



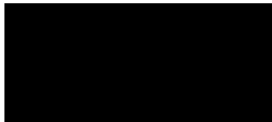
Land off Prescott Park Way Ecological Assessment

FINAL REPORT

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Executive Summary

This report presents the findings of an Ecological Assessment of Land off Prescott Park Way (NGR: SJ 46186 92088), which was commissioned by United Utilities Property Services Ltd. To inform a planning application in relation to access for the adjacent land together with the installation of a drainage swale and outfall.

It is based on information collected from a desk study and an Extended Phase 1 Habitat Survey carried out in January 2022. Relevant legislation and planning guidance are also taken into account.

Key findings and recommendations

Recommendations
Designated Sites 1. Consultation with Natural England required if any discharge of water or liquid waste of more than 20m ³ /day to ground (i.e. to seep away) or to surface water, such as a beck or stream.
Pollution control measures 2. Ensure best practice measures are applied to minimise possibility of pollution to Prescott Brook, nearby designated sites, habitats of importance and areas of open water.
Woodland, dense scrub and scattered trees 3.1. Avoid losses of woodland, dense scrub and scattered trees wherever possible. 3.2. Compensate for any losses by planting locally sources native tree and scrub species. New trees will be planted at a minimum ratio of two trees for every one lost. 3.3. Safeguard retained trees with Root Protection Areas.
Bats 4.1. Retain trees, scrub and open grassland habitats wherever possible. 4.2. Compensate for loss of foraging and commuting habitat. 4.3. Design on-site lighting in accordance with the appropriate guidance.
Birds 5.1. Retain trees, scrub and tall ruderal vegetation wherever possible. 5.2. Removal of vegetation to take place outside of breeding bird season. Any clearance carried out within the bird breeding surveys to be subject to pre-clearance checks. 6.3. Compensate for loss of foraging and nesting habitat.
Badgers, small mammals, amphibians (including GCN) and reptiles 6.1 Adherence to Reasonable Avoidance Measures (RAMS).
Riparian species 7.1 Adherence to RAMS, to include a pre-works site walkover a maximum of two months prior to the commencement of works.
Invasive Non-Native Species 6.1 Adherence to RAMS. To include the strimming of Himalayan balsam in advance of the flowering period (June) and strict biosecurity measures.

1 Introduction

- 1.1 Bowland Ecology Ltd. was commissioned by United Utilities Property Services Ltd. to undertake an Ecological Assessment of Land off Prescott Park Way (NGR: SJ 46186 92088) to inform a planning application in relation to access for the adjacent land.
- 1.2 The site, which is located towards the south-west of Prescott, Merseyside, largely comprises of an existing roundabout and associated footpaths/cycle tracks together with an existing access gate which connects Prescott Park Way to an area of land located to the west/south-west. Immediately surrounding the site sit areas of broad-leaved woodland, scrub, grassland together with running and standing water. The M57, which acts as a dispersal barrier to many terrestrial species, is located approximately 0.2 km south-west of the site, beyond which is a large golf course with associated ribbons of woodland and open grassland. Numerous areas of woodland, grassland and scattered trees are scattered throughout the predominantly urban surroundings. However, Knowsley Park is located approximately 1 km north of the site, which is a large area within which are multiple areas of woodland, grassland, standing water and a network of ditches.
- 1.3 An area of land off Carr Lane, which overlaps slightly with the site boundary in question and extends to the south-west, has previously been subject to a suite of ecological surveys by Bowland Ecology between 2014 and 2022.
- 1.4 The appraisal follows the Guidelines for Preliminary Ecological Appraisal and the Guidelines for Ecological Report Writing (CIEEM 2017a; 2017b) and is in line with the British Standard BS42020:2013 'Biodiversity – Code of practice for planning and development'. It is based on information from a desk study and an Extended Phase 1 Habitat Survey.
- 1.5 The aim of the appraisal is to:
 - 1) identify designated sites and important habitats occurring within the area;
 - 2) identify the presence of or potential for important species, including legally protected species; and
 - 3) assess likely impacts and recommend suitable mitigation measures.
- 1.6 The report includes a description of the methods used, habitats and species identified, and recommendations to protect and enhance biodiversity and address legal requirements.

2. Methodology

Desk Study

- 2.1 The aim of the desk study was to identify the presence of statutory and non-statutory designated wildlife sites, legally protected species, and Habitats and Species of Principal Importance (HPI & SPI) for the conservation of biodiversity (Section 41 NERC Act 2006) within the search area.
- 2.2 The Multi-Agency Geographic Information for the Countryside (MAGIC) website (www.magic.gov.uk) was reviewed for information on locally, nationally and internationally designated sites of nature conservation importance (statutory sites only) and areas identified as HPI within 2 km of the site boundary. In this instance, a 2 km search area was considered adequate due to the small-scale nature of the proposed works.
- 2.3 The MAGIC website was also searched for records of nearby granted European Protected Species (EPS) mitigation licences for bats and great crested newts.
- 2.4 Local records of protected sites and species within 2 km of the site (SJ 46186 92088) were obtained in January 2022 from a data search with Merseyside BioBank. Species records dated within the last 10 years were then reviewed.
- 2.5 Ordnance Survey (OS) maps and aerial photographs were reviewed to help identify the presence of water bodies and notable habitats, such as hedgerows and woodland, within 0.25 km of the site, which may provide aquatic or terrestrial habitat for GCN.
- 2.6 It is recommended¹ that, for developments resulting in permanent or temporary habitat loss at distances over 0.25 km from the nearest pond, careful consideration should be given as to whether a great crested newt survey is appropriate. Although this species may use suitable terrestrial habitat up to 0.5 km from a breeding pond, in this instance a 0.25 km search radius was considered appropriate due to the small-scale nature of the proposed works and the surrounding barriers to amphibian dispersal (roads, built up areas).
- 2.7 An Ecological Appraisal of Land off Carr Lane, undertaken in 2017 (Bowland Ecology, 2017), together with an update advice note (Bowland Ecology, 2020) was also reviewed as part of the desk study.

Extended Phase 1 Habitat Survey

- 2.8 The Extended Phase 1 Habitat Survey followed standard methodology (JNCC 2010; CIEEM 2017b). Habitats within the site boundary were identified and mapped, along with a short description and notes on key features of wildlife interest as recorded in Target Notes.
- 2.9 In addition, evidence of and potential for legally protected and notable species was noted, in particular:
 - potential roosting sites for bats within trees (identification of suitable cracks and crevices – survey undertaken externally and from ground level only); an assessment of the suitability of bat roosting, foraging and commuting habitat was undertaken based on Collins (2016) (see Appendix A);
 - habitats utilised by other notable and protected species, including amphibians (particularly great crested newt, *Triturus cristatus*), badger (*Meles meles*), bats, hedgehog (*Erinaceus europaeus*), invertebrates (e.g. butterflies), nesting birds (including any active or disused bird nests), otter

¹ see the Natural England 'Method statement template for great crested newt mitigation licence', <https://www.gov.uk/government/publications/great-crested-newts-apply-for-a-mitigation-licence>

(*Lutra lutra*), reptiles (e.g. common lizard, *Zootoca vivipara*), water vole (*Arvicola amphibius*), and white-clawed crayfish (*Austropotamobius pallipes*); ponds within 250 m (access permitting) were subject to a great crested newt Habitat Suitability Index (HSI) assessment (see Oldham *et al.* 2000)²; and

- the presence of the most common invasive plant species subject to strict legal control including: Japanese knotweed (*Fallopia japonica*), giant knotweed (*F. sachalinensis*), hybrid knotweed (*F. x bohemica*), giant hogweed (*Heracleum mantegazzianum*), rhododendron (*Rhododendron ponticum*, *R. ponticum* x *R. maximum* and *R. luteum*), and Himalayan balsam (*Impatiens glandulifera*).

- 2.10 The survey was carried out by Catrin Scott MRes, BSc (Hons) ACIEEM and Jack Taylor MSc, BSc (Hons) on 20th January, 2022. The weather was dry, with 1/8 cloud cover, a light breeze (Beaufort Scale: F2) and a temperature of approximately 3°C.

Limitations

- 2.11 The habitat survey focused on the most prominent and important species within the time available, rather than aiming to identify all species that might present within site. Ecological surveys are also limited by factors that affect the presence of plants and animals, such as the time of year, migration patterns and behaviour. Therefore the survey of the study area has not produced a complete list of plants and animals.
- 2.12 Desk study data should not be treated as a comprehensive list of species present within a search area. Habitat inventories shown on MAGIC vary in terms of their completeness, precision and reliability. Many species are under-recorded and low numbers of records can indicate a lack of survey effort in some areas, rather than confirm the absence of a species.
- 2.13 The timing of the survey was outside the optimum period for completing a Phase 1 Habitat Survey (April to September inclusive; JNCC 2010). However, the site was fully accessible and previous survey information for the wider Land off Carr Lane has been reviewed. As such, it is considered there was sufficient information to confidently recognise the type of habitats present and their potential to support legally protected species.
- 2.14 The list of invasive plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is extensive and these plants are found in a range of different habitats, including aquatic habitats. The Extended Phase 1 Habitat Survey checked, in particular, for the presence of Japanese knotweed, giant knotweed, hybrid knotweed, giant hogweed, rhododendron and Himalayan balsam. There may be other invasive plant species present on the site which were not recorded, but it is considered that the survey was sufficient to identify any significant constraints posed by invasive plants.
- 2.15 OS maps identifies the presence of a drain within the site boundary, which may indicate the presence of open water. The presence of this open water could not be determined due to the presence of dense vegetation surrounding its proposed location. The recommendations within this report takes this into account and have been developed accordingly.

² A HSI is a numerical index, between 0 and 1. Values close to 0 indicate unsuitable habitat, 1 represents optimal habitat. The HSI for the great crested newt incorporates ten suitability indices, all of which are factors known to affect this species. The HSI for great crested newt is a measure of habitat suitability - it is not a substitute for newt surveys.

3. Results

Desk Study

- 3.1 The desk study identified the following designated wildlife sites within 2 km of the site boundary:

Statutory designated sites

Site Name	Designation*	Distance from site boundary	Key features
Mersey Estuary	SSSI	9 km	The site falls within the IRZ for Mersey Estuary SSSI (located approximately 9 km south). Consultation with Natural England is required if any discharge of water or liquid waste of more than 20m ³ /day to ground (i.e. to seep away) or to surface water, such as a beck or stream.

*Site of Special Scientific Interest (SSSI), Impact Risk Zone (IRZ)

Non-statutory designated sites

Site Name	Designation*	Distance from site boundary	Key features
Carr Lane Lake Prescott	LWS	~5 m west	A wetland with a large area of open water which is unusual in Knowsley. Water is fished.
Huyton and Prescott Golf Club	LWS	0.23 km west	A well-managed golf course with woodland, ponds and wetlands. Prescott Brook forms the eastern boundary, with water voles present. Plants typical of ancient semi-natural woodland are found in the woodland areas.
Knowsley Park	LWS	0.75 km north-west	Ancient parkland and estate on a mix of acidic (peat) and neutral soils with sandstone exposures along the brooks. Much coniferous planting has taken place although several of the woodlands contain plants indicative of ancient semi-natural woodland. Other habitats include dams with open water, acidic grassland, remnant heath and mire. The Park also has populations of bats and other protected species.
Stadt Moers Q2 and Visitor	LWS	1 km south	A small area of dense woodland with neutral grassland areas re-colonised on bare substrate.

Centre, Whiston			
Stadt Moers Q4, Whiston	LWS	1 km south	A large area of semi-improved neutral grassland with areas of scrub and developing broadleaf woodland.
Stadt Moers Q3, Huyton	LWS	1.2 km south-west	A mix of grassland, scrub and woodland habitats forming part of the Country Park at Stadt Moers.
Copse, south of A58 Prescott	LWS	1.2 km north-east	A lightly wooded area with neutral grassland and a small pond. Good regeneration of oak and birch is occurring.
Huyton Lane Wetland	LWS	1.4 km south-west	A large area of predominantly neutral marsh with a smaller area of acidic marsh. Other habitats present include: ditch; the River Alt; tree and shrub planting; dry neutral grassland.
Prescot Reservoirs No.s 3 & 4	LWS	1.5 km north-east	This site comprises of two reservoirs and a disused dry reservoir. The disused reservoir and areas surrounding reservoirs 3 & 4 have now been colonised by a diverse and species rich grassland including species such as, Northern Marsh orchid and Common Spotted orchid.
Tushingham's Quarry Pond, Stadt Moers Q4	LWS	1.7 km south	A large open pond with varied habitats around its edges, from marsh to alkaline grassland to scrub and woodland.
Lickers Lane Wood	LWS	1.8 km south-east	A long, narrow broadleaf woodland with a dense canopy and associated neutral grassland.
Woodland, Sandfield Park	LWS	2 km south-east	A mature, predominantly broadleaf woodland with a pond, acidic grassland and scrub.

*Local Wildlife Site (LWS)

- 3.2 It also identified the following areas of habitat within 2 km of the site which potentially qualify as HPI:

Potential areas of HPI

Description
• Five areas of open mosaic habitat (draft), the closest of which is located within the south-western half of the site. • Over two hundred areas of deciduous woodland, the closest of which is located approximately 100 m west of the site, beyond Carr Lane Lake LWS. • A single area of woodpasture and parkland which is located approximately 1.1 km north of the site, within Knowsley Park LWS.

- | |
|--|
| <ul style="list-style-type: none"> • Seven areas of lowland meadows, the closest of which is located approximately 1.2 km south of the site. |
| <ul style="list-style-type: none"> • Four areas of good quality semi-improved grassland, the closest of which is located approximately 1.7 km south-west of the site, beyond the M57. |
| <ul style="list-style-type: none"> • Three areas of lowland fens, the closest of which is located approximately 1.7 km south of the site. |

- 3.3 Aerial imagery and OS maps identified the presence of five ponds within 0.25 km of the site boundary; these ponds are located approximately 30 m south, 20 m west, 110 m south-west, 130 m west and 90 m north-west of the site.

Extended Phase 1 Habitat Survey - Habitats

- 3.4 The location of habitats recorded during the Extended Phase 1 Habitat Survey is mapped in Appendix C. The Target Notes (TNs) describing each habitat and key interest features for wildlife are set out in Appendix D. Each habitat type is described below. Plant species nomenclature follows Stace (2010).

Dense scrub

- 3.5 Dense scrub (TN1) located towards the north-west of the site bounds the roundabout and adjacent public footpath and also extends north-west towards the area of woodland. Species recorded include dogwood (*Cornus sanguinea*), buddleja (*Buddleja davidii*) and elder. Beneath the dense scrub the ground is predominantly bare, with an accumulation of leaf litter; species present include cleavers (*Galium aparine*), smooth sow-thistle (*Sonchus oleraceus*), spear thistle (*Sonchus oleraceus*), creeping buttercup (*Ranunculus repens*) together with moss and fern species.
- 3.6 An area of bramble (*Rubus fruticosus* agg.) dominated dense scrub is also located towards the south of the site (TN2).

Scattered trees

- 3.7 Semi-mature scattered trees are present towards the west of the site (TN3), within the area of dense scrub. Species present include hazel, alder (*Alnus glutinosa*), oak (*Quercus* sp.) and conifer species.

Semi-improved neutral grassland

- 3.8 A narrow strip of semi-improved neutral grassland located towards the south-west of the site (TN4) is composed of moss species, creeping buttercup, common mouse ear (*Cerastium fontanum*), creeping cinquefoil (*Potentilla reptans*), Yorkshire fog (*Holcus lanatus*), ribwort plantain (*Plantago lanceolata*) and red fescue (*Festuca rubra*). This habitats has been heavily grazed by rabbits (*Oryctolagus cuniculus*), therefore resulting in very short sward.

Tall ruderal vegetation

- 3.9 A small area of tall ruderal vegetation located towards the centre of the site includes rosebay willowherb (*Chamerion angustifolium*), great willowherb (*Epilobium hirsutum*) and broad-leaved dock (*Rumex obtusifolius*).

Amenity grassland

- 3.10 A small area of amenity grassland located towards the south-east of the site is associated with a housing estate which sits to the south. Due to its short sward and time of year species identification was not possible.

Bare ground

- 3.11 The roundabout and adjacent public footpaths/cycle lanes comprise of bare ground in the form of hard standing.

Boundaries

- 3.12 Timber closeboard fencing is present towards the south of the site; separating the dense scrub located towards the south-west of the site from the semi-improved and amenity grassland which bound the roundabout.

Semi-natural broad-leaved woodland

- 3.13 The survey area covers a small area of semi-natural broadleaved located towards the north-west of the site (TN5). This woodland extends to the north-east and south-west, bounding Prescott Brook. As a whole, woodland canopy species include willow (*Salix* sp.), sycamore (*Acer pseudoplatanus*), hawthorn (*Crataegus monogyna*), elder (*Sambucus nigra*), hazel (*Corylus avellana*) and silver birch (*Betula pendula*). A sparse understory is dominated by common nettle (*Urtica dioica*) and bramble (*Rubus fruticosus* agg.). Frequent Himalayan balsam is also present.

Open water

- 3.14 OS maps identifies the presence of a drain towards the south of the site (See Appendix B). The presence of a drain or any open water was not recorded on site during the survey; however, due to the dense nature of the vegetation surrounding its proposed location, it's absence could not be confirmed during the survey.
- 3.15 The survey area encompasses a small section of Prescott Brook (TN6). This area of running water flows from north-east to south-west and is shaded by the surrounding broadleaved woodland. Prescott Brook is, on average, approximately 1-2 metres wide, with a depth of 20-30 cm and has a silt and cobble substrate. The flow was slow to moderate at the time of survey and no aquatic vegetation was present within the watercourse. The banks are low and vertical, comprising bare earth, which is eroded in some areas. Vegetation surrounding the watercourse is dominated by Himalayan balsam.

Extended Phase 1 Habitat Survey - Species

Bats

Data search

- 3.16 The data search returned activity records for the following bat species; myotis (*Myotis* sp.), Daubenton's (*Myotis daubentonii*), Whiskered (*Myotis mystacinus*), Whiskered/Brandt's (*Myotis mystacinus/brandtii*), Natterer's (*Myotis nattereri*), noctule (*Nyctalus noctula*), Nathusius's pipistrelle (*Pipistrellus nathusii*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared bat (*Plecotus auritus*). The closest bat activity record is for common pipistrelle, located approximately 500 m east of the site. Records of two common pipistrelle and a single soprano pipistrelle roosts were also returned, located approximately 1.2 km north-west, 1.2 km south-east and 1.4 km north, respectively.

Roosting bats

- 3.17 All trees on site have been assessed as providing **negligible potential to support roosting bats** due to the absence of suitable features.

Commuting and foraging bats

- 3.18 Habitats on site provide suitable foraging and commuting opportunities for a range of bat species. The woodland, dense scrub and scattered tree areas provide foraging habitat for those species showing preference for more 'closed' habitats, including brown long-eared and Natterer's bats. The edges of the woodland, scrub and scattered trees have potential to be used by bat species known to favour 'edge' habitats, such as common pipistrelle and whiskered bats, which are flexible in their foraging habitat. The grassland areas on site are considered to be too small and species poor to be of significant importance to those species favouring more open habitats. Due to the small size of the site, the area of habitats suitable for commuting and foraging bats present on site are small in size, however, these habitats continue beyond the site boundary, to the south, west and north-west. Furthermore, additional areas of habitats considered suitable for foraging and commuting bats are scattered throughout the surrounding areas. Habitats on site have been assessed as providing **moderate potential to support commuting and foraging bats** as the scrub and trees are suitable and are connected to the wider landscape.

Birds

- 3.19 The data search returned a single kingfisher (*Alcedo atthis*) record, located approximately 1.8 km south of the site and identifying the presence of a breeding pair.
- 3.20 Due to the absence of suitable habitats, the site is considered unsuitable for use by nesting or feeding kingfisher.
- 3.21 Woodland, dense scrub, scattered trees and tall ruderal vegetation present on site provide nesting opportunities for a range of tree and scrub nesting bird species.
- 3.22 The area of open grassland located on site is considered unsuitable for use by ground nesting birds due to the small size of this habitat on site and its proximity to dense scrub.

Amphibians

- 3.23 The data search returned several records of common frog (*Rana temporaria*), common toad (*Bufo bufo*; and SPI) and smooth newt (*Lissotriton vulgaris*) within the search area. The closest of which is for common frog, located approximately 90 m west of the site, along the perimeter of Carr Lane Lake; the record states that this species was recorded to be breeding within the pond lake, with hundreds of frogs recorded. No records for GCN were returned. The MAGIC website returned two granted European Protected Species for GCN within 2 km of the site, both of which are located approximately 1.5 km north-east.
- 3.24 A review of Ordnance Survey (OS) maps and aerial photographs identified the presence of five ponds within 0.25 km of the site; there are no ponds within the site itself. Table 1 provides a habitat description, photograph and a summary of the HSI assessment result for P1 – P4. Table 2 presents the detailed scores for the HSI assessments. The locations of the ponds are presented in Appendix E.

Table 1: Habitat description and photographs on P1-5.

Pond ref	Description	Photograph
1	Area of standing water extending along a former ditch feature located approximately 30 m south of the site. The Pond is approximately 100 x 8 m in size and of an unknown depth. The pond is surrounded by dense willow (<i>Salix</i> sp.) and is therefore heavily shaded. Common bulrush (<i>Typha latifolia</i>), reed canary grass (<i>Phalaris arundinacea</i>) and occasional pendulous sedge (<i>Carex pendula</i>) are present within and surrounding the water.	
2	Small ephemeral pond located approximately 110 m south-west of the site, adjacent to Prescott brook. The pond is approximately 10 x 5 m in size and shallow (approximately 5 cm deep); due to its shallow nature it is considered likely that this pond dries annually. The pond is located within an area of woodland, and is therefore heavily shaded and has an accumulation of leaf litter at its base. Management of the adjacent woodland has resulted in a felled tree and an abundance of log and brash piles which offer suitable terrestrial habitats.	

Pond ref	Description	Photograph
3	Large fishing pond located approximately 20 m west of the site, within Carr Lane Lake LWS. The pond is approximately 150 x 50 m and has a depth of at least 1 m. Due to the size and depth of the pond, it likely never dries. Trees from the adjacent areas of woodland provide some shade. An accumulation of leaf litter is present within the water, furthermore the water is turbid and of poor quality. The pond, which is used by anglers, has both fish and fowl present. Marginal vegetation is present along parts of the pond's perimeters, however a public footpath and amenity grassland immediately surrounds the majority of the pond. Marginal vegetation comprises reed canary grass, soft rush (<i>Juncus effusus</i>) and yellow-flag iris (<i>Iris pseudacorus</i>). No aquatic vegetation recorded during the survey.	
4	A small circular pond located approximately 130 m west of the site. The pond is approximately 15 m in diameter and of an unknown depth. Due to its size, the pond is considered likely to sometimes dry. An accumulation of leaf litter is present within the water. Adjacent scrub and young trees provide some shade to the pond. Aquatic and marginal vegetation comprises marsh marigold (<i>Caltha palustris</i>), common duckweed (<i>Lemna minor</i>), water mint (<i>Mentha aquatica</i>) and yellow-flag iris.	No photograph
5	Small pond located approximately 90m north-west. The pond is approximately 10 x 5 m in size and shallow (approximately 5 cm deep); due to its shallow nature it is considered likely that this pond dries annually. The pond sits adjacent to an area of woodland and is therefore moderately shaded and has an accumulation of leaf litter along its banks. Dense reed canary grass is present within and surrounding the water.	

Table 2: Habitat Suitability Assessment of P1-5.

Pond Ref	SI1 - Location	SI2 - Pond area	SI3 - Pond drying	SI4 - Water quality	SI5 - Shade	SI6 - Fowl	SI7 - Fish	SI8 - Pond	SI9 - Terr'l habitat	SI10 - Macrop hytes	HSI Score	Pond Suitability
P1	1	1	0.5	0.33	0.3	0.67	0.67	0.66	1	0.95	0.65	Average
P2	1	0.1	0.1	0.67	0.3	1	1	0.66	1	0.8	0.50	Below average
P3	1	*	0.9	0.33	1	0.01	0.01	0.66	0.67	0.45	0.30	Poor
P4	1	0.4	1	0.67	1	0.67	0.67	0.66	1	0.7	0.75	Good
P5	1	0.1	0.1	0.67	1	1	1	0.66	0.67	0.9	0.55	Below average

*Factor omitted from HSI calculation as there is no data for such large ponds (Oldham et al., 2000).

- 3.25 Based on the HSI assessments, P1 and P4 are considered to offer 'average' and 'good' suitability for GCN, whereas the remaining ponds are considered to offer 'below average' or 'poor' suitability. As such, if present within the surrounding area, GCN may be present within P1 or P4.
- 3.26 The land directly adjacent to the site has previously been subject to a suite of ecological surveys by Bowland Ecology (Bowland Ecology, 2017); as part of these surveys, environmental DNA (eDNA) analysis of water within Pond 4 was undertaken and returned a negative result. Pond 1 was too shallow at the time of survey to obtain an adequate sample for testing. It is considered unlikely that GCN are present on site, however due to the time which has elapsed since the eDNA surveys, these cannot be relied upon to confirm the absence of GCN from the area.
- 3.27 Common amphibians, including common frog and common toad, are less restricted in their habitat requirements; therefore the water bodies located within 250 m of the site, when holding water, are considered to provide breeding habitat for these species.
- 3.28 The woodland, scrub, scattered tree (root systems), semi-improved grassland and tall ruderal vegetation present on site are considered to provide suitable terrestrial habitats for foraging, sheltering and/or hibernating amphibians, and if present, may be used by GCN.

Badgers

- 3.29 The data search returned a single record for badger within 2 km of the site, located approximately 1.8 km east of the site.
- 3.30 No evidence of badger in the form of setts, latrines, footprints or hairs was recorded on site during the survey, however not all areas of the site could be searched thoroughly due to the presence of dense vegetation. The woodland and dense scrub, areas of which are over sloping ground, are considered suitable for use by badger, both for sett excavating and foraging. However, the presence of a busy road and disturbance from pedestrians and dogs within the adjacent Carr Lane Lake LWS is likely to deter the species.

Otter and water vole

- 3.31 No records for otter, water vole or eel (*Anguilla anguilla*) within the past 10 years were returned by the data search.
- 3.32 The presence of a proposed drain on site could not be confirmed due to dense scrub surrounding its proposed location. Although the characteristics of the proposed ditch could not be determined, if present, this ditch is considered unsuitable for use by otter and water vole due to its short length (as mapped on OS maps) and of lack of ecological connectivity to neighbouring suitable habitat.
- 3.33 As determined during the 2014, 2017 and 2020 surveys of the wider Carr Lane site, Prescott Brook is considered to offer potentially suitable habitat for commuting and foraging otter. Some areas along the eastern bank of the brook do offer potential for otter holts and lay-up sites, however disturbance from dogs and pedestrians within Carr Lane Lake LWS is likely to decrease its suitability. Previous surveys of Carr Lane, together with the current 2022 survey, found no evidence of the presence of otter foraging, holts/couches and other resting places.
- 3.34 Prescott Brook has low eroded earth banks, supports no aquatic/marginal vegetation, and the surrounding vegetation lacks species diversity due to the presence of invasive species and shading by surrounding trees. Furthermore, previous water vole surveys for Carr Lane, together with the current 2022 survey, found no evidence of water vole. Due to the aforementioned points, together with the presence of disturbance from dogs and pedestrians, Prescott Brook is considered to be sub-optimal for use by water vole.

Other mammals

- 3.35 The data search returned seven records of red squirrel (*Sciurus vulgaris*) located to the north of the site; the closest of which is located approximately 1 km north-west of the site. Two records of brown hare (*Lepus europaeus*) and four records of harvest mouse (*Micromys minutus*) were returned for approximately 1.3 km and 1.6 km north of the site, respectively, all from within Knowsley Safari Park. A total of sixty one records of hedgehog were returned within the search area, the closest of which is located approximately 35 m west of the site, along Carr Lane.
- 3.36 The site is outside of the Lancashire/Merseyside stronghold boundary for red squirrel (Lancashire Wildlife Trust). As such, it is considered highly unlikely that red squirrel are present on site.
- 3.37 The areas of woodland, scrub, scattered trees and tall ruderal vegetation together with the perimeters of the semi-improved grassland provide foraging, sheltering and hibernation habitat for a variety of small mammals, specifically European hedgehog, as well as and other non-SPI species, including wood mouse (*Apodemus sylvaticus*), field vole (*Microtus agrestis*) and common shrew (*Sorex araneus*). It is considered likely that European hedgehog is present within the area due to the abundance of residential properties with grassland gardens and pockets of woodland habitat which provide suitable habitat for the species.
- 3.38 Harvest mouse, also an SPI, prefer habitats with long grass and are typically associated with grassland, farmland and wetland. Due to the absence of such habitat on site, it is considered highly unlikely that this species is present on site. Likewise, due to the lack of suitable habitats and the urban nature of the surrounding area, the site is considered unsuitable for use by brown hare. As such, these species are not considered further within this report.
- 3.39 No rabbit burrows were recorded within the site boundary. However, evidence of grazing rabbits was noted and rabbit burrows were recorded within the surrounding area. The areas of dense scrub, which are considered suitable for use by burrowing rabbits, could not be searched thoroughly for the presence of burrows due to the dense vegetation. As such, it is considered possible that rabbit burrows are present on site.

Reptiles

- 3.40 The data search returned no records for reptiles within 2 km of the site.
- 3.41 The area of semi-improved neutral grassland may be used by basking common reptile species; although the total area of this habitat type within the survey area is small, this habitat and additional open glades are present within the adjacent land, which increases the area of suitable habitat for basking reptiles present within the surrounding area. Furthermore, the scrub habitat is considered to provide suitable refuge and hibernation habitat for common reptile species.

Invasive Non-Native Species (INNS)

- 3.42 The data search returned records of multiple species listed on Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended). A single record of Canada goose (*Branta canadensis*) was returned from approximately 91 m west of the site, within Carr Lane Lake LWS. Two records of American mink (*Neovison vison*) were returned, both from approximately 0.5 km south-west of the site. A single record for Turkish crayfish (*Astacus leptodactylus*) was returned from 0.8 km west of the site.
- 3.43 As previously mentioned, the presence of a proposed drain on site could not be confirmed due to dense scrub surrounding its proposed location. Although the characteristics of the proposed ditch could not be determined, if present, this ditch is considered unsuitable for use by Canada goose due

to the dense nature of the scrub and therefore lack of open space. The ditch is also considered unsuitable for use by American mink and Turkish crayfish due to its short length (as mapped on OS maps) and of lack of ecological connectivity to neighbouring suitable habitat. As such, these species are not considered further within this report.

- 3.44 American mink was not recorded along Prescott Brook during the survey, however, the watercourse is considered suitable for use by this species. The brook is considered sub-optimal for use by Turkish crayfish as this species prefer still water, however, it's presence cannot be entirely ruled out.
- 3.45 Dead stems of Himalayan balsam, which is listed on Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended), was recorded along the banks of Prescott Brook and within the area of woodland during the survey. The presence of this species within additional areas of the site cannot be ruled out, as the absence of this species can be attributed to the timings of the survey (January) and council maintenance practices along the public footpath.

4. Evaluation and Assessment of Constraints

- 4.1 An assessment of potential impacts on designated sites, habitats, species and is presented below. This is based on the information available on the proposed works (see below) and the professional judgement of the ecologists that prepared this report. It considers legal requirements (see Appendix G) and relevant national and local planning policies. If the proposals are changed significantly, the assessment will need to be reviewed.

Work Proposals

- 4.2 The proposed works includes the construction of a site entrance for the adjacent land (to the south-west) from Prescott Park Way. A drainage swale will be installed towards the centre of the site, with an outfall located towards the north-west of the site, connecting to Prescott Brook. See Appendix B for proposed works. It is anticipated that most of the site will be cleared.

Designated Sites and Habitats of Principal Importance

- 4.3 No direct impact to Mersey Estuary SSSI. However, the site falls within its Impact Risk Zone, and consultation with Natural England is required if any discharge of water or liquid waste of more than 20m³/day to ground (i.e. to seep away) or to surface water, such as a beck or stream.
- 4.4 The Magic website identified the potential presence of open mosaic habitats on previously developed land (HPI draft) towards the south-west of the site. However, following the Extended Phase 1 habitat survey, the site is not considered to meet the criteria for Open Mosaic Habitats on Previously Developed Land HPI as outlined within UK Biodiversity Action Plan Priority Habitat Descriptions (JNCC, 2010). As such, this HPI is not considered further within this report.
- 4.5 No other habitats considered to be Habitats of Principal Importance are present on site.
- 4.6 Site clearance and construction works have the potential to indirectly impact Carr Lane Lake LWS together with HPis located within close proximity of the site through pollution (fuel spillages incidents, runoff and dust) and vibration disturbance. Dust pollution can have a variety of negative impacts, including reducing the availability of light for photosynthesis and altering the pH of soils which can affect the long-term success of plants.

Other Habitats

Woodland, dense scrub, scattered trees and tall ruderal vegetation

- 4.7 The areas of woodland, dense scrub, scattered trees and tall ruderal vegetation offer shelter and foraging opportunities to a wide range of fauna species including birds, bats, mammals, and amphibians. Due to the small scale of the site and proposed works, any loss of these habitats would have a localised adverse effect on wildlife. Works should therefore be designed to avoid loss of these habitats. If loss is unavoidable, the impacts must be minimised with adequate mitigation.

Semi-improved and amenity grassland

- 4.8 The areas of semi-improved and amenity grassland offer little to no ecological value. As such, their loss would result in minimal adverse ecological impact and they are not considered further within this report.

Prescot Brook

- 4.9 Site clearance and construction works, which will involve the installation of an outfall on the eastern bank of Prescot Brook, will result in short-term, small-scale disturbance to the watercourse banks during construction works. In addition, indirect impacts to the watercourse through pollution incidents (fuel spillages incidents, runoff/siltation) are possible, both during construction works and in the longer term if the appropriate prevention measures are not implemented.

Bare ground

- 4.10 The area of bare ground offers negligible ecological value. As such, its loss would result in no adverse ecological impact and it is therefore not considered further within this report.

Species

Bats

Roosting bats

- 4.11 Trees and scrub present on site have been assessed as providing **negligible** potential for roosting bats. The proposed development is unlikely to result in the injury and/or killing of roosting bats or the loss of suitable roosting habitat. As such, roosting bats are not considered further within this report.

Commuting and foraging bats

- 4.12 Anticipated impacts to foraging and commuting bats as a result of the proposed development include; disturbance during works caused by increased noise, lighting and human presence; and the loss and modification of suitable foraging habitats.
- 4.13 Any new lighting associated with the development (including clearance, construction and completed development) has the potential to impact foraging, commuting and roosting bats utilising the site. An increase in artificial illumination poses a barrier to bat movement and reduces foraging opportunities by depleting invertebrates from unlit areas, thereby reducing food abundance. Unmitigated, potential disturbance to bats could occur through increased lighting of the site at night, particularly if light spillage occurs onto any adjacent roosting features or features which could be used for commuting and foraging.
- 4.14 The woodland, scattered trees and scrub present on site provide foraging and commuting opportunities for bats. However, the site is small, and better quality habitats are present within the immediate and wider surrounding landscape. As such, the loss of and/or a reduction of these habitats as a result of the works is not anticipated to result in significant adverse ecological impact.

Birds

- 4.15 Any works involving the removal or disturbance of suitable nesting habitats (trees, scrub and tall ruderal vegetation) undertaken during the nesting season (March – August inclusive) has the potential to disturb and/or harm breeding birds and nestlings. This would constitute an offence (see Appendix G) and would result in adverse ecological impacts.
- 4.16 The loss of any trees or scrub habitat may also result in the reduction of available foraging and nesting habitat for a variety of birds. As such, any unmitigated loss of and/or a reduction of these habitats to facilitate the proposed development is anticipated to result in adverse ecological impacts.

Amphibians

- 4.17 Two ponds located within 250 m of the site are considered to offer 'average' and 'good' suitability for great crested newt. The MAGIC website returned two granted European Protected Species for GCN approximately 1.5 km north-east of the site, however no GCN were recorded within 250 m of the site during previous surveys (Bowland Ecology, 2017). It is considered unlikely that GCN are present on site, however, their presence on site cannot be entirely ruled out. As such, there is potential for common amphibians and possibly GCN to be present on site in suitable terrestrial habitats. Site clearance and construction works may therefore result in the accidental disturbance and/or harm of amphibians if undertaken without due care and attention. Works may also result in the accidental entrapment of individuals within excavations if completed in the absence of suitable mitigation. Given the results of previous surveys and the small-scale nature of the site and proposals, it is considered proportionate for the works to be undertaken under Reasonable Avoidance Measures (RAMS) with an appointed Ecological Clerk of Works (ECOW).
- 4.18 The loss of trees, scrub, grassland or tall ruderal vegetation may also result in the loss of suitable commuting, foraging, refuge and hibernation habitats. As such, any unmitigated loss of and/or a reduction of these habitats is anticipated to result in adverse ecological impacts with respect to common amphibian species.

Badgers

- 4.19 Although no evidence of badger was recorded, badgers are a highly mobile species and habitats on site (broadleaved woodland and dense scrub) are considered suitable for badger foraging and sett establishment. New setts may potentially be excavated within or close to working areas at any time. As such, if badgers excavate new setts within or adjacent to the site, in the absence of mitigation proposals may impact badgers through disturbance, accidental entrapment of individuals within excavations or the destruction of sett(s) which may result in an offence (see Appendix G).

Riparian species

- 4.20 It is considered unlikely that otters would use the site for resting/breeding but it cannot be entirely ruled out that the watercourse is used as an occasional foraging resource or commuting corridor by the species. As such, works within and/or adjacent to the watercourse have the potential to impact the species through disturbance or accidental entrapment of individuals within excavations, if present.
- 4.21 Due to the absence of any evidence of water vole (including during historical surveys) together with the sub-optimal nature of the watercourse, it is considered highly unlikely that water vole are present within or adjacent to the site. However, as a mobile species, water vole may move into the area before or during the works. As such, water vole may be disturbed or injured as a result of the works, if present.

Other mammals

- 4.22 Accidental disturbance and/or harm could occur to small mammals, including European hedgehog, if site clearance and construction works are undertaken without due care and attention. Works may also result in the accidental entrapment of individuals within excavations if works are completed in the absence of suitable mitigation.
- 4.23 The loss of woodland, scattered trees or scrub may also result in the loss of suitable commuting, foraging, breeding, refuge and hibernation habitats. As such, any unmitigated loss of and/or a reduction of these habitats is anticipated to result in adverse ecological impacts with respect to small mammals.

- 4.24 Light pollution associated with site clearance, construction and the completed development may also negatively affect foraging and commuting mammals.

Reptiles

- 4.25 Although small in area, the dense scrub habitat on site is considered to provide suitable refuge and hibernation habitat for common reptile species. As such, site clearance and construction works may result in the accidental disturbance and/or harm of reptiles if undertaken without due care and attention. Works may also result in the accidental entrapment of individuals within excavations if works are completed in the absence of suitable mitigation.
- 4.26 The loss of scattered trees and scrub may also result in the loss of suitable foraging, refuge and hibernation habitats. As such, any unmitigated loss of and/or a reduction of these habitats is anticipated to result in adverse ecological impacts with respect to common reptile species.

Invasive Non-Native Species (INNS)

- 4.27 Himalayan balsam is listed on Schedule 9 Part II of the Wildlife and Countryside Act (1981, as amended). This makes it illegal to plant or otherwise cause the species to grow in the wild. Works undertaken without due care and attention in respect of the aforementioned species could cause to the spread of non-native species in the wild and thereby lead to an offence (see Appendix G). Conversely, the works also provides an opportunity to eradicate the species from the site which would prevent its spread into surrounding habitats, resulting in a positive ecological impact.
- 4.28 Himalayan balsam is known to rapidly spread in the wild, therefore site clearance and construction has the potential to cause the spread of the species which would result in a negative ecological impact, in the absence of mitigation and management.
- 4.29 Both American mink and Turkish crayfish are listed on Schedule 9 Part I of the Wildlife and Countryside Act (1981, as amended). This makes it illegal to release or allow to escape into the wild unless authorised by a licence. Works undertaken without due care and attention in respect of the aforementioned species could cause to the spread of non-native species in the wild and thereby lead to an offence (see Appendix G).

5. Mitigation and Opportunities

- 5.1 The recommendations set out below aim to ensure that the proposed works take account of important ecological features, legal requirements (see Appendix G), and relevant national and local planning policies. The National Planning Policy Framework (2021) specifically states that development should seek to minimise impacts, incorporate improvements, and provide net gains for biodiversity. If the proposals are changed significantly, the recommendations will need to be reviewed.

Designated Sites and Habitats of Principal Importance

- 5.2 Consultation with Natural England with respect to the Mersey Estuary SSSI Impact Risk Zone is required if any discharge of water or liquid waste of more than 20m³/day to ground (i.e. to seep away) or to surface water, such as a beck or stream.
- 5.3 Appropriate pollution prevention and control measures will be applied throughout the construction period to ensure surrounding areas of HPI and LWS are not adversely impacted during the works through run-off and dust created during site clearance and construction. The Scottish Environmental Protection Agency (SEPA) and Northern Ireland Environment Agency (NIEA) have published guidance on the NetRegs website (NetRegs, 2018). In the absence of any guidance in England it is advised that the information published on the NetRegs website is adhered to during the works. The information provided is considered recognised good practice and the most up to date guidance currently provided. Examples of suitable mitigation that will be adopted during site clearance and construction includes;
- Vehicle refuelling in designated compounds/areas at least 10m from any areas of open or running water;
 - Any fuel will be stored in double bunded containers at least 10m from any areas of open or running water;
 - Drip trays or plant nappies to be used when refuelling and left under stationary machinery;
 - Oil spill kits to be kept on site and within all vehicles;
 - Enforcing speed limits on site and dampening down working areas and haul roads in dry periods to prevent dust;
 - Using covered wagons and skips;
 - Keeping roads clean with the use of road sweepers;
 - Appropriate secure storage and use of fine materials - all materials such as excavated topsoil and cement powder must be stored in a bunded area, and protected from potential rainfall and runoff;
 - Regular site checks to ensure that these control measures are being adhered throughout the duration of the works; and
 - An emergency pollution incident response plan will be produced and implemented immediately in the event of a pollution incident.

Other Habitats

Woodland, dense scrub and scattered trees

- 5.4 The loss of dense scrub and scattered trees should be avoided wherever possible. If avoidance is not possible, the final proposal design should aim to minimise the loss of these habitats. Compensation for the loss of any scrub and trees will comprise the planting of locally sourced native tree and scrub species. The species planted will comprise native species appropriate to the locality and of local provenance where possible. New trees will be planted at a minimum ratio of two trees for every one lost.

- 5.5 In line with BS 5837:2012, Root Protection Areas (RPA) of trees at risk from indirect impacts will be safeguarded, using vertical barriers or appropriate ground protection to create exclusion zones prior to commencement of works.

Running water

- 5.6 To avoid indirect impacts to the watercourse and the wider aquatic environment, strict pollution prevention control measures, as outlines above (see paragraph 5.3), will be implemented throughout the duration of the works, with measures detailed in a contractor method statement. Regular Site checks will ensure that these control measures are being adhered to. In addition to the above measures, the following will also be implemented:

- Keeping in-channel works to a minimum in order to reduce the impacts of pollution;
- Use of temporary silt mitigation measures downstream of the works to prevent contamination of the watercourse, such as the RM100 river mat (Greenfix, 2021) or placement of straw bales downstream of the works, which will be removed following completion of the works; and
- Biodegradable hydraulic oils must be used, where required.

Species

Bats

- 5.7 The retention of areas of woodland, scrub, scattered trees and grassland where possible, together with compensatory habitat creation and enhancement described for these habitats (see above) will minimise adverse ecological impacts with respect to commuting and foraging bats.
- 5.8 A sensitive lighting scheme will be incorporated into the proposals, in accordance with the appropriate guidance (IPL 2018). The lighting scheme will be adopted during site clearance and construction and will also cover the completed development. Examples of low impact lighting schemes include, but are not limited to:
- Use of sodium lighting or LED lights with a warm colour temperature (<2700 Kelvin) instead of mercury or metal halide lamps;
 - Careful direction/positioning of lighting to where it is needed and to avoid light spillage onto high value bat roosting/foraging habitats (i.e. away from woodland/scrub/tree line);
 - Only working during daylight hours; and
 - Turning off any additional site lighting at night or using motion sensors within the active bat season (May to September).

Birds

- 5.9 Removal of suitable bird nesting habitat (trees, scrub and tall ruderal vegetation) will be kept to a minimum and should ideally take place outside the breeding bird season, which runs from March until August inclusive, in order to prevent any impacts upon nesting birds.
- 5.10 Clearance of suitable habitats that must be carried out within the bird breeding season will be subject to a pre-clearance bird survey carried out by a suitably experienced ecologist. No works will be carried out within an appropriate radius (to be determined by the ecologist) of an identified nest until the young have fledged and are no longer returning to the nest site. Works will only be undertaken once the ecologist has declared the nest to be no longer in use.
- 5.11 The retention of areas of woodland, scrub, scattered trees and tall ruderal vegetation where possible, together with compensatory habitat creation and enhancement described for these habitats (see above) will minimise adverse ecological impacts with respect to nesting birds. The provision of native

berry bearing tree and scrub species will be incorporated within the mitigation proposals in order to ensure the continuation of foraging habitat for birds on site.

5.12 The provision of artificial bird nest boxes is also required to compensate for the loss of nesting bird habitat within the new development. Ten bird boxes, comprising at least two of each of the following, will be installed away from any potential disturbance associated with the proposed works:

- 1B Schwegler Nest Box (32mm entrance hole size); suitable for great tit (*Parus major*), blue tit (*Cyanistes caeruleus*), house sparrow (*Passer domesticus*) and occasionally bats. Designed for positioning on buildings and trees;
- 1B Schwegler Nest Box (26mm entrance hole size); suitable for blue tit and wren (*Troglodytes troglodytes*). Designed for positioning on buildings and trees;
- 2M Schwegler Nest Box (32mm entrance hole size); suitability for great and blue tit, house sparrow and occasionally bats. Designed to hang on a tree; and,
- 2GR Schwegler Nest Box (single oval entrance hole); suitable for great and blue tit, house sparrow and occasionally bats. Designed to hang on a tree.

Badgers, small mammals, amphibians and reptiles

5.13 Adherence to the following RAMs will eliminate the potential for impacts to badger, European hedgehog, amphibians (including GCN), common reptiles and any other notable species should they be present on site:

- An ECoW will be appointed to oversee the construction activities. Attendance on site will be based on an assessment of the ongoing specific works schedule and level of risk to GCN. Specific ECoW checks such as GCN fingertip searches will be required prior to certain works (see appropriate points below);
- A toolbox talk will be given to all contractors and others working on site prior to the commencement of works by the ECoW. Toolbox talk to cover GCN identification (see Appendix F), and the potential for mammals, common amphibians and common reptiles to utilise suitable habitats on site and to be encountered during the works. Legislation, the importance of biosecurity and the procedure to follow if these are encountered during works will also be covered;
- If no works are undertaken on site within 12 months of the Phase 1 Habitat Survey, a pre-works site walkover to check for badgers will be undertaken a maximum of two months prior to the commencement of works by a suitably qualified ecologist;
- Any rabbit burrows will be avoided during the works. If avoidance is not possible, any management methods employed will be in accordance with Natural England's Technical Information Note 003 (Natural England, 2007);
- The working footprint will be kept to a minimum;
- No night work or floodlighting (working window: an hour after sunrise until an hour before sunset);
- Where vegetation removal is required, a two-stage cut will be undertaken, under supervision of the ECoW. Vegetation will be trimmed with handheld machinery (i.e. strimmer, brushcutter, chainsaw) to a height of no less than 150 mm. The working area will then be left for a minimum of 48 hours to allow any mammals/amphibians/reptiles that may be present to move out of the immediate area. A fingertip search will then be undertaken by the ECoW prior to a second cut. Following this, the vegetation will be trimmed with handheld machinery to a height of 50 mm. Once the second cut is complete, a fingertip search of the cleared area will be undertaken by the ECoW. Following this, vegetation will be kept to a height of no more than 50 mm by regular mowing through the growing season or until the vegetation is removed, to discourage use by mammals/amphibians/reptiles;

- Any trees or woody shrubs to be removed will be carried out under EcoW supervision. The tree/shrubs will be cut by hand to ground level. The roots will be gradually lifted out of the ground with the EcoW constantly checking the ground, root system and associated soil for the presence of GCN. The removal of any trees/woody shrubs will only be undertaken between March – September;
 - All stored equipment/materials which may provide mammals/amphibians/reptiles with suitable refugia will be stored on hard standing/bare ground, or alternatively raised off the ground on pallets;
 - Any stockpiled soils or other material will be stored in such a way that does not create potential refugia for mammals/amphibians/reptiles (i.e. on hard standing/raised off the ground and well compacted to ensure no suitable cavities are created);
 - Any excavations associated with the works will be backfilled and well compacted, or covered before nightfall to prevent mammals/amphibians/reptiles becoming trapped within them. If excavations must be left open, a means of escape, such as an egress board must be provided. Excavations will be carefully inspected in the morning prior to commencement of works;
 - No trackway access mats will be used (as these may provide refugia for GCN). The condition of the ground within vehicular routes will be monitored by the EcoW. Should rutting occur, this will be flattened and compacted before dark on the day caused so as not to provide suitable sheltering habitat for GCN. Short sections of trackway access mats may be used if absolutely necessary, provided their use has been discussed with the EcoW and they are installed so as to not provide refugia (or can be checked prior to use every day). The frequency of journeys will be kept to a minimum (i.e. only absolutely necessary journeys will be undertaken); and
 - **In the unlikely event that GCN are encountered during the works (see Appendix F), all works must cease immediately and the ECoW will provide further advice;**
 - Any small mammals/common amphibians/reptiles encountered at any time during works will be carefully relocated to a safe location, in an area away from the works which will remain undisturbed and placed within an area with plenty of vegetation cover. For example within the woodland to the north-west of the site.
- 5.14 Any branches and trunks that are felled should be left within the surrounding habitats, scattered around and/or stacked into piles. In addition, any brash piles that are to be cleared will be carefully excavated/moved and re-instated in an area which will remain unaffected by the works.
- 5.15 The retention of areas of woodland, scrub, scattered trees and grassland where possible, together with compensatory habitat creation and enhancement described for these habitats (see above) will minimise adverse ecological impacts with respect mammal, amphibian and reptile refugia and foraging habitat.

Riparian species

- 5.16 In order to avoid disturbance caused by human presence to otter and water vole, if present, the following RAMs will be adhered to throughout the duration of the works:
- All contractors will be made aware of the potential presence of otter;
 - A pre-works site walkover to check for evidence of otter and water vole will be undertaken a maximum of two months prior to the commencement of works by a suitably qualified ecologist;
 - All works will be undertaken during the day (an hour after sunrise until an hour before sunset);
 - There will be no direct illumination of Prescott Brook or the surrounding habitat;
 - All excavations that may entrap animals will be backfilled, covered or a means of escape (e.g. earth ramp) provided;
 - Pollution prevention measures will be followed throughout the duration of the works;
 - The watercourse will remain open to allow the movement of animals through the site i.e. in-channel machinery, will not block access for otter to pass through; and

- If an otter or water vole is observed during the works, work in that area must cease until the animal has dispersed.

Invasive Non-Native Species (INNS)

5.17 To reduce the risk of spreading invasive non-native species (INNS), the following measures will be adhered to throughout the duration of the works:

- Contractors will be made aware of the presence of Himalayan balsam and how to identify it (see Appendix F) and the potential presence of American mink and Turkish crayfish;
- Biosecurity protocols will be implemented for works taking place within close proximity to any stands of Himalayan Balsam, such as the cleaning of all footwear and machinery, prior to, and on completion of each working window.
- All vehicles and equipment (including footwear) that enter the watercourse will be cleaned and disinfected before entering the water following the Environment Agency's 'clean, check and dry' procedure to prevent the spread of non-native invasive species. This process will be done far enough away from the watercourse to prevent runoff;
- Works during summer months will be preceded by strimming areas of Himalayan balsam in advance of the flowering period (June). Vegetation will then be kept short until completion of the works; and
- All plant matter and soil considered likely to be contaminated will either be retained on site or will be disposed of as controlled waste at a licenced waste facility.

Enhancement measures

5.18 As designs for the site develop, an ecologist can provide site specific advice on ways to enhance the wildlife value of the final development and contribute towards a net gain in biodiversity. Simple examples of enhancement measures which could be considered and designed into the proposals include (but are not limited to):

- Additional planting of scrub and scattered trees in and around the margins of the site, that is in excess of mitigation requirements, will improve the diversity of habitats. New planting should comprise native species of local provenance, to include berry bearing shrubs. Planting of such additional native species will benefit many species of wildlife including bats, birds and amphibians;
- The creation of habitat for invertebrates by excavating small trenches, filling with suitable materials (e.g. rubble and woody debris) and covering with freely draining soils to form a low mound and sown/planted with nectar rich wildflowers/shrubs;
- Creation of log/brush piles from felled trees/scrub to attract invertebrates and fungi, which will also provide short and long-term refugia for mammals, amphibians and invertebrates; and
- The installation of additional bat and bird boxes within the neighbouring habitats (with landowner permission).

Re-survey of the Site

5.19 If no works are undertaken on site within 24 months of this survey or if any changes to the proposals are made, a further ecological survey may be necessary (because of the mobility of animals and the potential for colonisation of the site)

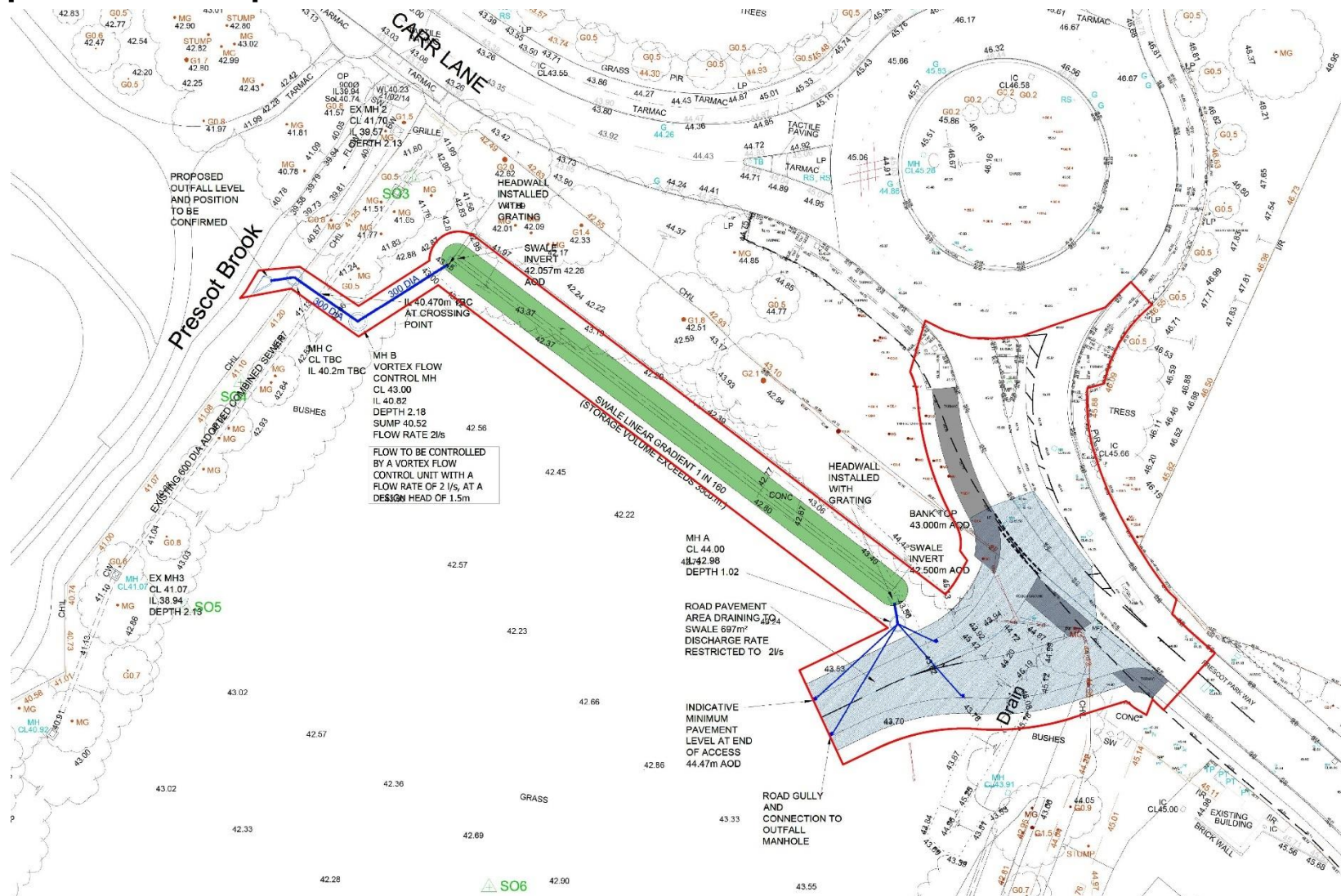
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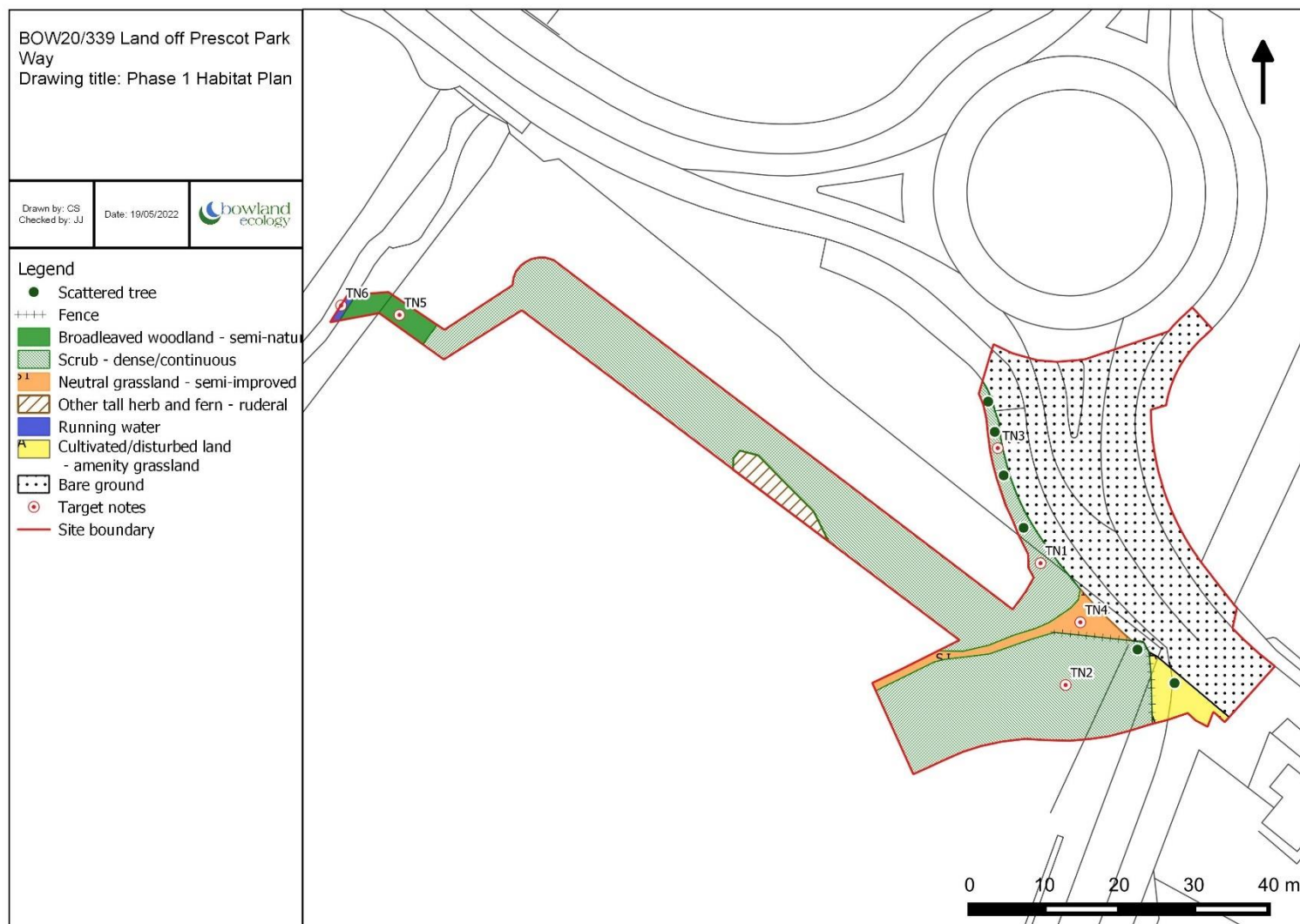
Appendix A – Bat Roost Potential and Habitat Suitability Categories

Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape (Collins, 2016).

Suitability	Description of Roosting Habitat	Commuting & Foraging Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitats to be used on a regular basis or by a larger number of bats (i.e. unlikely to be suitable maternity or hibernation). A tree of sufficient size and age to contain potential roosting features but with none seen from the ground, or feature seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status.	Continuous habitat connected to the wider landscape that could be used by bats for commuting, such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging, such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis, and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous high quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats, such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close and connected to known roosts.



Appendix C – Phase 1 Habitat Plan



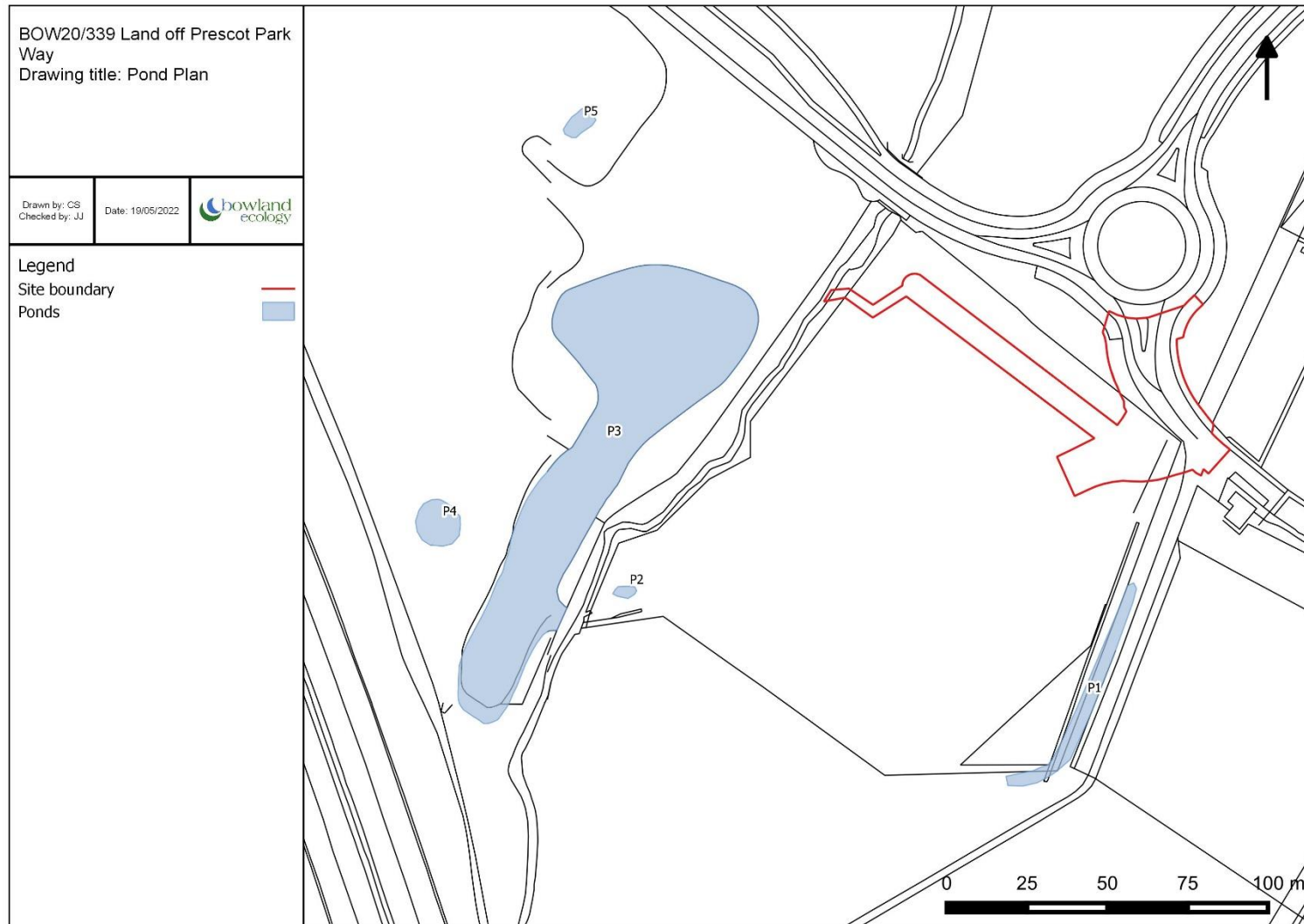
Appendix D – Phase 1 Habitat Survey Target Notes

See the Phase 1 Habitat Plan for location of each Target Note.

No	Description	Photograph
TN1	Narrow strip of dense scrub located towards the west of the site bounds the roundabout and adjacent public footpath. Species recorded include dogwood (<i>Cornus sanguinea</i>), buddleja (<i>Buddleja davidii</i>) and elder (<i>Sambucus nigra</i>). Beneath the dense scrub, the ground is predominantly bare with an accumulation of leaf litter; species present include cleavers (<i>Galium aparine</i>), smooth sow-thistle (<i>Sonchus oleraceus</i>), spear thistle (<i>Sonchus oleraceus</i>), creeping buttercup (<i>Ranunculus repens</i>) together with moss and fern species The scrub provides habitat for foraging and commuting bats, foraging and nesting birds and foraging and refuge habitat for amphibians, reptiles and small mammals.	
TN2	Bramble (<i>Rubus fruticosus</i> agg.) dominated dense scrub is also located towards the south of the site. The scrub provides habitat for foraging and commuting bats, foraging and nesting birds and foraging and refuge habitat for amphibians, reptiles and small mammals.	
TN3	Semi-mature scattered trees are present towards the west of the site, within the area of dense scrub. Species present include hazel (<i>Corylus avellana</i>), alder (<i>Alnus glutinosa</i>), oak (<i>Quercus</i> sp.) and conifer species. The trees provides habitat for foraging and commuting bats, foraging and nesting birds and foraging and refuge habitat for amphibians, reptiles and small mammals.	
TN4	Narrow strip of semi-improved neutral grassland located towards the south-west of the site (TN3) is composed of moss species, creeping buttercup, common mouse ear (<i>Cerastium fontanum</i>), creeping cinquefoil (<i>Potentilla reptans</i>), Yorkshire fog (<i>Holcus lanatus</i>), ribwort plantain (<i>Plantago lanceolata</i>) and red fescue (<i>Festuca rubra</i>). This habitats has been heavily grazed by rabbits (<i>Oryctolagus cuniculus</i>), therefore resulting in very short sward.	

	The grassland provides habitat for foraging bats, birds, small mammals together with basking and foraging habitat for reptiles.	
TN5	The survey area covers a small area of semi-natural broadleaved located towards the north-west of the site. This woodland extends to the north-east and south-west, bounding Prescott Brook. As a whole, woodland canopy species include willow (<i>Salix</i> sp.), sycamore (<i>Acer pseudoplatanus</i>), hawthorn (<i>Crataegus monogyna</i>), elder (<i>Sambucus nigra</i>), hazel (<i>Corylus avellana</i>) and silver birch (<i>Betula pendula</i>). A sparse understory is dominated by common nettle (<i>Urtica dioica</i>) and bramble (<i>Rubus fruticosus</i> agg.). Frequent Himalayan balsam is also present. The scrub provides habitat for foraging and commuting bats, foraging and nesting birds and foraging and refuge habitat for amphibians, reptiles and small mammals.	No photo.
TN6	The survey area encompasses a small section of Prescott Brook. This area of running water flows from north to south and is shaded by the surrounding broadleaved woodland. Prescott Brook is, on average, approximately 1-2 metres wide, with a depth of 20-30 cm and has a silt and cobble substrate. The flow was slow to moderate at the time of survey and no aquatic vegetation was present within the watercourse. The banks are low and vertical, comprising bare earth, which is eroded in some areas. Vegetation surrounding the watercourse is dominated by Himalayan balsam. Prescot Brook provides habitat for commuting and foraging otter and is considered sub-optimal for otter holt/lay-up sites or for water vole.	

Appendix E – Pond Plan



Appendix F – Information Sheets for Contractors

Amphibians

Information, legal responsibilities and best practice for the construction industry



Legal Information

In England it is **illegal** to deliberately capture, injure or kill a GCN, deliberately disturb a GCN, deliberately take or destroy GCN eggs, damage or destroy a breeding site or resting place used by a GCN. Penalties on conviction: the maximum fine is £5,000, up to six months in prison, per offence and forfeiture of items used to commit the offence, e.g. vehicles, plant, machinery. The following points are defences:

- ✓ Tending/caring for a GCN solely for the purpose of restoring it to health and subsequent release.
- ✓ Mercy killing where there is no reasonable hope of recovery (provided that person did not cause the injury in the first place – in which case the illegal act has already taken place).

Good to know-

- Newts are also carriers of the waterborne fungi- chytrid fungus. This fungus can be spread between water bodies and can cause the disease chytridiomycosis. If any work is being carried out around standing water then disinfection of footwear and equipment is important to prevent the spread of the disease.
- If a great crested newt is found before or after work (for example, pond management work) is commenced, then **work should be immediately postponed** and then started another time or with different methodology. If the newts cannot avoid being harmed then a license must be applied for.

Life cycle and seasonal appearances

April-May= This is when newts undertake courtship displays and mate with females. Certain amphibians can start this process as early as February.

June-August= Larval growth and development of newly hatched juveniles- This event can occur anytime between March and October (depending on pond conditions and other factors such as climatic conditions)

August-October= Metamorphosis and juvenile emigration to terrestrial environments occurs at this stage

November-February= Hibernation on land

February-May= Emergence of adult form newts and dispersal to ponds

Other protected amphibians

The other two species of **newts (smooth and palmate)** are **protected under Section 9 (5) of the Wildlife & Countryside act 1981**, which prohibits the 'sale, barter, exchange, transporting for sale and advertising to sell or to buy. Common toads and common frogs are also protected under this legislation. **The natterjack toad** (which are smaller than common toads at 6-7cm) are given **full protection** by section 9 of the same act due to the fact they are a threatened and rare species in the UK, being confined to only a couple coastal territories. It is an offence to 'intentionally kill. Injure or take (capture, etc); possession; intentional disturbance whilst occupying a 'place used for shelter or protection' and destruction of these places; sale, barter, exchange, transporting for sale or advertising to sell or buy'.



Common frog (top), common toad (middle), natterjack toad (bottom)

Key ID Features

Smooth Newt (*Lissotriton vulgaris*)

Egg stage- Smooth eggs are indistinguishable against palmate newt eggs, are rounded (not oval) and a grey/brown colour when freshly laid.

Larvae stage- Larvae are up to 3-4cm long (shorter than GCN), and have less obvious speckling and smaller gills.

Adult stage- Adult smooths measure up to 10cm, have a paler body than GCN with an orange belly stripe. Smooths lack some features of palmate newts (notably pink chin, and a cream spot). There is a slight silver/ orange strip along the base of the tail. The crest is wavy along whole back and tail, unlike palmates where it is more of a ridge shape.



(Young smooth)

Species protected by UK and European law Great Crested Newt (GCN)- *Triturus cristatus*



GCN eggs are oval shaped with a pale yellow to white colour, these are usually found singly wrapped in folded leaves. Smooth and Palmate eggs are grey/ brown when freshly laid.

Adults are black, and are also covered in bright yellow spots on the underside and irregular blotches.

Adults also have a jagged crested tail with a recognisable stripe. Both males and females also have white speckling on the sides.



Larvae (Efts) are up to 5-9cm long and have distinguishable black speckling on the tail and body



Palmate Newt (*Lissotriton helveticus*)

Egg stage- Palmate eggs are indistinguishable against smooth newt eggs, are rounded (not oval) and a grey/brown colour when freshly laid.

Larvae stage- Larvae are up to 3-4cm long (shorter than GCN), and have less obvious speckling and smaller gills.

Adult stage- Adult palmates measure up to 10cm, have a paler body than GCN with an orange belly stripe. They also have a pink chin with no spots/ speckles and a cream spot on both hind feet.



References:
Acknowledgements:

Version 10 December 2018

Reptiles

Information, legal responsibilities and best practice for the construction industry



Legal Information

All of the UK's native reptiles are protected (to varying levels) under the Wildlife and Countryside act 1981 (as amended in 1988 and 1991). The reptiles summarised in this information poster are all natives. FULL protection is granted only to the sand lizard, which means that **'the intentional killing, injuring or taking (capture, etc); possession; intentional disturbance whilst occupying a 'place used for shelter or protection' and destruction of these places; sale, barter, exchange, transporting for sale and advertising to sell or to buy.'** Is strictly prohibited. Protection against killing, injuring and the sale of... applies to the four other 'widespread' species of reptiles- namely slow worm, adder, grass snake and the common lizard.

Exceptions to this legislation include allowing things to happen that are reasonable, unavoidable and unpredictable, such as running over a reptile.

Life cycle

April/May- reptiles emerge from hibernation, shortly after which males compete for mating

June/July- Female grass snakes lay/ give birth (however smooth snakes tend not to give birth every year!)

July/August- Lizards give birth to live young

September- smooth snakes give birth to live young

August-October- reptiles prepare for winter by feeding (lizards eat invertebrates and snakes)

November-March- reptiles hibernate over winter (lizards often amongst groups around rocks and dead wood).

Other reptiles



Sand Lizard (*Lacerta agilis*)- Strictly protected by UK and European law. A license is required in order to carry out work in their vicinity. They reach up to 20cm in length and require both undisturbed sand and mature sunny habitats on dunes.



Common Lizard (*Lacerta vivipara*)- Protected under UK law. Most common reptile in Britain. Found in various habitats such as heathland, moorland and woodland. Variable in colour but usually brownish-grey with rows of darker spots and stripes.

Smooth snake (*Coronella austriaca*)

Like the sand lizard this species is fully protected by UK and European law. It looks similar to an adder, however does not have the distinctive adder zig zag pattern across its back, and has a more slender appearance. The smooth snake is a rarity in the UK and can only be found in a few places (usually similar habitats to the sand lizard). As with other snakes, the smooth basks in the sun

Slow worm- *Anguis fragilis*



Identifiable features

- Up to 50cm long
- Leg-less lizard (not a worm or a snake!)
- Shiny
- Golden brown

Conservation status and other information

Protected in the UK under the Wildlife and Countryside Act 1981. Also a priority species under the UK Post-2010 biodiversity framework.

The slow worm is distinguishable from snakes due to its ability to blink with its eyes. They can be found on habitats such as heathland, woodland edges and tussocky grassland. Snakes are much larger than slow worms, and females of the latter can sport a dark stripe down their backs whilst being larger than their male counterparts. Slow worms can live up to 20 years in the wild.



Grass Snake- *Natrix natrix* (*Natrix helvetica*)

Identifiable features

- Length can range from 90-150cm
- Yellow collar
- Black bars on flanks
- Grey/green in colour



Conservation status and other information

Protected in the UK under the Wildlife and Countryside act 1981. Also a priority species under the UK Post-2010 biodiversity framework.

The grass snake is our largest snake in the UK, and can weigh more than double the amount of an adder. They can be found in wetland habitats, and dry grasslands and gardens with ponds. Females are



bigger than males, and lay up to 40 eggs in rotting vegetation; in order to incubate them until prime hatching time in early autumn. These snakes can be seen from April to October. Females often seek out places of warmth such as manure heaps and rotting reeds.

Adder- *Vipera berus*



Identifiable features

- **Venomous species**
- Dark zig-zag pattern down back
- Length= 60-80cm
- Grey to brown in colour but males tend to be more silvery-grey

Conservation status and other information

Protected in the UK under the Wildlife and Countryside act 1981. Also a priority species under the UK Post-2010 biodiversity framework. Adders are a relatively small species of snake, and prefer to nest in heathland, moorland and woodland habitats. Females give birth to up to 20 live young. The first warm days of March is the most likely time adders can be found in the warm cover underneath rocks and logs. Adder bites are rare and are usually only dangerous towards the young or elderly. However they can be very painful and **medical attention should be sought immediately.**



References:
Acknowledgements:

Version 1 December 2018

Himalayan Balsam

Information, legal responsibilities and best practice for the construction industry



Legal Information

In England it is illegal to plant or cause the spread of Himalayan balsam in the wild. If Himalayan balsam is taken away from the site of origin, the plant and its associated materials, e.g. soil, become classed as controlled waste and must be disposed of at an authorised landfill site. Furthermore, powers are given to environmental authorities to enter into control agreements and orders with landowners, in order to ensure action is taken to control non-native invasive species on their land. Legislation governing the movement and spread of Himalayan balsam in England includes the following;

- Wildlife and Countryside Act 1981 (as amended) Section 14;
- Environmental Protection Act 1990 S33 & 44; and
- Infrastructure Act 2015 Sections 23 to 25.

Impacts

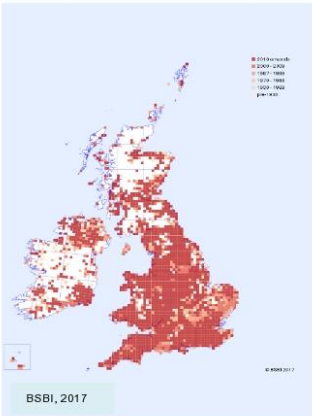
Himalayan balsam is a non-native, rapidly colonising plant. It negatively impacts the growth and success of native plants, as dense stands grow quickly and prevent other plants from successively germinating and producing flowers. The species rapidly dominates an area, creating dense monoculture stands, commonly observed on river banks, but also within woodland and other habitats with damp ground.

Management of Himalayan balsam

- Prior to commencement of any works on site all staff on site should be made aware of the presence and location of Himalayan balsam on site and all stands of Himalayan balsam, including a 7 m buffer zone should be marked out with hi-visibility fencing;
- Prior to the plant setting seed in June it should be strimmed to the ground to prevent the dispersal of seeds;
- The use of mechanical plant over infected areas should be kept to a minimum;
- Biosecurity measures should be implemented whilst on site to prevent cross contamination. This includes the cleaning of footwear and machinery, prior to, and on completion of each working window to ensure that Himalayan balsam is not taken off or spread around the site.
- Himalayan balsam is classed as controlled waste. As such, all arisings and potentially contaminated soil from the plant must be disposed of in an appropriate manner to ensure that the waste does not cause pollution of the environment.

Distribution & Spread

Himalayan balsam is widely distributed across most of lowland England and Wales and many parts of Scotland and Ireland. Each plant produces approximately 2,500 seeds and when mature the seeds open 'explosively if disturbed' and can project several meters from the parent plant. Furthermore, the seeds also float, making watercourses a perfect vector for their dispersal.



Useful references & guides:

GB non-native species secretariat
<http://www.nonnativespecies.org/home/index.cfm>
Prevent harmful weeds and invasive non-native plants spreading
<https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants>

Key ID Features



Identifying Himalayan balsam

Himalayan balsam, also referred to as Indian balsam (*Impatiens glandulifera*) is a tall, annual plant. As a mature plant it can grow up to 3 m in height and is easily recognisable with pink/purple flowers, a fleshy stem, turning more pink/red in the summer, with lanceolate shaped, long, green leaves tinged with pink. In summer, the plant forms dense stands, commonly along watercourses and other damp habitats.

In late July/August exploding seed pods appear. The pods enable the plant to disperse seeds up to distance of 7 m from the mature plant, enabling the effective spread of the plant in the wild.

As an immature plant it is more difficult to identity. Seedlings begin to appear in March, and in winter, when the plant dies back it can resemble the remains of hay.

References: Botanical Society of Britain & Ireland, 2017, GB non-native species secretariat, RPS group Plc.
Bowland Ecology Ltd. 2 York Street, Clitheroe, Lancashire, BB7 2DL

Version 1 November 2017

Appendix G – Legal Information

This report provides guidance of potential offences as part of the impact assessment. This report does not provide detailed legal advice and for full details of potential offences against protected species the relevant acts should be consulted in their original forms i.e. The Wildlife and Countryside Act, 1981, as amended, The Countryside and Rights of Way Act 2000, The Natural Environment and Rural Communities Act, 2006 and The Conservation of Habitats and Species Regulations 2017.

Species	Legislation	Offences	Notes on licensing procedures and further advice
Species that are protected by European and national legislation			
Badger	Protection of Badgers Act 1992	Wilfully kill, injure or take a badger; Intentionally or recklessly damage, destroy or obstruct access to a badger sett; Disturb a badger in its sett. It is not illegal to carry out disturbance activities in the vicinity of setts that are not occupied.	Where required, licences for development activities involving sett loss, damage or disturbance are issued by Natural England (NE). Licences for activities involving watercourse maintenance, drainage works or flood defences are issued under a separate process. Licences are normally not granted from December to June inclusive because cubs may be present within setts. https://www.gov.uk/badgers-protection-surveys-and-licences
Bats <i>European protected species</i>	Conservation of Habitats and Species Regulations 2017 Reg 41	Deliberately ¹ capture, injure or kill a bat; Deliberate disturbance ² of bats; Damage or destroy a breeding site or resting place used by a bat. The protection of bat roosts is considered to apply regardless of whether bats are present.	An NE licence in respect of development is required in England. https://www.gov.uk/bats-protection-surveys-and-licences <i>European Protected Species: Mitigation Licensing- How to get a licence</i> (NE 2010) <i>Bat Mitigation Guidelines</i> (English Nature 2004) <i>Bat Workers Manual</i> (JNCC 2004) <i>BS8596:2015 Surveying for bats in trees and woodland</i> (BSI, 2015)
	Wildlife and Countryside Act 1981 (as amended) ⁴ S.9	Intentionally or recklessly ³ obstruct access to any structure or place used for shelter or protection or disturb a bat in such a place.	Licence from NE is required for surveys (scientific purposes) that would involve disturbance of bats or entering a known or suspected roost site.

Species	Legislation	Offences	Notes on licensing procedures and further advice
Birds	Conservation of Habitats and Species (Amendment) Regulations 2012	N/A	Authorities are required to take steps to ensure the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of the upkeep, management and creation of such habitat. This includes activities in relation to town and country planning functions.
	Wildlife and Countryside Act 1981 (as amended) ⁴ S.1	Intentionally kill, injure or take any wild bird; Intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; Intentionally take or destroy the nest or eggs of any wild bird. Schedule 1 species Special penalties are liable for these offences involving birds on Schedule 1 (e.g. most birds of prey, kingfisher, barn owl, black redstart, little ringed plover). Intentionally or recklessly ³ disturb a Schedule 1 species while it is building a nest or is in, on or near a nest containing eggs or young; intentionally or recklessly disturb dependent young of such a species.	No licences are available to disturb any birds in regard to development. Licences are available in certain circumstances to damage or destroy nests, but these only apply to the list of licensable activities in the Act and do not cover development. General licences are available in respect of 'pest species' but only for certain very specific purposes e.g. public health, public safety, air safety. https://www.gov.uk/wild-birds-protection-surveys-and-licences https://www.gov.uk/prevent-wild-birds-damaging-your-land-farm-or-business
Great crested newt <i>European protected species</i>	Conservation of Habitats and Species Regulations 2017 Reg 41	Deliberately ¹ capture, injure or kill a great crested newt; Deliberate disturbance ² of a great crested newt; Deliberately take or destroy its eggs; Damage or destroy a breeding site or resting place used by a great crested newt.	Licences issued for development by NE. https://www.gov.uk/great-crested-newts-protection-surveys-and-licences <i>European Protected Species: Mitigation Licensing - How to get a licence</i> (NE 2010) <i>Great Crested Newt Mitigation Guidelines</i> (English Nature 2001)
	Wildlife and Countryside Act 1981 (as amended) ⁴ S.9	Intentionally or recklessly ³ obstruct access to any structure or place used for shelter or protection or disturb a great crested newt in such a place.	Licences issued for science (survey), education and conservation by NE.

Species	Legislation	Offences	Notes on licensing procedures and further advice
Reptiles (species that are not European protected): Adder Common lizard Grass snake Slow worm	Wildlife and Countryside Act 1981 (as amended) ⁴ S.9(1) (part); S.9(5)	Intentionally kill or injure any common reptile species.	No licence is required in England. However an assessment for the potential of a site to support reptiles should be undertaken prior to any development works which have potential to affect these animals. https://www.gov.uk/reptiles-protection-surveys-and-licences
Water vole	Wildlife and Countryside Act 1981 (as amended) ⁴ S.9	Intentionally kill, injure or take water voles; Intentionally or recklessly ³ damage, destroy or obstruct access to any structure or place used for shelter or protection; Disturb a water vole in such a place.	No licence is required for survey in England, unless you are likely to commit an action that is otherwise illegal. There are currently no licensing purposes that explicitly cover development activities or activities associated with the improvement or maintenance of waterways. However when a proposed lawful activity has no opportunity to retain water voles within a development site and their translocation would result in a conservation benefit then a licence from NE may be obtained. <i>The Water Vole Conservation Handbook</i> (R. Strachan, T. Moorhouse & M. Gelling, Wildlife Conservation Research Unit (WildCRU), 3rd Edition 2011). https://www.gov.uk/water-voles-protection-surveys-and-licences Water voles and development licensing policy - NE Technical Information Note TIN042 2008
Otter <i>European protected species</i>	Conservation of Habitats and Species Regulations 2017 Reg 41	Deliberately ¹ capture, injure or kill an otter; Deliberate disturbance ² of otters; Damage or destroy a breeding site or resting place used by an otter.	Licences issued for development by NE. https://www.gov.uk/otters-protection-surveys-and-licences <i>European Protected Species: Mitigation Licensing- How to get a licence</i> (NE 2010)
	Wildlife and Countryside Act 1981 (as amended) ⁴ S.9	Intentionally or recklessly ³ obstruct access to any structure or place used for shelter or protection or disturb an otter in such a place.	No licence is required for survey in England. However, a licence would be required if the survey methodology involved disturbance.
Other species			

Species	Legislation	Offences	Notes on licensing procedures and further advice
Rabbits For BAP species and Species of Principal Importance, see below	Wild Mammals (Protection) Act 1996	Intentionally inflict unnecessary suffering to any wild mammal.	Natural England provides guidance in relation to rabbits (Technical Information note TIN003, Rabbits- management options for preventing damage, July 2007) and foxes (which are also protected under the Wildlife and Countryside Act 1981 from live baits and decoys, see Species Information notes SIN003 (2011), <i>Urban foxes</i> and SIN004 (2011) <i>The red fox in rural areas</i> as well as other wild mammals. Lawful and humane pest control of these species is permitted.

¹ Deliberate capture or killing is taken to include "accepting the possibility" of such capture or killing ² Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong. Lower levels of disturbance not covered by the Conservation of Habitats and Species Regulations 2017 remain an offence under the Wildlife and Countryside Act 1981 although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided. Thus deliberate disturbance that does not result in either (a) or (b) above would be classed as a lower level of disturbance. ³ The term 'reckless' is defined by the case of Regina versus Caldwell 1982. The prosecution has to show that a person deliberately took an unacceptable risk, or failed to notice or consider an obvious risk. ⁴ The Wildlife and Countryside Act (1981) has been updated by various amendments, including the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006. A full list of amendments can be found at <https://jncc.gov.uk/our-work/wildlife-countryside-act/>

Site Designation	Legislation	Protection	Guidance
Site of Special Scientific Interest (SSSI)	Wildlife and Countryside Act 1981 (as amended)	It is an offence to carry out or permit to be carried out any potentially damaging operation. SSSIs are given protection through policies in the Local Development Plan.	Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate consent under S.28 before undertaking operations likely to damage a SSSI. S.28G places a duty on all public bodies to further the conservation and enhancement of SSSIs. Further guidance can be found in the National Planning Policy Framework and the accompanying joint Circular (ODPM Circular 6/2005 & Defra Circular 01/2005) England, which is still valid.
Local Sites	There is no statutory designation for Local Sites	Local Sites are given protection through policies in the Local Development Plan.	Development proposals that would potentially affect a Local Site would need to provide a detailed justification for the work, an assessment of likely impacts, together with proposals for mitigation and restoration of habitats lost or damaged. Further guidance can be found in the National Planning Policy Framework and the accompanying joint Circular (ODPM Circular 6/2005 & Defra Circular 01/2005), which is still valid.

Habitats & Species	Legislation	Guidance
Species and Habitats of Principal Importance for the Conservation of Biodiversity	Natural Environment & Rural Communities Act 2006 S.40 (which superseded S.74 of the Countryside & Rights of Way Act 2000).	S.40 of the NERC Act 2006 sets out the duty for public authorities to conserve biodiversity in England. Habitats and species of principal importance for the conservation of biodiversity in England (identified by the Secretary of State in consultation with NE) are referred to in S.41 of the NERC Act: http://webarchive.nationalarchives.gov.uk/20140605090108/http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx The list of habitats and species was updated in 2007 to ensure that it remained focussed on the correct priorities: https://jncc.gov.uk/our-work/uk-bap/ The criteria for selection included international threat, responsibility and importance, rate of decline/risk, importance of habitats for key species, and other important factors. Ecological impact assessments should include an assessment of the likely impacts to these habitats and species.
Himalayan balsam	Wildlife and Countryside Act 1981 (as amended) S.14	It is illegal to plant these species or otherwise cause them to grow or spread in the wild. Any contaminated soil or plant material containing Japanese knotweed or giant hogweed is classified as controlled waste and should be disposed of in a suitably licensed landfill site, accompanied by appropriate Waste Transfer documentation, and must comply with section 34 of the Environmental Protection Act 1990.