is located within a hedge (TN16). This tree is significant as it holds features which offer potential for roosting bats, in particular a large tear out at the base of the crown approximately 3m high. Further south within TN16 and south of the proposed haul road, a single sycamore tree was identified. East of the proposed haul road is a small young group of sycamore trees within the hedge TN14, which sit within a dry ditch and are bounded by vegetation and a fence.

4.39 Ancient / veteran trees are irreplaceable habitats. An ancient tree is exceptionally valuable and can be of importance for its great age, size, condition, biodiversity value (as a result of significant wood decay and the habitat created from the ageing process) and cultural and heritage value. Very few trees of any species become ancient. All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. The National Planning Policy Framework (NPPF) (2023) 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.

Scrub

Scattered

4.40 Scattered scrub was recorded throughout the surveys, in particular a line of scattered scrub lies along the southern boundary between Access 3 and 4 which part of falls into the 30m buffer from the proposed haul route. The scrub separates the field from a public footpath which is adjacent to the trainline. The area is unmanaged and consists of dominant hawthorn, abundant bramble, nettle, frequent rosebay willowherb, occasional dog rose, bracken (*Pteridium spp*), creeping thistle, and rare buckler fern (*Dryopteris dilata*).

4.41 An area of scattered scrub is located south of Access area 7 and contains frequent bramble, occasional goat willow (*Salix caprea*), reed canary-grass (*Phalaris arundinacea*), rosebay willowherb (*Chamerion angustifolium*), common sorrel, common nettle, dandelion (*Taraxacum sp*.), broadleaved dock and cleavers, with rare blackthorn, hawthorn, red fescue (*Festuca rubra*), cock's-foot, gorse (*Ulex europaeus*), and common knapweed (*Centaurea*

nigra). This area is not likely to be impacted by the works as it falls outside the 30m buffer and is therefore removed from further appraisal.

4.42 Scrub is a relatively common habitat; however, it adds to habitat diversity and provides shelter, foraging, and breeding opportunities for a range of fauna.

Grasslands

Arable

4.43 Most of the area surrounding northeast of Access 1 consist of arable fields with no crops or vegetation present, situated above Riversway A583 and continue northwards to meet Savick Brook, which is separated via public footpaths.

4.44 An area north of Access 2 is made up of arable fields, adjacent to the existing road leading up towards Lea Gate Pump Station, which is separated by hedgerow boundaries. An arable field is also seen northeast of Access 2, adjacent to semi-improved grasslands.

4.45 Arable grasslands are typically poorly vegetated, and although arable crops themselves can help to sustain wildlife, the diversity and value of arable cropland as a wildlife habitat is limited. There is likely to be no impact on protected species (other than potentially breeding birds) within this habitat and therefore is removed from any further discussion in this report asides breeding birds.

4.46 Arable field margins can be diverse habitats and are a Habitat of Principal Importance and arable farmland is a Lancashire BAP habitat. A number of plant species dependant on arable land are Species of Principal Importance.

4.47 No arable field margins of Habitat of Principal Importance are present within site; however, the Lancashire BAP arable and horticultural farmland is considered to be present within the development site.

Semi-improved (Species-poor)

4.48 Areas of semi-improved grassland were frequently found during the surveys, most of which are managed by mowing with some associated with agricultural land and grazing cattle. Species included Yorkshire fog (*Holcus lanatus*), broad-leaved dock, creeping buttercup, nipplewort (*Lapsana communis*), rosebay willowherb (*Chamaenerion angustifolum*), perennial rye-grass, meadow foxtail (*Alopecurus pratensis*), broad-leaved plantain, ribwort plantain (*Plantago lanceolata*), red fescue, red clover (*Trifolium pratense*), annual meadow-grass (*Poa annua*), false oat-grass (*Arrhenatherum elatius*), and vetch species (*Vicia sp*).

4.49 The semi-improved grassland areas are not thought to fall into the Habitat of Principal Importance or Lancashire BAP species rich grassland habitat categories.

Marshy grassland

4.50 A small area of marshy grassland is located half way between Access 3 and 4 at the southern boundary of the field. The area is comprised entirely of soft rush and looks to temporarily flood in the wetter seasons.

4.51 Marshy grassland tends to be species-poor and not of high botanical interest but provides habitat diversity and shelter for foraging species including small mammals, reptiles, amphibians, and invertebrates.

Tall ruderal

4.52 Small sections of tall ruderal were scattered within the wider survey areas which consisted of common nettle, hogweed, creeping thistle, greater willowherb (*Epilobium hirsutum*), and broad-leaved dock. It is considered highly unlikely the proposed development will impact upon the areas of tall ruderal habitat, and is likely to redevelop naturally once the area is reinstated following completion of development, as such it is excluded from further appraisal.

Water

Standing

4.53 Standing water was identified in close proximity to where Access 3 is proposed. The pond (P54) is undulated in shape and has a perimeter of 84.7m and covers an area of 402m^2 and looks to be seasonally flooded with a shallow depth of 0.5m. The pond is mostly unshaded with little to no floating vegetation, with occasional flote-grass (*Glyceria fluitans*) and floating starwort (*Callitriche stagnalis*). Water condition is good with low turbidity with no evidence of waterfowl or fish. The surrounding habitat is dominated by soft rush (*Juncus effusus*) with rare hard rush (*Juncus inflexus*) and is poached by cattle.

4.54 Within the wider areas, standing water was frequently found, with most identified within previous surveys and concluded within Appendix 2: Ecology Services Ltd Hoyles Lane Environmental DNA (eDNA) & Habitat Suitability Index Report for Great Crested Newt, dated May 2023 and shown in Figure 6.

4.55 Pond P31 was previously scoped out, however the pond now falls within 250m south of Access Areas 3 and 4 with no physical barriers and was subject to an extended walkover survey. P31 is situated within Ashton and Lea Golf Club and is a medium sized pond, covering a perimeter of approximately 170m.

4.56 Pond 32 is located northeast of Access point 7 and is triangular in shape and has a perimeter of 101m with an area of 478m2. The pond has been identified as part of previous ecological surveys as shown in Ecology Services Ltd Hoyles Lane Preliminary Ecological Appraisal Report, dated September 2023 and Appendix 2, and is therefore excluded from further appraisal within this report.

4.57 Newly identified ponds within 250m of Accesses 3 and 4 were subject to extended surveys and are formally identified as ponds P55, P56, P57, P58, P59, and P60 seen in Figure 6 – Pond Location Plan and described below.

4.58 P55 is a small oval shaped pond situated east of Access 3 in close proximity to residential development and covers an approximate perimeter of 26.4m. The pond is bounded by Lea Road to the west, a football field to the east, a railway line to the south and residential properties to the north. P55 is difficult to access as it is fenced and surrounded by bramble scrub and young trees. The base of pond is comprised of leaf litter with very turbid and low-quality water.

4.59 P56 is north east of Access 3, approximately 209.5m from the site boundary, situated to the east of Westleigh Conference Centre. The pond is large and undulating in shape, covering an approximate perimeter of 167m. The surface area is mostly covered in vegetation with large parts of trees submerged within the water. P56 water quality is moderate and rarely dries, with shallow banks covered in vegetation.

4.60 P57 is north east of Access 3 and sits just within the 250m buffer, approximately 230m from the site boundary and continues further northeast. The pond is elongated in shape and lies within a wooded area within UCLan Sports Arena, surrounded by sporting fields with

Lancaster Canal to the north. A concrete outlet is located towards the north which presumably connects to the canal. There are no obvious presence of waterfowl or fish and the water quality is moderate and clear with a shallow depth less than 0.5m. The surrounding habitat is dominated by a mixture of habitats including scrub, tall ruderal, and scattered trees.

4.61 P58 is approximately 120m east of Access 3, across Lea Road within land used as sports recreation for UCLan Sports Arena. The pond has an approximate perimeter of 74.5m and is circular in shape. The banks have a shallow incline and covered in dense vegetation such as nettle, bramble and bracken, as well as trees which shade 95% of the pond, including species such as hazel, birch, and sycamore. A fence bounds the edge of the pond with a path along the south boundary and sport pitches to the north, east, and west. A concrete outlet in the south associated with P58 indicates the pond never dries with moderate water quality with an absence of waterfowl and / or fish.

4.62 P59 is approximately 100m east of the boundary of Access 3, north of the railway line and eastwards of Lea Road. A dirt track leads up towards the pond which is used as a run off with associated bricked / concrete culverts, and presumably connects to Lady Head Runnel and onwards to Savick Brook in the south. The banks are steep and partly engineered and covered in leaf litter and scrub with some scattered trees.

4.63 P60 is situated approximately 176m east of access 3 and north of the railway line. The pond is small and oval shaped with moderate water quality and little no to aquatic vegetation other than floating leaf litter. The surrounding habitat compromised rough grassland, trees, and scrub. P60 was not fully surveyed due to restricted access of a metal fence surrounding the perimeter.

4.64 Waterbodies within the wider areas which were excluded from extended walkover surveys are due to major physical barriers such as motorways / dual carriageways (not minor roads), major / fast-flowing rivers, or significant built development with no suitable connecting habitat (such as hedgerows or ditches) which separate GCN and other amphibians from the development sites. These are excluded from further appraisal within this report.

4.65 This part of Lancashire supports a particularly high density of ponds and these provide important habitats features generally increasing flora diversity.

4.66 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.

Running Water

4.67 During the survey, a number of sources of running water are found, mainly small drainage ditches associated with agricultural land.

4.68 A cultivated ditch with running water is situated within the area between Accesses 3 and 4 and runs from Lancaster Canal towards the railway line (TN8). The water depth is shallow, approximately less than 0.25m deep and is largely unshaded with steep 45-degree vegetated banks. Species consists of abundant broad-leaved dock, frequent marsh woundwort (*Stachys palustris*), fools' watercress (*Apium nodiflorum*), common nettle (*Urtica dioica*), rosebay willowherb (*Chamaenerion angustifoloium*), occasional soft rush, and rare figwort

(*Schrophularia nodosa*). The running water continues underground presumably into an old brick walled culvert (TN8) positioned on the verge of the dense scrub.

4.69 The botanical value of the watercourses are generally low but they provide valuable diversity of habitats throughout the surveyed areas. These habitats with dense vegetation can provide refuge for a range of wildlife including amphibians, breeding birds, foraging bats, invertebrates, small mammals, and otter / water voles.

4.70 Savick Brook runs adjacent north of both Access Area 1 (approximately 103m) and Access Area 2 (approximately 132m) and is listed as a statutory river, but not as a Habitat of Principal Importance.

4.71 Lancaster Canal is situated less than 50m south of where Access 5 is to be proposed and 0.3km north of Access 4 and is a Biological Heritage Site (BHS) and qualifies as a Lancashire BAP habitat, and is therefore considered a locally valuable habitat.

4.72 Rivers, streams, and drainage ditches can be ecological hotspots that form part of a network of corridors throughout the wider survey area.

Hedgerows

Species poor

4.73 Hedgerows were identified throughout the surveyed areas, in particular south of Access 2 and south of Access 5 which were associated with field and property boundaries and are species poor. They varied in length, age, and quality with parts left unmanaged.

Species rich

4.74 Several intact species rich hedgerows can be seen throughout the sites, mainly associated with field boundaries and are classified as Habitats of Principal Importance and are described below.

4.75 A hedgerow located northwest of Access 1 (TN13) runs downhill to the north until it meets Savick Brook. The hedge is approximately 3m high and 2m wide with an associated ditch on the west side of the hedge. It is fenced and managed by cutting. Species consist of abundant hawthorn, blackthorn, frequent dog rose, and rare elder. The ground flora includes species such as common bent, common nettle, false oat-grass, and common reed (*Phragmites australis*). It is worth noting that Himalayan balsam (*Impatiens glandulifera*) was found present throughout the ditch.

4.76 Two hedges with associated dry ditches run parallel to either side of the semi-improved grassland east of Access 2. Evidence shows the hedges are managed by laying and cutting. The most western hedge (TN16) is situated along a dry ditch. The species include abundant hawthorn, frequent cleavers, locally frequent sycamore, with rare elder and hazel. The grass verge associated with the dry ditch include false oat-grass, Yorkshire fog, cock's-foot (*Dactylus glomerata*), hogweed (*Heracleum sphondylium*), creeping bent (*Agrostis stolonifera*), and red fescue.

4.77 The hedge furthest east is also situated along a dry ditch, which is approximately 2m wide and 1m deep. Species recorded were abundant hawthorn, blackthorn (*Prunus spinosa*), occasional field maple (*Acer campestre*), and rare holly (TN14).

4.78 A species rich hedge sits along the edge of Lea Road, at Access Area 3 (TN10). The hedge is approximately 2m high and 1.5m wide and is managed by cutting. Species include dominant hawthorn, occasional bramble and hazel, with rare elm, ash, and sycamore. The

ground flora is of low ecological value and consists of nettle (*Urtica dioica*), cranesbill (*Geranium sylvaticum*), broad-leaved dock, and curled dock (*Rumex crispus*).

4.79 A species rich hedge line runs down Sidgreaves Lane from the south of the canal up to Access 4 (TN4). It is approximately 3m high and 2m wide, consisting of dominant hawthorn, frequent blackthorn, occasional ivy and hazel, with rare oak spp. and elder (*Sambucus nigra*). A hedge directly adjacent to this on the east side of Sidgreaves Lane (TN5) is approximately 4m high and 2m wide, consisting of dominant hawthorn, frequent blackthorn, occasional dog rose (*Rosa canina*), and rare elder, oak spp. and sycamore. Both hedges are managed by cutting and are mostly continuous with the exception of gaps for fenced gates to access the fields. The ground flora beneath the hedgerows compromise of nettle, cleavers (*Galium aparine*), cow parsley (*Anthriscus sylvestris*), red fescue, common bent (*Agrostis capillaris*), field horsetail (*Equisetum arvense*), vetch spp., garlic mustard (*Alliaria petiolate*), broad-leaved plantain, and false oat-grass.

4.80 North of Access 5 is a species rich hedge (TN1) which acts as a field boundary, and is approximately 3m high and 1.5m wide. Species consist of frequent common hawthorn, locally frequent holly, and occasional ivy, rose sp., and hazel. North of the canal at either side of Sidgreaves Lane is a hedge (TN2) approximately 1.5m high and 1m wide include species such as abundant hawthorn, frequent sycamore, locally frequent blackthorn, and occasional elder, hazel, and ash with mature oaks located within it. Both hedges appear to be managed with species such as ivy, bramble, common nettle, and red campion forming a base for ground flora.

4.81 A species rich hedgerow (TN18) exists on both sides of Darkinson Lane which is located south of the railway line at Access Areas 6A and 6B and continue south to meet access Area 7 and can be seen in Figure 3a and Figure 3b. The hedge species includes frequent common hawthorn, with occasional blackthorn, ivy, and rare hazel, elder, and cherry laurel (*Prunus laurocerasus*). Associated ground flora species include occasional common nettle, Yorkshire fog, red cover, red fescue, with rare cleavers, broad-leaved dock, cock's foot, and cow parsley.

4.82 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. Most of the hedgerows comprise of native species and over 20m in length and will fall under Habitat of Principal Importance.

4.83 Hedgerows 20m or longer 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 it 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).

Buildings and structures

4.84 A brick walled culvert (TN9) is situated between Access 3 and 4 with running water from the cultivated ditch (TN8). It is surrounded by scrub on a verge and bounded by a fence.

4.85 South of Access 5 is a stone bridge associated with Lancaster Canal (TN3). The bridge is in fair condition with some cracks and crevices, with evidence of repair and management.

Protected and Notable Plant Species

4.86 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/scarce/Lancashire key plan species were recorded on the site.

Invasive Plant Species

4.87 The following plant species which fall under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were found during the surveys:

- Indian (Himalayan) balsam (*Impatiens glandulifera*) – Falls under Invasive Alien Species Order 2019
- Japanese rose (*Rosa rugosa*)

Amphibians

4.88 The desktop study found records of amphibians in the form of field records within 1km of the development site. Species include records of common toad (*Bufo bufo*) in 2019 and records of great crested newt (*Triturus cristatus*) in 2020.

4.89 The walkover surveys found a total of 8 ponds within 250m of the proposed development which have the potential to support common toad and GCN, one of which falls within close proximity to Access 3 (P54). The summary of the pond surveys can be seen in Table 3:

Table 3: Summary of ponds Habitat Suitability Index (HSI) Scores

Pond number	HSI score	Pond suitability
P31	0.35	Poor
P54	0.59	Below average
P55	0.68	Average
P56	0.84	Excellent
P57	0.68	Average
P58	0.70	Good
P59	0.32	Poor
P60	0.58	Below average

4.90 Other waterbodies not included within this report have been identified within previous surveys associated with the main pipeline project as seen in Ecology Services Ltd Hoyles Lane Preliminary Ecological Appraisal Report, dated September 2023, further details can be found in Appendix 2: Ecology Services Ltd Hoyles Lane Environmental DNA (eDNA) & Habitat Suitability Index Report for Great Crested Newt, dated May 2023.

4.91 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).

4.92 Common toad and great crested newt are Species of Principal Importance listed under the NERC Act 2006. Common toad, common frog and great crested newt are Lancashire BAP species.

Badger

4.93 The desktop study (NBN commercially available records only) found no records of badger (*Meles meles*) within 1km of the development site.

4.94 No confirmed signs of badger were recorded within the sites or within the 30m buffer of the site, where access was available and habitats was suitable. Habitats within site and the surrounding area offer potential to support badger, in particular the scrub adjacent to the railway embankment along the southern boundary the area between Access 3 and 4, and the broad-leaved woodlands (TN11 and TN17) throughout the sites could provide areas for sett building, however these areas were inaccessible due to dense vegetation and health and safety.

4.95 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

4.96 The desktop study found bats within 1km of the development site.

4.97 There are habitats throughout the sites which provide suitable features for bat roosting habitats (TN2, TN3, TN4, TN5, TN6, TN7, TN9, TN11, TN14, TN15, and TN17).

4.98 Commuting and foraging bats can use habitats such as rivers / streams, canals, ponds, scrub, hedgerows, and trees which can be found throughout all the site areas, as well as the wider survey areas. These habitats are considered ideal for bats to commute and forage via linear features and is therefore highly likely for bats to be present within the survey areas.

4.99 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*). Brandt's bat, Daubenton's bat, whiskered bat, Natterer's bat, noctule bat, common pipistrelle and brown long-eared bat are Lancashire BAP species. 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).

Birds

4.100 The desktop study found numerous records of birds within 1km of site as seen in Table 2.

4.101 The development sites provide a range of habitats suitable for breeding birds, in particular the scattered trees, scrub, hedgerows, and woodlands.

4.102 Habitats within the survey areas and wider habitats, such as arable grasslands, provide feeding and foraging opportunities for overwintering birds.

4.103 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.

Otter

4.104 The desktop study found records of otter within 1km of sites from 2019 within Savick Brook.

4.105 No evidence of otter was identified within the sites or the 30m boundary during the PEA. The habitats within site and the wider areas provide potential to support otter, in particular the culvert, canal, ponds, scrub, and woodland provide suitable refuge / laying up areas / holt habitat. The watercourses for the whole scheme were previously surveyed for otter and confirmed the presence of otter in the survey area. Refer to Ecology Services Ltd. Hoyles Lane Otter Survey Report, dated October 2023.

4.106 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 and a Lancashire BAP species.

Water Vole

4.107 The desktop study found no records of water vole (*Arvicola amphibius*) within 1km of the development site (NBN commercially available records only).

4.108 Habitats which contain slow-moving water and vegetated banks such as drainage ditches, ponds, and brooks are considered to have potential to support water voles and can be found within site or close proximity of site. Savick Brook and other watercourses was previously surveyed for the larger scheme and found no evidence of water vole as seen in Ecology Services Ltd. Hoyles Lane Water Vole Survey Report, dated October 2023.

4.109 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 and a Lancashire BAP species. Water vole is considered to be endangered in Britain and England in the Red List for Britain's Terrestrial Mammals (Mathews and Harrower, 2020).

Reptiles

4.110 The desktop study found records of slow worm in 2018 within 1km of the development site.

4.111 Habitats observed within site and the wider survey which are considered to support reptile species include grassland, scrub, woodland, and rivers. These habitats are considered to be suitable to support the more common reptile species such as slow worm (*Anguis fragilis*), grass snake *(Natrix natrix)* and common lizard (*Zootoca vivipara*).

4.112 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, smooth snake, sand lizard, grass snake, adder and common lizard are Species of Principal Importance and grass snake, adder and common lizard are Lancashire BAP species.

Hedgehog

4.113 The desktop study found records of hedgehog (*Erinaceus europaeus*) within 1km of the development sites.

4.114 The sites and wider areas contain habitats which are suitable to support hedgehog, such as scrub, hedgerows, grassland, and woodland for foraging and hibernation.

4.115 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. Hedgehog is also a Lancashire BAP species.

Invertebrates

4.116 Valuable habitats within site and the surrounding area offer suitability to support invertebrates, such as mature and veteran trees, scrub, hedgerows, and woodland.

5.0 Impacts and Recommendations

5.1 The National Planning Policy Framework (NPPF) (2023) 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 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:

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

All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures.

Infrastructure

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

Wind & Solar Energy

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

Minerals, Oil & Gas

Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.

Rural Non Residential

Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.

Residential

Residential development of 10 units or more.

Rural Residential

Any residential developments outside of existing settlements/urban areas with a total net gain in residential units.
Air Pollution
Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).
Combustion
General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
Waste
Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.
Composting
Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
Discharges
Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.
Water Supply
Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.
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

5.4 Natural England have been consulted via their Discretionary Advice Service (DAS) and a Habitat Regulations Assessment has been undertaken for the whole scheme and access and haul roads. Please refer to Ecology Services Shadow Habitat Regulations Assessment, dated November 2023 and the Assessment of Likely Significant Effect, also dated November 2023.

Habitats Impacts and Recommendations

5.5 The survey identified several Habitats of Principal Importance, namely species rich hedgerows entirety (TN1, TN2, TN4, TN5, TN10, TN13, TN14, TN16, and TN18) and Local BAP Habitats arable farmland, broad-leaved woodland, plus rivers and streams.

5.6 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.

5.7 In addition to this, habitats were identified that were suitable to support protected species and Species of Principal Importance and existing records should be consulted to provide additional information upon their distribution locally.

5.8 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. For all habitat works, please refer to the relevant species section prior to works.

Broad-leaved woodland – Semi-natural and Plantation

5.9 The access and haul roads do not appear to directly impact woodland areas and but they are in close proximity in certain areas. The following measures should be followed:

- Any works near to woodland or plantation 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.

Scattered Trees

5.10 The access and haul roads do not appear to directly impact mature, semi-mature and young trees within but they are in close proximity to trees. If any trees are affected the following measures shall be implemented:

- Impacts to trees should be minimised where possible and trees to be retained will require adequate provision for root protection prior to any works.
- 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).
- The works should be carried out according to BS 5837:2012 Trees in relation to design, demolition and construction.
- Any development which results in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) will be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists.
- If the scope changes, and there is a loss of scattered trees to development then mitigation works should be undertaken to replace trees on a minimum like for like basis to ensure that there is no net loss of biodiversity at the site. Tree species should be native and of local provenance.
- If the scope changes and trees are to be impacted by the proposed development, then tree dwelling species such as breeding birds and roosting bats should be taken into consideration.

Scrub

5.11 It is recommended that scrub is retained where possible and areas of dense scrub should be retained and protected. If this is not possible, then areas of land should be set aside and not managed to allow scrub succession to naturally re-develop. Alternatively, compensatory scrub planting should be provided.

5.12 Currently, the works from the access points do not appear to directly impact any scrub habitat, however, the proposed haul road between Access 3 and 4 may affect the scattered scrub on the southern boundary of the field. If any works are to be within scrub habitat, then protected and priority species should be taken into account prior to works, including avoiding breeding bird season.

Grasslands

5.13 Species poor semi-improved grassland does not require any particular conservation measures above and beyond adoption of good working practice to minimise overall impact and to return the site to as good a condition as it was prior to the works.

5.14 It is recommended that the temporary haul route is realigned if required to avoid impacting the area of marshy grassland seen between Access 3 and 4, however due to the size of the habitat, it is unlikely for the temporary development to make an ecological impact of the overall area. Once works are completed, the marshy grassland is to be reinstated.

5.15 Any works within grassland habitat may need to take into account protected and priority species prior to works.

Water - Standing

5.16 The retention of ponds, and associated habitats is important. Subject to fulfilling certain criteria, ponds are a Habitat of Principal Importance. The proposed developments may indirectly impact standing water habitats such as P54 south of Access 3 and Lancaster Canal south of Access 5, and therefore the following need to be implemented to ensure protected species are taken into consideration:

- It is recommended that alternative options are reviewed to minimise disturbance to ponds and ditches.
- If a pond is to be disturbed a Full Pond Survey should be undertaken prior to any works to advise any mitigation measures. Full implementation of appropriate working methods and mitigation procedures should be stated, and works, if necessary, should be carried under the supervision of a trained ecologist.
- Any work on ponds should take full account of protected species such as water vole, otter, amphibians and aquatic invertebrates.

5.17 When working close to water bodies, appropriate pollution prevention measures must be implemented, prior to any works to ensure their protection. 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.

Water - Running

5.18 The proposed access points do not directly impact the ditches seen throughout the surveyed areas. However, the haul roads may affect the watercourses which are of ecological value in providing a wildlife corridor by offering suitable habitat for foraging bats, refuge for invertebrates, and potential water vole use. Therefore, the following should be taken into consideration:

- Retention or enhancement of naturalness is an important consideration at ditch / river crossing points and appropriate Environment Agency/Local Planning Authority consents should be sought.
- Where alien invasive plants are encountered, appropriate management procedures will need to be implemented (see Invasive Plants).
- If a watercourse is affected then further water vole surveys may be required.

5.19 Savick Brook is located in the wider area and though works is temporary, it is worth bearing in mind the following.

5.20 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 1981 and the Salmon and Freshwater Fisheries Act 1975.

5.21 Under the terms of the Environmental Permitting (England and Wales) Regulations 2016 (as amended), 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.

5.22 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, 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 – Species rich

5.23 Hedgerows which are considered as species rich in its entirety (TN1, TN2, TN4, TN5, TN10, TN13, TN14, TN16, and TN18) are classified as Habitats of Principal Importance and it is recommended if these are affected, then an assessment as to whether or not it constitutes an 'important' hedgerow under the Hedgerow Regulations 1997 should be carried out.

5.24 Removal of a hedgerow as defined as under the Regulations is only permitted (subject to certain exceptions as detailed in the Regulations) where the LPA has been notified and given its consent or the notice period has expired. The LPA cannot refuse permission to remove a hedgerow which does not qualify as 'Important'. In respect of 'Important' hedgerows, the LPA will decide if the circumstances justify the removal. Unless satisfied that removal of an 'Important' hedgerow is justified, the LPA must refuse permission and they will issue a Hedgerow Retention Notice to say that removal of the hedgerow is prohibited. Removal of a hedgerow without submitting a hedgerow removal notice to the LPA is permitted where planning permission has been granted or is deemed to have been granted, except development in most cases for which permission is granted under permitted development rights.

5.25 If hedgerow removal is unavoidable, compensatory hedgerow planting should 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 could help offset any hedgerow loss and provide ecological enhancement. There is also opportunity to enhance existing hedgerows by planting up gaps, planting trees, and increasing species diversity.

5.26 Any works near hedgerows should be carried out with adequate provision for root protection.

5.27 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.

Buildings and structures

5.28 Any works which may impact the bricked culvert (TN8) and / or the stone bridge over Lancaster Canal (TN3) will need to take into account any protected and priority species prior to works, in particular roosting bats. Please refer to the relevant species section prior to works.

Invasive Plant Species

Himalayan balsam

5.29 Himalayan balsam was observed within a hedge west of access area 1 within an associated ditch (TN13) and observed at a patch indicative of Himalayan balsam west of permitted development access area 7 (TN19). This is a Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and falls under the Invasive Alien Species Order 2019. If works are to impact this area, then measures made to prevent spread of this species are required in the form of a method statement which is agreed prior to works being undertaken and will be implemented throughout the development.

Japanese rose

5.30 Japanese rose was found within a hedge west of permitted development access area 2 (TN17). This is an undesirable non-native species and a Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The scope of works at access point 2 is not currently anticipated to impact the Japanese rose, however if proposals change and disturbance is

unavoidable then an appropriate method statement will need to be agreed and implemented to prevent the spread of this invasive weed.

Summary

5.31 This report covers the Access points 1-7 and the Haul Roads. The following table summarises the ecological impacts on habitats for each Access that requires planning permission, Access 3 and 4, Access 5, Access 6A and 6B and Access 1.

Table 4: Overview of ecological impacts (Habitats) for Access Areas 1, 3, 4, 5, 6A and 6B

Planning application	Access point	Ecological impacts (Habitats)
PA1	3	• Neutral semi-improved poor grassland to be reinstated upon completion of works. • Species rich hedgerow (TN10) is a Habitat of Principal Importance and if impacted, a Hedgerow Regulations Assessment 1997 is required to determine if this hedgerow is important. The hedgerow shall be fully reinstated upon completion of the works in line with Section 5.26. • If works are to impact body of water P54 then the guidance should be followed in line with Section 5.16 – 5.17.
	4	• Neutral semi-improved poor grassland is impacted, reinstate upon completion of works • Species rich hedgerows (TN4 and TN5) are both a Habitat of Principal Importance and if impacted, a Hedgerow Regulations Assessment 1997 is required to determine if the hedgerows are important. The hedgerows shall be fully reinstated upon completion of the works in line with Section 5.26. • Trees that require suitable tree root protection to avoid indirect impacts, in line with BS 5837:2012.
PA2	5	• Neutral semi-improved poor grassland is impacted, reinstate upon completion of works. • Access point contains a newly planted hedgerow, that will be reinstated upon completion of works. • Species rich hedgerows (TN1 and TN2) are both a Habitat of Principal Importance and if impacted, a Hedgerow Regulations Assessment 1997 is required to determine if these hedgerows are important. The hedgerow shall be fully reinstated upon completion of the works in line with Section 5.26. Close to works require protection.
PA3	6A / 6B	• Neutral semi-improved poor grassland is impacted, reinstate upon completion of works. • Species rich hedgerow (TN18) is a Habitat of Principal Importance and if impacted, a Hedgerow Regulations Assessment 1997 is required to determine if this hedgerow is important. The hedgerow shall be fully reinstated upon completion of the works in line with Section 5.26.
PA4	1	• Arable land to be reinstated upon completion of works.

Species Impacts and Recommendations

5.32 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.

5.33 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

5.34 The original scheme was subject to eDNA samples of all ponds located within 250m of the works. The access and haul road locations were not known at that time and therefore have not been subject to amphibians surveys.

5.35 To adhere to current legislation and to fully inform the planning application, amphibian presence / absence surveys are to be undertaken in the form of eDNA sampling for all 8 ponds within the site and within 250m of site (P31, P54, P55, P56, P57, P58, P59, and P60) as shown in Figure 6: Pond Location Plan.

5.36 The information from these surveys is required before a full evaluation of the development and impacts on amphibians can be made.

5.37 Suitable aquatic and terrestrial habitats exist within 250m of the proposed development and there are no features that separate the site from such habitats.

5.38 It is an option, if time permits, the ponds that have not been subject to eDNA could be undertaken to provide baseline data for the District Level Licence (DLL) application.

5.39 If great crested newts or common toad are present and will be impacted by the proposed development, the Local Planning Authority will need to agree and approve a mitigation strategy for the protection of such species prior to the granting of planning permission. If great crested newts are found at the site a European Protected Species (EPS) development licence will be required to legally permit the development, prior to any works commencing, which can only be applied for once planning permission has been granted. There are timing implications in relation to implementation of amphibian mitigation and obtaining an EPS licence, should one be required.

5.40 EDNA surveys of all ponds located within the larger scheme have been undertaken which have advised a District Level Licence (DLL) application to Natural England, this has been approved and granted. During the initial stages of the consultation, Natural England confirmed that the DLL licence could be extended to include the Accesses and Haul Roads. Due to timing constrains the options selected is to extend the existing DLL licence under the District Level Licensing Scheme[2] which avoids the need to undertake surveys or plan and carry out mitigation works.

5.41 If high numbers of common toad are found during the works, the contractors shall inform the acting ecologist for further advice upon mitigation options.

Badger

5.42 Although no signs of badger were recorded within the site or within 30m of the site, habitats suitable to support badgers are present on site and within the wider survey area.

5.43 A guideline distance of 30m from any active sett provides an indication of the potential for disturbance to badgers. No badger setts were found within the proposed development site or the surrounding 30m boundary and no badger pathways or any other signs were observed throughout the survey area.

[2] https://www.gov.uk/government/publications/great-crested-newts-district-level-licensing-schemes

5.44 However, habitats are considered suitable to support badger within the survey area and as badgers can be highly transient, as best practice it is recommended that a pre-development badger survey is undertaken immediately prior to development works.

5.45 As best practice any development 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

5.46 Habitats that may contain potential roosting habitats are found within TN2, TN3, TN4, TN5, TN6, TN7, TN9, TN11, TN14, TN15, and TN17 on the extended Phase 1 habitat survey maps shown in Figures 1-5. The development does not directly or indirectly impact any trees.

5.47 The development haul road crosses the Lancaster Canal (TN3), this is a road and will be used for vehicles. No works on the bridge are proposed and therefore no direct or indirect impacts are envisaged.

5.48 Trees with bat roost potential that are not directly affected shall be subject to tree root protection, which will provide a buffer against indirect impacts such as noise and vibration. Machinery shall be selected in sensitive areas that minimise noise and vibration.

5.49 If this cannot be achieved or the scope of works change, then the trees shall require further inspection and assessment to fully determine their level of bat roost potential which will also determine the requirement for further presence / absence activity surveys.

5.50 Any further bats survey should follow the Bat Conservation Trust's bat surveys good practice guidelines (2023) at a suitable time of year.

5.51 The wider survey area contains habitats that are considered ideal for bat species including roosting and foraging habitats. Therefore, it is highly likely that bats are present within the survey area and features such as hedgerows, watercourses etc. should be retained if possible. Works affecting such features should be kept to a minimum and habitats reinstated on completion of works.

5.52 Bats are a material planning consideration; therefore, the Local Planning Authority will require adequate surveys to fully inform any planning application at the site, including an inspection and assessment survey and activity surveys, if the scheme changes and these are required.

Breeding Birds

5.53 The development proposals include potential impacts to grasslands, scrub, hedgerows, and possibly trees which are likely to be used by breeding birds.

5.54 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.

5.55 Options to avoid disturbance for Schedule 1 species will need implementing if a Schedule 1 species, is found to be present on site.

Otter

5.56 The survey has identified a number of features within the site and wider survey area suitable to support otter such as woodland and scrub in close proximity to several ponds and watercourses that might provide otter with holt habitat or temporary refuge and laying up areas. Although, no particular otter holt (underground/above ground) or resting sites were identified during the PEA. Otters were found to be present within the otter survey for the larger scheme so are known to be in the local area.

5.57 These best practice measures shall be incorporated into Contractors Method Statements, include the following measures:

- All contractors shall be made aware of the presence of otters at the site, their legal status, potential impacts and the following measures as part of Bethel standard site inductions.
- All proposed works should be limited to daylight hours; otters are primarily a nocturnal species and therefore disturbance is more likely during the night time.
- All excavations on site should be covered overnight to prevent otters from falling in and being injured or trapped. Excavations should then be checked prior to works commencing each morning by an assigned member of staff on site.
- If any excavations must remain open overnight, it is recommended that access ramps are installed each night to allow any animals that accidently fall in to the excavation a means of climbing out. These can be roughened planks of wood or even a ramp of earth.
- Daily checks of any excavation should be made by construction staff prior to commencing work to ensure that no otters or other animals have become trapped in the excavations. Should a trapped otter be found within the works, Ecology Services Ltd should be immediately contacted for advice.
- Consideration should be given to the placement of any topsoil storage or piles of materials that may create mounds suitable for temporary holt creation. Pipes should be blocked. Any such piles should be checked on a daily basis by construction staff to ensure that no animal activity has taken place. If potential otter activity is suspected, works in that area should cease and the advice of an ecologist sought.
- Watercourses should not be subject to any light pollution.
- All works should ensure that they adhere to best practice ant-pollution measures especially if there is any water discharged into watercourses.
- All works should remain within the proposed site boundaries.

5.58 It is not anticipated the current scope of works are to directly impact areas which offer potential to support otter as the proposed development is relatively small and temporary. Therefore, there are currently no implications regarding otters to the proposed Accesses and Haul Roads.

5.59 If proposals are to change and impact suitable otter habitats(s) or evidence of otter is found during the works, then advice should be sought from a professional Ecologist.

Water Vole

5.60 Habitats suitable to support water vole were located at various locations throughout the site, including cultivated ditches (TN8 and TN13), brooks, and areas of standing water (P54).

5.61 If the development affects suitable water vole habitat (incl. 5m from the toe of the watercourse bank, Dean et. al. 2016), a water vole presence/absence survey will be required.

5.62 From reviewing the plans, there are no waterbodies close to the Accesses and the location of the Haul Road can be realigned to avoid impacting. Therefore, there are no apparent implications regarding water vole and the proposed works.

5.63 If proposed works change and suitable water vole habitat is affected (incl. 5m from the toe of the watercourse bank, Dean et. al. 2016), a water vole presence / absence survey will be required.

Reptiles

5.64 Areas of the site contain potential to support the more common reptile species. To prevent killing and injury to these species (if present) the following will be undertaken:

- A tool box talk will be given to the principal contractor, to inform them of the potential presence of slow worm. The tool box talk will include species identification and what to do should a slow worm be found during works. The tool box talk will be undertaken by a suitably experienced ecologist. The principal contractor will relay the information to other staff members.
- The ground vegetation within the working area will be strimmed to a height of 150mm, to reduce the value of terrestrial habitats within the development site. Scrub shall also be cut down to stump level. This should be undertaken during the active season for reptiles mid-March through to October/ November when temperatures regularly exceed 5˚C overnight. All arisings shall be removed to remove cover and encourage reptiles to naturally relocate from the site during suitable weather conditions.
- After 24 hours, a walkover survey shall be undertaken by the ecologist to ensure the strimming has been carried out to the specified height and to check any remaining areas providing cover for reptiles. This will then be followed immediately by a low strim or mowing to ground level, which will render the site unsuitable for reptiles.
- Any reptiles found during the development phase shall be carefully relocated by an ecologist to a similar habitat to which they were found away from the working area.
- The contractor shall pay close attention to any excavations prior to infilling. Ideally a ramp should be left in excavations overnight to allow reptiles to escape.
- The contractor shall reduce the amount materials that create suitable cover on site for reptiles, being careful when lifting/moving materials which reptiles could have sought shelter under.
- If reptiles are found during the development works, all works must stop and the acting ecologist shall be contacted for further advice.

Hedgehog

5.65 No evidence of hedgehogs was found on site however their presence is likely. This is a Species of Principal Importance and the following measures will be implemented.

- Removal of suitable hibernation habitat (e.g., dense scrub) 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.

Invertebrates

5.66 The proposed development will only have minor and temporary impacts and measures proposed to mitigate impacts on ecologically valuable habitats will minimise impacts on invertebrates.

Invasive species

5.67 Himalayan balsam and Japanese rose were found during the surveys. To prevent the spread of invasive species due to development, it is recommended that a contractors method statement is agreed prior to works being undertaken and implemented throughout the development.

Summary

5.68 This report covers the Access points 1-7 and the Haul Roads. The following table summarises the ecological impacts on species for each Access that requires planning permission, Access 3 and 4, Access 5, Access 6A and 6B and Access 1.

Table 5: Overview of ecological impacts (Species) for Access Areas 1, 3, 4, 5, 6A and 6B

Planning application	Access point	Ecological impacts (Species)
PA1	3	• Amphibians – Great crested newts present in the local area and may use ponds located within 250m (shown in Figure 6). Works to be undertaken as amended District Level License (DLL). • Amphibians – If high numbers of common toad are found, contact ecologist for advice. • Badger – Pre-development badger survey. • Breeding birds – Nesting birds, adherence to Section 5.54 – 5.55. • Otter – Adherence to measures stated in Section 5.57. • Reptiles – Adherence to section 5.64. • Hedgehog – Adherence to Section 5.65.
	4	• Amphibians – Great crested newts present in the local area and may use ponds located within 250m (shown in Figure 6). Works to be undertaken as amended District Level License (DLL). • Amphibians – If high numbers of common toad are found, contact ecologist for advice. • Badger – Pre-development badger survey. • Bats – If bat potential habitats to be impacted then measures to be put in place to avoid indirect impacts as stated in Section 5.47. If works unavoidable then further surveys required as shown in Section 5.48 – 5.52. • Breeding birds – Nesting birds, adherence to Section 5.54 – 5.55. • Otter – Adherence to measures stated in Section 5.57. • Reptiles – Adherence to section 5.64. • Hedgehog – Adherence to Section 5.65.
PA2	5	• Amphibians – Great crested newts present in the local area and may use ponds located within 250m (shown in Figure 6). Works to be undertaken as amended District Level License (DLL). • Amphibians – If high numbers of common toad are found, contact ecologist for advice. • Bats – If bat potential habitats to be impacted then measures to be put in place to avoid indirect impacts as stated in Section 5.47. If works unavoidable then further surveys required as shown in Section 5.48 – 5.52. • Breeding birds – Nesting birds, adherence to Section 5.54 – 5.55. • Otter – Adherence to measures stated in Section 5.57. • Reptiles – Adherence to section 5.64. • Hedgehog – Adherence to Section 5.65.

PA3	6A / 6B	• Amphibians – Great crested newts present in the local area and may use ponds located within 250m (shown in Figure 6). Works to be undertaken as amended District Level License (DLL). • Amphibians – If high numbers of common toad are found, contact ecologist for advice. • Breeding birds – Nesting birds, adherence to Section 5.54 – 5.55. • Otter – Adherence to measures stated in Section 5.57. • Reptiles – Adherence to section 5.64. • Hedgehog – Adherence to Section 5.65.
PA4	1	• Badger – Pre-development badger survey. • Breeding birds – Ground nesting birds, adherence to Section 5.54 – 5.55. • Otter – Adherence to measures stated in Section 5.57. • Hedgehog – Adherence to Section 5.65. • Invasive species – Himalayan balsam (TN13) to refer Contractor's method statement as stated 5.67.

Other Recommendations

Working Close to Water

5.69 The proposed development site is in close proximity to drainage ditches and water courses and it is therefore important that suitable pollution prevention measures are implemented, prior to any works.

5.70 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.

Wildlife Friendly Landscape Proposals

5.71 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, scrub, hedgerows and scattered trees. All loss should be replaced on a minimum like for like basis and the proposals should seek 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.

Enhancement Recommendations & Biodiversity Net Gain

5.72 The haulage road works are fall under permitted development and therefore need to adhere to any United Utilities policies on Biodiversity Net Gain (BNG) and shall be fully reinstated.

5.73 The Access areas require planning permission, in line with national planning policy new developments should integrate opportunities to improve biodiversity, which includes schemes with temporary impacts, where habitats cannot be fully restored within two years, BNG will still apply. It has been confirmed that habitats will either be fully restored within two years of the works commencing. There are a couple of access points where residential housing has been granted planning permission, if these sites commence their development before habitats are reinstated, then the habitat reinstatement will fall under their planning obligations in relation to BNG.

Report Validity

5.74 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).

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The European Union (Withdrawal) Act 2018 (as amended)

Figure 1:
Planning Application 1 - Access 3 and 4

Figure 2:
Planning Application 2 - Access 5

Figure 3a:
Planning Application 3 - Access 6A and 6B

Figure 3b:
Access 7 (No planning application)

Figure 4:
Planning Application 4 - Access 1

Figure 5:
Access 2 (No planning application)

Figure 6:
Pond Location Plan

Figure 7:
Access 1

Figure 8:
Access 2

Figure 9:
Access 3 and 4

Figure 10:
Access 5

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:
Ecology Services Ltd Hoyles Lane Environmental DNA (eDNA) & Habitat Suitability Index Report

Appendix 3:
Extended Phase 1 Habitat Survey Target Notes

TN1
North of Access 5 is a species-rich hedge which acts as a field boundary between the semi-improved fields and is approximately 3m high and 1.5m wide. The hedge is managed by cutting and include species such as frequent common hawthorn, locally frequent holly, and occasional ivy, rose sp., and hazel. Species such as ground flora includes ivy, bramble, common nettle, and red campion form a base for ground flora.

TN2
North of the canal at Access 5 is a species-rich hedge either side of Sidgreaves Lane. It is managed and approximately 1.5m high and 1m wide consisting of species such as abundant hawthorn, frequent sycamore, locally frequent blackthorn, and occasional elder, hazel, and ash with mature oaks located within it. Associated ground flora is similar to that of TN1.

TN3
A stone bridge associated with Lancaster Canal is located south of Access 5. It is in fair condition with cracks and crevices but with evidence of maintenance and repair works.

TN4
A species-rich hedge runs along the western side of Sidgreaves Lane, south of Lancaster Canal until it meets Access 4. It is approximately 3m high and 2m wide, consisting of dominant hawthorn, frequent blackthorn, occasional ivy and hazel, with rare oak spp. and elder. It is managed by cutting and is mostly continuous with the exception of gaps for fenced gates to access the fields. Associated ground flora species comprise of nettle, cleavers, cow parsley, red fescue, common bent, field horsetail, vetch sp., garlic mustard, broad-leaved plantain, and false oat-grass.

TN5
A species-rich hedge directly adjacent to TN4 runs along the eastern side of Sidgreaves Lane, south of Lancaster Canal until it meets Access 4. It is approximately 4m high and 2m wide, consisting of dominant hawthorn, frequent blackthorn, occasional dog rose, and rare elder, oak spp. and sycamore. It is managed by cutting and consists of ground flora similar to TN4.

TN6
A sessile oak tree is situated between Access 3 and 4, adjacent to TN6 within the semi-improved grasslands.

TN7
A brittle / dead tree sits between Access 3 and 4, adjacent to TN5 within the semi-improved grasslands.

TN8
Between Access 3 and 4 on the southern boundary, a cultivated ditch with running water runs downwards from Lancaster Canal to the south and connects to Savick Brook. The ditch has steep 45-degree banks form part of the semi-improved grasslands and runs underground towards the culvert at the south of site (TN6). The ditch is largely unshaded with a shallow water depth less than 0.25m. The surrounding vegetation include abundant broad-leaved dock, frequent marsh woundwort, fools' watercress, nettle, and rosebay willowherb, with occasional soft rush and rare figwort.

TN9
An old culvert with running water lies between Access 3 and 4. The culvert is bricked and fenced and sits below a steep bank between the semi-improved grassland and public footpath adjacent to the railway line.

TN10
A species-rich hedgerow runs along the border of Lea Road, situated where Access 3 is proposed. The hedge species consist of occasional hazel and bramble, with rare elm, ash, and sycamore. The hedge has evidence of being managed by cutting and is approximately 2m high and 1.5m wide and acts as a property boundary to the semi-improved grasslands and Lea Road. The ground flora below is of lower ecological value including species such as nettle, cranesbill, broad-leaved dock, and curled dock.

TN11
A semi-natural broad-leaved woodland is located within the south east of Access 3 and continues northeast across Lea Road. The area appears to be unmanaged and bounded by a fence and outgrown hawthorn. Species compromise of abundant oak spp., and beech, frequent sycamore and elm, with rare holly. The ground flora is bare but dominated by ivy and bramble.

TN12
A broad-leaved woodland plantation is located within the east of Access 1 as part of a verge and continues outside the boundary along Riversway A583. The trees are young and newly planted, consisting of cherry and whitebeam.

TN13
A species-rich hedgerow which is approximately 3m high and 2m wide with an associated ditch on the west side of the hedge running downhill to the north until it mees Savick Brook. The hedge is fenced and managed by cutting. Species consist of abundant hawthorn, blackthorn, frequent dog rose, and rare elder. The ground flora species include comment bent, common nettle, false-oat grass, and common reed. Himalayan balsam was found present throughout the ditch approximately halfway down.

TN14
There is a species-rich hedgerow along the eastern border of Access 2 which acts as a field boundary to the arable field to the east. Species include abundant hawthorn and blackthorn, occasional field maple and oak spp., with rare holly. This hedge runs along an associated dry ditch which is approximately 2m wide and 1m deep.

TN15
A large mature sessile oak tree is found within hedge TN16. A major feature of the tree is a large tear out at the base of the crown approximately 3m up facing south.

TN16
A species-rich hedgerow is located east of Access 2 separating the arable fields to the west and semi-improved grasslands to the east. The hedge approximately 2m high and 1m wide and is managed with evidence of laying and cutting. Species include abundant hawthorn, locally frequent sycamore, and rare elder and hazel. The hedge is situated along a dry ditch with associated ground flora compromising cleavers, false oat-grass, Yorkshire fog, cock's-foot, hogweed, creeping bent, and red fescue.

TN17
Japanese rose was identified on the edge of the plantation woodland, west of Access 2.

TN18
Species-rich hedgerows located on both sides of Darkinson Lane located south of the railway line.

TN19
There are remains of the previous year's Himalayan balsam growth located at the midpoint of the site where Darkinson Lane meets the new Preston Western Distributor Road layout.

Appendix 4: Photographs

	
Access 5: TN1 – Species-rich hedgerow	Access 5: Scattered trees within semi-improved grasslands bounded by hedges
	
Access 5: Small line of plantation	Access 5: Gate and bareground track

Access 5: TN2 – Species-rich hedgerow

Access 5: TN2 – Scattered trees within hedge

Access 5: TN2 – Scattered trees within hedge

Access 5: TN3 – Stone canal bridge

Access 5: TN3 – Stone canal bridge feature

Access 5: TN3 – Stone canal bridge feature

Access 5: Species-poor hedge and scrub west side of canal

Access 5: Scrub east side of canal

TN4/5 – Species-rich hedges along Sidgreaves Lane

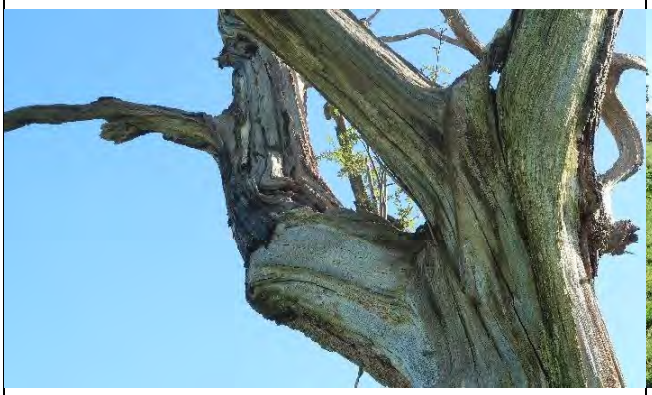
TN4/5 – Species-rich hedgerows along Sidgreaves Lane

Access 4: TN4 – Scattered trees within hedgerow west side of Sidgreaves Lane

Access 4: Scattered trees east side of Sidgreaves Lane

Access 3/4: TN6 – Mature oak tree

Access 3/4: TN7 – Dead tree



Access 3/4: TN7 – Dead tree feature

Access 3/4: TN8 – Cultivated ditch

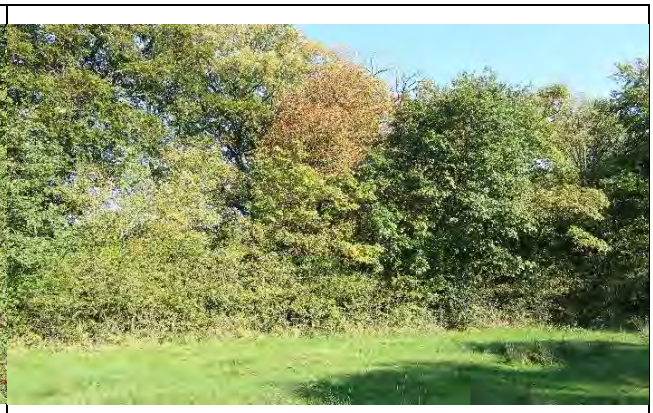
Access 3/4: TN9 – Bricked culvert

Access 3/4: Line of scattered trees and scrub adjacent to railway

Access 3: P54

Access 3: Marshy grassland

Access 3: TN10– Species-rich hedge



Access 3: TN11 – Broad-leaved woodland

Access 1: TN12 – Woodland plantation from Bloor site access road

Access 1: TN13 – Species-rich hedge and associated ditch where Himalyan balsam is located

Access 1: Arable fields

Access 2: TN14 – Species-rich hedge

	
Access 2: TN14 – Scattered trees within hedge	Access 2: TN15 – Mature oak sp. within TN16
	
Access 2: TN16 – Species-rich hedge	Access 2: TN17 – Plantation woodland where Japanese rose is located

	
Access 6A/6B: TN18 – Species rich hedge(s)	Access 7: TN19 – Remnance of Himalyan balsam
	
Pond 31	Pond 31

Pond 32

Pond 54

Pond 54

Pond 55

Pond 56

Pond 56

Pond 57

Pond 57 stone culvert

Pond 58

Pond 59

Pond 60

See separate reports.

Appendix 5:
Ecology Services Ltd Hoyles Lane Assessment of Likely Significant Effect

Appendix 6:
Ecology Services Ltd Hoyles Lane Shadow Habitat Regulations Assessment