

KING GEORGE V PLAYING FIELDS, PRESCOT

PRELIMINARY ECOLOGICAL APPRAISAL

February 2024

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|-----------------------|-------------------------------------------------------|------------|
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## 1 SUMMARY

This Preliminary Ecological Appraisal (PEA) included a desk study of designated sites and ecological data, and a detailed walkover survey of the site considering habitats and species.

This report is considered to be sufficient to draw robust and reliable conclusions to give the local authority confidence that all ecological constraints are to be avoided, mitigated and compensated for, and ecological enhancements are proposed. (See section 5).

Reasonable Avoidance Methods (RAMs) have been recommended to be undertaken during the construction phase for Breeding Birds, Amphibians, Badgers and Hedgehogs.

These can be secured through an appropriately worded planning condition as part of any planning consent.

| Ecological Receptor / Constraint                                                                 | Timescales                       |
|--------------------------------------------------------------------------------------------------|----------------------------------|
| <b>Amphibians / Badger / Hedgehog</b><br>Reasonable Avoidance Methods (RAMs) to be undertaken.   | During construction              |
| <b>Trees</b><br>The retained trees should be protected in line with BS5837:2012.                 | Prior to and during construction |
| <b>Birds</b><br>Pre-commencement check and Reasonable Avoidance Methods (RAMs) to be undertaken. | Prior to and during construction |

Table 1: Executive Summary of Ecological recommendations

## 2 INTRODUCTION

### 2.1 Background

Weddles were commissioned by Steve Wells Associates to undertake a Preliminary Ecological Appraisal for the site at King George V Playing Fields, Prescott.

This Preliminary Ecological Appraisal aims to:

- Identify any likely ecological constraints
- Propose any necessary design changes
- Identify any further ecological surveys required to enable an Ecological Impact Assessment (EclA) to be carried out
- Propose any ecological enhancements

This report has been prepared by Neil Northrop BA DipLD MCIHort MARborA CMLI with over 16 years ecological field surveying, scoping, protected species surveys and report writing experience and checked by John Harvey MA (Hons.), ACIEEM, Senior Ecologist NE Bat Level 1 (2018-34117-CLS-CLS), NE GCN Level 1 (2018-37648-CLS-CLS), Badger Class (CL35-00169).

This report has been prepared in line with BS 42020:2013 Biodiversity: Code of practice for planning and development and the CIEEM Guidance for Preliminary Ecological Appraisal (2017), Ecological Report Writing (2017) and Ecological Impact Assessment (2022).

### 2.2 Site Description

The redline application site is approximately 0.88ha in extent, split into two parcels. The site is located within the wider King George V playing fields at Ordnance Survey grid reference SJ 459924.

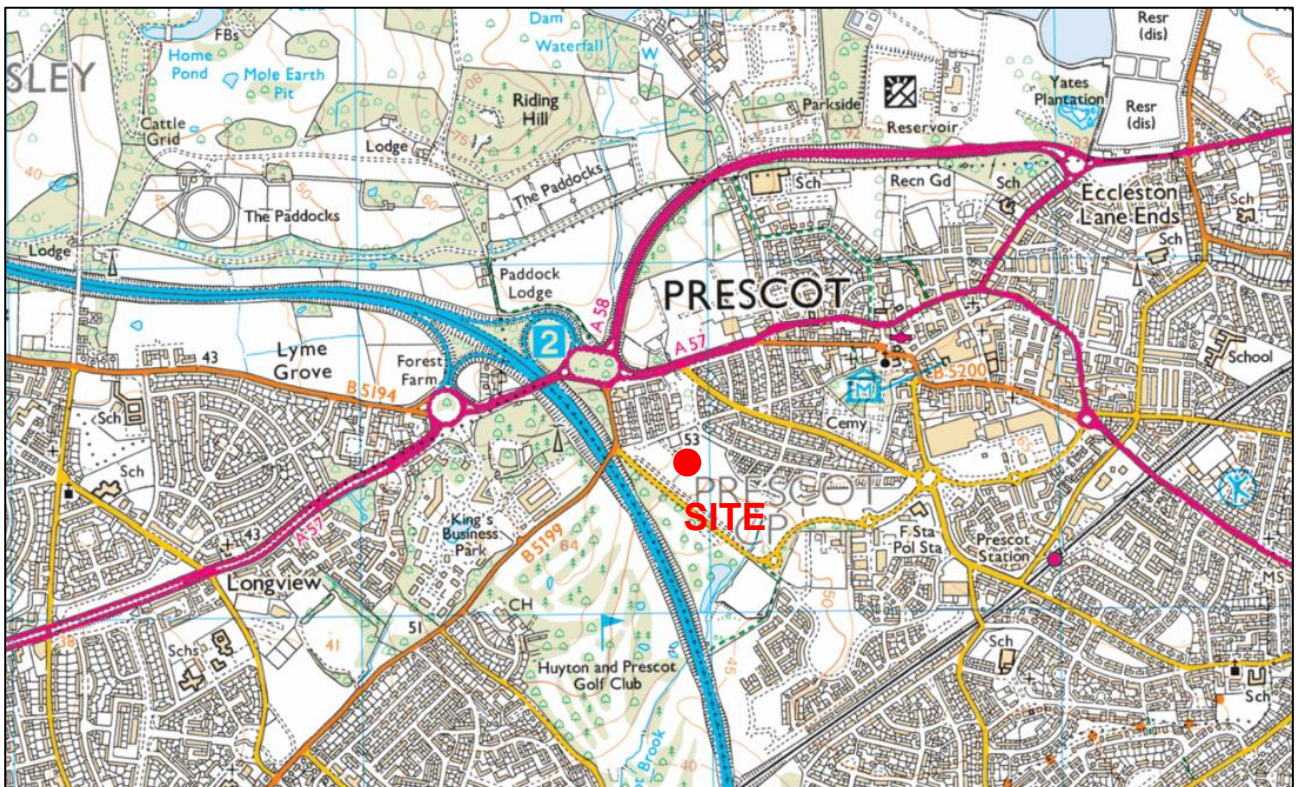


Figure 1: OS Map showing site location

The application site is comprised of intensively managed modified grassland and an area of tarmac hardstanding. Three metal shipping containers are utilised as an existing pavilion.

To the south-west there are a number of young and semi-mature trees planted along Carr Lane. To the south-east, beyond further playing fields is a valley of woodland associated with Prescott Brook which connects to Carr Lane Woods and Pond, forming an important connective ecological habitat. Further to the north and east are suburban residential areas.



Figure 2: Site boundary

## 2.3 The Proposals

A full planning application is being prepared for a new Pavilion with pedestrian access and drainage improvement works to the lower grass pitch.

The proposals are shown on Steve Wells Associates site plan drawing 205-099-0017.

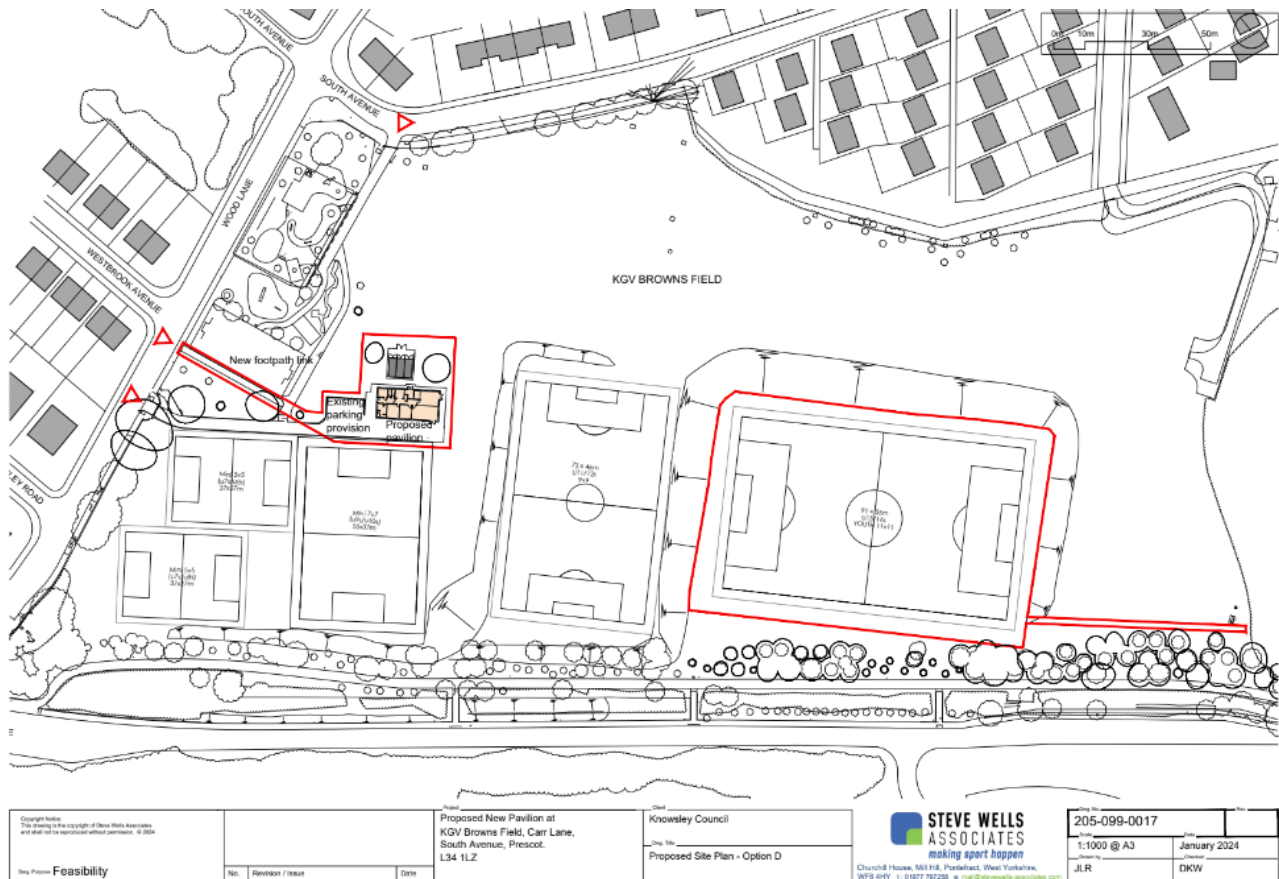


Figure 3: Steve Wells Associates Proposed Site Plan

## 2.4 Planning Status

The site is in Prescott under the development control of Knowsley Metropolitan Borough Council.

## 3 METHODOLOGY

### 3.1 Desk Study

A desk study was undertaken to collate any existing ecological data for the site and its surroundings. As part of the desk study process, the following sources of record have been considered:

- Natural England Magic website for geographic information on key environmental schemes and designations. [www.magic.gov.uk](http://www.magic.gov.uk), February 2024 (see Appendix C).
- Merseyside Bio Bank Centre's data at OS grid reference SJ459924. Received 19<sup>th</sup> January 2024 (full data set available on request).

### 3.2 Field Surveys

#### 3.2.1 Habitat Survey

Habitat surveys were carried out in accordance with the UK Habitat Classification<sup>1</sup> (Professional Edition) at a minimum of Level 4 and at a Minimum Mapping Unit of 25m<sup>2</sup>/5 linear m. The survey was undertaken outside of the optimum period for Habitat Field Surveys (March – October), and this limitation is described in further detail within Section 3.5 of this report.

This appraisal includes a:

- Description of each habitat including a general list of species and assessment of general management.
- Identification of UK BAP Priority Habitats under S41 of NERC Act and Habitats Directive Annex I habitat types.

A UK Habitats Plan of the site showing the various identified habitats is provided in Appendix E.

#### 3.2.2 Badger Surveys

The site and immediate surroundings (where access was possible), was searched for any evidence of Badger (*Meles meles*) in accordance with Surveying Badgers<sup>2</sup> as part of the walkover survey. During the walkover the site was searched for evidence of badger including setts, paths and prints, latrines, dung pits, snuffle holes, foraging signs, and hairs caught on wire fencing.

#### 3.2.3 Ground Level Tree Assessment (GLTA)

Trees within the site were inspected from ground level using binoculars and elevated survey by ladder if safe to search for any field signs of bats or potential roost features (PRF's). The survey was undertaken as part of the walkover survey for all accessible trees.

Each tree was searched for 'Damage' features including; lightning strikes, hazard beams, subsidence cracks, shearing cracks, transverse snaps, welds, lifting bark, desiccation features and frost cracks. 'Association' bat roosting features included fluting and ivy.

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<sup>1</sup> UKHabs (2023) The UK Habitat Classification User Manual, Version 2.01

<sup>2</sup> Cresswell, Harris & Jefferies (1989) Surveying Badgers, The Mammal Society.

| Suitability | Description                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------------------|
| PRF-I       | PRF is only suitable for individual bats or very small numbers of bats due to size of lack of suitable surrounding habitats. |
| PRF-M       | PRF is suitable for multiple bats and may therefore be used by a maternity colony                                            |

Table 2: Categorisation of the PRFs on bats for trees

Once a complete assessment has been taken of each feature on the tree, the tree will fall into one of the three below categories:

| Suitability | Description                                                                                                                                                                                     |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| None        | Either no PRFs in the tree or highly unlikely to be any                                                                                                                                         |
| FAR         | Further Assessment required to establish if any PRFs are present within the tree (such as undertaking a GLTA during the winter period when foliage falls away and features become more visible) |
| PRF         | A tree with at least one PRF present                                                                                                                                                            |

Figure 4: Categorisation of the PRFs on bats for trees

### 3.2.4 Bat Preliminary Roost Assessment of Buildings

A thorough internal and external inspection of the building to look for evidence of bats and assess bat roosting potential was undertaken as part of the walkover survey. Evidence of bats may take the form of droppings, urine stains, feeding remains, live bats, dead bats, grease mark stains, fur and claw marks made by bats regularly roosting in the same location.

During the external survey any roof and walls were inspected from ground level (using binoculars to aid visibility where required) and elevated survey by ladder if safe to search for gaps and voids that would allow bats access to suitable roost sites.

Each building was assigned a roost suitability as defined BCT Good Practice Guidelines, as detailed in the table below:

| Potential Suitability  | Description of Roosting Habitats                                                                                                                                                                                                                                                                                                                                                               |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High suitability       | A structure 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.                                                                                                                                |
| Moderate suitability   | A structure 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 (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed). |
| Low suitability        | 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 habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).          |
| Negligible suitability | No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion                                                                                                                                                                                                   |

|      |                                                                                                                                                                                |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| None | No habitat features on site likely to be used by any roosting bats at any time of year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels) |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Table 3: Classification of building suitability for bats

### 3.2.5 Day Bat Walking (DBW)

Habitat features on site are assessed for their suitability to support foraging and commuting bat activity. This assessment is independent from the suitability of the site to support roosting bats and provides information on the likeliness of bat foraging activity within the local environment, and the dependence of individuals on these features for commuting to alternative roosting sites, foraging and migration.

The site was assigned a habitat suitability as defined BCT Good Practice Guidelines, as detailed in the table below:

| Potential Suitability  | Description of Habitat                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High suitability       | 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<br>High-quality habitat that is well connected to the wider landscape that is likely to be used foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.<br>Site that is close to and connected to known roosts. |
| Moderate suitability   | Continuous habitat connected to the wider landscape that could be used by bats for commuting such as treelines and scrub or linked back gardens.<br>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.                                                                                                                                                                            |
| Low suitability        | 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.<br>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.                                                                                             |
| Negligible suitability | No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour                                                                                                                                                                                                                                                                     |
| None                   | No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provoke continuous lines of shade/protection for flight-lines, or generate /shelter insect populations)                                                                                                                                                                                                                            |

Table 4: Suitability Assessment Criteria for foraging and commuting bats

### 3.2.6 Breeding Birds

Assessment of the sites overall suitability to support breeding and nesting birds was undertaken. The sites habitat composition, geographic locality and association with designated sites are all relevant considerations. Where habitats are suitable to support locally or nationally protected species, breeding individuals or populations of birds further breeding or wintering bird surveys may be required to understand the impact from a proposed scheme.

### 3.2.7 Pond Scoping Assessment

A pond scoping exercise was undertaken to identify any ponds or watercourses located within 500m of the site using ordnance survey maps and aerial photography. The zone of influence may be amended based upon the scale of impact at the discretion of the ecologist.

### 3.2.8 Great Crested Newt Habitat Suitability Index Assessment

Habitat Suitability Index (HSI) assessment was carried out on accessible ponds. The survey was undertaken on as part of the walkover survey. The survey was undertaken in accordance with the methodology described in ARG UK Advice Note 5<sup>3</sup>.

The Habitat Suitability Index (HSI) was developed by Oldham et al (2000) in order to provide an index allowing a direct comparison to be made between different water bodies. This index assesses ponds against different criteria, each of which have a bearing on the likelihood of great crested newts (*Triturus cristatus*) being present in the pond under consideration.

The criterion are Geographic Location; Pond Area; Permanence; Water Quality; Perimeter Shading; Wildfowl presence; Fish Presence; Pond Count (within a 1.0 km radius); Terrestrial Habitat (within 250 m); and Macrophyte Cover.

The HSI score is used to demonstrate whether a pond is suitable for breeding GCN and therefore, if it requires detailed survey. Generally, ponds with a high HSI score are more likely to support GCN than those with lower scores. Pond suitability is categorised using the following scale as shown in the table below:

| HSI Score | Pond Suitability |
|-----------|------------------|
| <0.5      | Poor             |
| 0.5-0.59  | Below Average    |
| 0.6-0.69  | Average          |
| 0.7-0.79  | Good             |
| >0.8      | Excellent        |

Table 5: HSI Suitability

Dr L Brady<sup>4</sup> provides further advice on interpreting HSI suitability scores:

- GCN tend to avoid ponds with low HSI scores. Ponds with relatively low HSI scores (poor to below average) typically only support GCN when they are located close to another occupied pond. Low scoring ponds are therefore only likely to support GCN in areas of high pond density.
- GCN do not necessarily avoid ponds with average suitability, but nor do they actively seek them out. The presence of GCN in ponds with an 'average' HSI score appears to be simply down to chance.
- GCN appear to prefer ponds with high HSI scores. Ponds with relatively high HSI scores (good to excellent) frequently support GCN. Survey work undertaken in SE England indicates that great crested newt are present in more than 90% of ponds with an 'excellent' HSI score.

Therefore, any ponds that have an 'average' habitat suitability score or higher, or any low scoring ponds in areas of high pond density are likely to require further surveys to determine whether GCN are present, and if so, to establish population size.

### 3.2.9 Reptiles

An assessment of the onsite habitats was undertaken in order to evaluate the suitability of the habitats to support either episodically occurring or resident populations of reptiles. Habitats such as grasslands,

<sup>3</sup> ARG UK (2010), ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index, Amphibian and Reptile Groups of the United Kingdom.

<sup>4</sup> Brady, L Habitat Suitability Index; Interpreting HSI Scores, Calluma Ecological Services. Available: <https://www.calumma.co.uk/services/15-information/40-habitat-suitability-index>

heathland, dunes, brownfields, golf courses are all considered suitable, as are sites featuring a mosaic of habitats with south facing slopes or decreased levels of disturbance. Reptiles can be highly dispersive, so an assessment is also made of the suitability of the connective habitat to additional optimal habitats.

### **3.2.10 Invasive Species**

As part of the walkover survey the site and immediate surroundings were searched for any evidence of invasive non-native plant species (INNS) listed on Schedule 9 of the Wildlife and Countryside Act 1981.

The species which are often encountered are Japanese Knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*), Giant Hogweed (*Heracleum mantegazzianum*), *Cotoneaster* sp., *Rhododendron* sp., and Variegated Yellow Archangel (*Lamium galeobdolon* subsp. *argenteum*).

### **3.3 Limitations**

While the survey visit was undertaken outside of the optimum period for vegetation surveys it is not considered to have been a limitation in identifying the range and diversity of habitats onsite and this report is considered suitable to reflect the existing ecological baseline of the development.

## 4 BASELINE ECOLOGICAL CONDITION

### 4.1 Designations

There are no sites with statutory protection within the 2km search area, with the closest being Mill Brow Local Nature Reserve approximately 4km to the north east of the site.

Within the 2km search area there are 9 Local Wildlife Site (LWS). These are listed below, with maps of their locations in Appendix D.

The majority are separated from the site by intervening urban areas and major roads and motorways and are scoped out of further assessment.

The exception is Carr Lane Lake LWS which at its closest point is approximately 100m to the south of the site. This pond is located within woodland and designated for its botanical interest.

This is separated from the site by Carr Lane and a belt of vegetation and trees adjacent to the south-west boundary of the site. Considering the proposed development no direct or indirect impacts are predicted from the proposal.

Natural England Magic website indicates that within a 2km radius there are a number of Priority Habitat Inventory (PHI) allocations of Deciduous Woodland PHI, with the closest approximately 100m to the south west of the site. There are also OMH (draft) sites and Woodpasture and Parkland allocations.

### 4.2 Habitats and Flora

#### 4.2.1 Flora Records

Merseyside Bio Bank (MBB) have provided a range of flora records within the 2km search area with the majority being for Bluebell (*Hyacinthoides non-scripta*). A record for Coral-necklace (*Illecebrum verticillatum*) has been recorded in Knowsley and is rare in the north of England.

All higher plant species present were recorded during the site walkover and are provided within the description of each habitat.

No rare or notable plants were recorded during the site walkover.

#### 4.2.2 Invasive Non-Native Species

MBB provided no invasive non-native species records for the site. Within the 2km search area a number of records were returned for Canadian Waterweed (*Elodea canadensis*), Himalayan Balsam (*Impatiens glandulifera*), Japanese Knotweed (*Fallopia japonica*), *Rhododendron ponticum*, and Monbretia (*Crocasmia crocosmiiflora*).

No invasive species were noted during the site walk over.

### 4.3 Field Survey

The table below summarises the habitats present within and immediately adjacent to the site, and their relevant inclusion as a National Habitat of Principal Importance and / or within the Local Biodiversity Action Plan.

| Primary Habitat Code | Secondary Code (Where required)         | UKHab                           | NHPI | LBAP | N/A |
|----------------------|-----------------------------------------|---------------------------------|------|------|-----|
| g4                   | 106 (mown);<br>517 (recent management); | Modified Grassland              |      |      | ✓   |
| u1b                  | n/a                                     | Developed land – sealed surface |      |      | ✓   |
| u1b5                 | n/a                                     | Buildings                       |      |      | ✓   |
| w1                   | n/a                                     | Broadleaved and Mixed Woodland  |      |      | ✓   |
| -                    | 522(Native);<br>523 (Non-native)        | Individual Trees – Rural        |      |      | ✓   |

Table 6: UKHabs Habitat Types and their relevant inclusion in NHPI or LBAP

#### 4.3.1 g4 - Modified Grassland

The majority of the site is intensively managed modified grassland, used as sports pitches.

The grassland is dominated by Perennial ryegrass (*Lolium perenne*) with occasional Cock's-foot (*Dactylis glomerata*) present. Other forbs rarely present include Dandelion (*Taraxacum officinale*) and Daisy (*Bellis perennis*).



Figure 5: Sport pitch grassland

#### 4.3.2 u1b – Developed land; sealed surface

The existing access road and pedestrian paths are constructed with a sealed tarmac surface.



Figure 6: Tarmac access road

### 4.3.3 u1b5 – Buildings

There are three metal shipping containers onsite, used as changing rooms and equipment storage.

Their descriptions and suitability to support protected species are found within section 4.5.3.

### 4.3.4 Individual Trees

Three trees were recorded within the application site boundary (T1, T2 and T4 as shown on the accompanying Tree Survey). T1 is an early-mature Sycamore (*Acer pseudoplatanus*) and T2 a semi-mature Pear (*Pyrus communis*) both have some underplanting with small patches of Snowberry (*Symphoricarpos* sp) and Elder (*Sambucus nigra*). T2 contains a small nest.

T4 a young and recently planted Cherry (*Prunus avium*) will need to be removed to allow for the new pavilion access footpath. This is young enough that it could be transplanted elsewhere on site.

Adjacent to the south western boundary are a belt of boundary trees ranging from young recently planted to semi-mature. Species include Beech (*Fagus sylvatica*), Lime (*Tilia x europaea*), Holm Oak (*Quercus ilex*), Oak (*Quercus robur*) and Scot's Pine (*Pinus sylvestris*).



*Figure 7: Individual trees present adjacent to the southern boundary*

## 4.4 Fauna

Species legislation is provided in Appendix B.

### 4.4.1 Amphibians

MBB provided 66 records of amphibians of 4 species within the 2km radius from the site including Great Crested Newt (GCN) (*Triturus cristatus*), Smooth Newt (*Lissotriton vulgaris*), Common Toad (*Bufo bufo*) and Common Frog (*Rana temporaria*).

Three records of GCN were returned. One could not be located, while the other two pertained to the same pond located 1.75km north of the site within Knowsley Safari Park. MAGIC returned one pond scoping eDNA result for GCN presence dated 2016 approximately 1.7km north of the site within Knowsley Park.

The pond scoping exercise identified one pond (P1) within the 500m zone of impact for this species. Other ponds west of the M57 within Prescott Golf Course were excluded from the assessment due to being on the far side of a major barrier to species dispersal.



Figure 8: Pond Location Plan

Pond P1 (Carr Lane Lake) was located approximately 100m to the south west of the site and was subjected to a Habitat Suitability Index Assessment which was assessed to support 'Poor' suitability to support breeding newts, primarily due to water fowl presence, population of fish and a lack of wider connectivity.

The application site was considered to provide negligible terrestrial habitat opportunities for GCN and with the intervening Carr Lane which was a relatively busy road the likelihood of GCN being present on the site is negligible and are therefore scoped out of further assessment..

The intensively managed sports field is also of very low value to other common amphibians, but they may be encountered within the site intermittently.

| Pond Name<br>Grid Ref |                     | Pond 1<br>SJ460920 |
|-----------------------|---------------------|--------------------|
| No                    | SI Description      | SI Value           |
| 1                     | Geographic location | 1                  |
| 2                     | Pond area           | 0.8                |
| 3                     | Pond permanence     | 0.9                |
| 4                     | Water quality       | 0.67               |
| 5                     | Shade               | 0.6                |
| 6                     | Water fowl effect   | 0.01               |
| 7                     | Fish presence       | 0.33               |
| 8                     | Pond Density        | 0.38               |
| 9                     | Terrestrial habitat | 0.67               |
| 10                    | Macrophyte cover    | 0.50               |
| <b>HSI Score</b>      |                     | <b>0.41</b>        |
| Suitability           |                     | Poor               |

Table 7: HSI of pond P1

#### 4.4.2 Badger

MBB provided no records for Badger (*Meles meles*) within the site or the 2km search area.

No setts or other field signs of badgers were identified on the site or within the 30m zone of influence. The site itself provides some foraging opportunities for badgers but very limited opportunity for sett building.

The surrounding landscape provide suitable habitat for badgers and therefore individuals from the surrounding area may therefore pass through the application site intermittently.

#### 4.4.3 Bats

MBB provided 350 records of common bat species within the 2km search area, of which 290 pertained to monitoring surveys within Knowsley Estate and Safari Park. Of the remaining 60 records, six were roosts. The nearest, from 2021, being approximately 300m to the north west for a Soprano pipistrelle (*Pipistrellus pygmaeus*) maternity roost within a residential property. The remaining records were of bat activity.

## GLTA

All trees within the application site and located along the site's boundaries were assessed from ground level for their suitability to support roosting bats. No features such as splits, cracks, hollows, woodpecker holes, occlusions etc were identified with **no** suitability for roosts within trees.

### *Roosting Bats – Buildings*

The shipping containers on site were externally and internally visually assessed and all found to be well sealed with no entry points to allow wildlife to access the interior. No PRF's were identified and with a complete absence of suitable crevices they are considered to have **no** suitability for bats.



*Figure 9: Shipping containers southern elevation*



*Figure 10: Shipping containers northern elevation*

## **Day Bat Walk**

The main habitat on the application site, the intensively managed sports fields, provides very limited foraging opportunities for bats. The lines of trees beyond the south-western boundary provide some good commuting and foraging structure.

Overall the application site is considered to be of 'Negligible' suitability to support foraging and commuting bats.

### **4.4.4 Birds**

MBB provided 16 individual records for 5 different species of birds within the 2km search area. These were Barn Owl (*Tyto alba*), Canada Goose (*Branta canadensis*), Graylag (*Anser anser*), House Sparrow (*Passer domesticus*) and Ruddy Duck (*Oxyura jamaicensis*). All were more than 500m from the site with the exception of one Canada Goose record at Carr Lane Lake LWS, 100m to the south west of the site. The Barn Owl record (a WCA schedule 1 species) is for a breeding pair at Knowsley Park approximately 1.9km to the north west of the site.

The majority of the site, the intensively managed sports fields provide no cover and nesting opportunities for birds with limited foraging. The small number of trees and small area of underplanting could support nesting birds. One historic nest was identified within Pear tree T1 however no other active or historic nests were identified.

Limited bird activity was observed during the site walkover with Magpie (*Pica pica*) recorded on the sports fields and with Pigeon (*Columba livia domestica*) and Herring gull (*Larus argentatus*) identified flying overhead.

### **4.4.5 Invertebrates**

MBB provided numerous records for a range of invertebrates. The onsite habitats are likely to support a range of common invertebrate species. However the lack of diverse habitat mosaic means it is unlikely to support a rare or notable invertebrate population. This ecological receptor is therefore not considered further within this report.

### **4.4.6 Other Terrestrial Mammals**

MBB returned eighty records of Hedgehog (*Erinaceus europaeus*) within the site or the 2km search area with approximately half unfortunately road casualties.

Seven Red Squirrel (*Sciurus vulgaris*) records were returned with the closest being islands of woodland habitat formed by Junction 2 of the M57, approximately 500m north west of the site.

No incidental sightings were made, and no specific field signs of small mammals were noted during the site walkover. No squirrel drays were identified within surrounding trees or vegetation.

The site provides negligible opportunities for small mammal foraging although species such as hedgehog may occur on parts of the site if present in the local area.

### **4.4.7 Riparian Mammals**

MBB have provided eleven records of Water Vole (*Arvicola amphibius*). All are located more than 500m from the site with the majority located within Knowsley to the north, and two records pertain to Prescott Brook within Prescott Golf Course from 2000 to the south west of the site. No records of Otter (*Lutra lutra*) were returned within the 2km search radius.

The lack of suitable watercourses or water bodies on site provides no opportunity for these species and they are not considered further within this report.

#### **4.4.8 Reptiles**

MBB provided no recent reptile records for the site or the 2km search area.

The majority of the site was assessed as providing little or no value to reptiles due to the lack of suitable mosaic habitats and opportunities for basking or hibernacula. No reptiles were identified during the walkover survey and are considered unlikely to be present on the site and are therefore scoped out of further assessment.

## 5 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

### 5.1 Ecological Constraints

Avoidance, mitigation and/or compensation measures are required for the following constraints:

#### 5.1.1 Amphibians / Badger / Hedgehog

To minimise the risk of killing or injury to common amphibians/badger/hedgehogs the following RAM's should be implemented during the construction works:

- Any pipes left uncovered overnight will be capped to prevent any badger getting trapped.
- Trenches or excavations left uncovered overnight will have a suitable means of escape (such as wooden plank).
- Any amphibians/hedgehogs found during the search will be relocated to an area of retained habitat.

#### 5.1.2 Breeding Birds

One historic nest was recorded within the application site with a small number of trees and underplanting which could provide suitable nesting habitat for common bird species which may be directly injured or disturbed during the breeding season via nest abandonment.

Onsite Reasonable Avoidance Methods (RAMs) should be followed during the construction phase in order for the works to proceed in a legal and ecologically sensitive manner:

- Vegetation clearance should only be undertaken outside of the recognised breeding birds' season, which runs between March – September inclusive.
- If this is unachievable a Breeding Birds Check should be carried out by a qualified ecologist within 24hrs prior to the onset of works. If nesting birds are recorded within any vegetation due for removal, the area and surrounding 5m radius of the nest will be protected until the birds have fledged.
- If it is not possible to fully observe or inspect all the vegetation to be cleared, the ecologist will be required to supervise the clearance.

#### 5.1.3 Trees

Retained trees should be protected in line with BS5837:2012 '*Trees in relation to Design, Construction and Demolition -recommendations*'.

### 5.2 Summary of Recommendations

The below information will be required to support the development.

| Ecological Receptor / Constraint                                                               | Timescales                       |
|------------------------------------------------------------------------------------------------|----------------------------------|
| <b>Amphibians / Badger / Hedgehog</b><br>Reasonable Avoidance Methods (RAMs) to be undertaken. | During construction              |
| <b>Trees</b><br>The retained trees should be protected in line with BS5837:2012.               | Prior to and during construction |

|                                                                                                  |                                  |
|--------------------------------------------------------------------------------------------------|----------------------------------|
| <b>Birds</b><br>Pre-commencement check and Reasonable Avoidance Methods (RAMs) to be undertaken. | Prior to and during construction |
|--------------------------------------------------------------------------------------------------|----------------------------------|

Table 8: Summary of Ecological recommendations

No further survey work is considered necessary to establish the ecological baseline of the site.

**5.3 Ecological Enhancement Opportunities**

The following ecological enhancements should be incorporated into the proposed development:

- Tree planting which includes a diverse mix of native and non-native species in accordance with recognised good practice to the north and north-west boundaries.
- Bat roosting opportunities affixed to trees within the wider ownership
- Bird nesting opportunities affixed on the northern or eastern elevations of the proposed building or located on trees within the wider ownership

**5.4 Mechanism to secure Mitigation and Enhancement**

The mitigation measures and enhancement opportunities set out above can be secured through an appropriately worded planning condition as part of any planning consent.

## 6 CONCLUSION

This Preliminary Ecological Appraisal has identified a number of ecological constraints as defined within section 5 and specific avoidance, mitigation and compensation measures have been provided.

No further survey work is considered to be necessary to establish the ecological baseline of the site. Ecological enhancements have been proposed within section 5.3.

This PEA report (PEAR) report is considered to be sufficient to support the planning application and no further impact assessment is required. The mitigation and enhancement opportunities can be secured through appropriately worded planning conditions as part of any planning consents granted.

## APPENDIX A – SPECIES LIST

| Common Name        | Scientific Name             |
|--------------------|-----------------------------|
| Beech              | <i>Fagus sylvatica</i>      |
| Cherry             | <i>Prunus avium</i>         |
| Cock's-foot        | <i>Dactylis glomerata</i>   |
| Daisy              | <i>Bellis perennis</i>      |
| Dandelion          | <i>Taraxacum officinale</i> |
| Elder              | <i>Sambucus nigra</i>       |
| Holm Oak           | <i>Quercus ilex</i>         |
| Lime               | <i>Tilia x europaea</i>     |
| Oak                | <i>Quercus robur</i>        |
| Pear               | <i>Pyrus communis</i>       |
| Perennial ryegrass | <i>Lolium perenne</i>       |
| Scot's Pine        | <i>Pinus sylvestris</i>     |
| Snowberry          | <i>Symphoricarpos sp</i>    |
| Sycamore           | <i>Acer pseudoplatanus</i>  |

## **APPENDIX B – KEY SPECIES LEGISLATION**

### **Bats**

Bats are European Protected Species (EPS) listed on Annex IV of the Habitats Directive 1992 which is transposed into UK law by the Conservation (Natural Habitats &c) Regulations 1994 or “Habitats Regulations” and consolidated within The Conservation of Habitats and Species Regulations 2017. Bats are also protected through Schedules 5 and 6 of the Wildlife and Countryside Act (WCA) 1981 (as amended). Certain species are also listed in Section 41 of the NERC Act 2006, as species which are of principal importance for the conservation of biodiversity in England. A number of Bat species are listed as a Biodiversity Action Plan (BAP) priority species on the UK BAP.

### **European Otter (*Lutra lutra*)**

Otters are an EPS listed on Annex IV of the Habitats Directive 1992 which is transposed into UK law by the Conservation (Natural Habitats &c) Regulations 1994 or “Habitats Regulations” and consolidated within The Conservation of Habitats and Species Regulations 2017. Otters are also a UK BAP priority species and listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006. Otters are also protected through Schedules 5 and 6 of the WCA 1981 (as amended).

### **European Water Vole (*Arvicola amphibious*)**

Water Vole is protected under Schedule 5 of the WCA 1981 (as amended) and is listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006. Water Voles are also listed as a UK BAP priority species.

### **Eurasian Badger (*Meles meles*)**

Badgers are protected in the UK under the Protection of Badgers Act 1992 which protects both the individual animals and their setts. However, habitats used for any other purpose are not afforded any form of protection under this or other legislation. This species is also listed on Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) which outlaws certain methods of taking and killing when this is necessary.

### **Hazel Dormouse (*Muscardinus avellanarius*)**

Hazel Dormouse is an EPS included on schedule 2 of the Habitats Regulations, and on Schedule 5 of the WCA 1981 (as amended). Dormouse is listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006 and is also listed as a UK BAP priority species.

### **Polecat (*Mustela putorius*)**

Polecats are protected under Schedule 4 of the Habitats Regulations and Schedule 6 of the WCA 1981 (as amended). Polecat are also listed as a UK BAP priority species.

### **Harvest Mouse (*Micromys minutus*)**

Harvest mouse is listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006 and is also listed as a UK BAP priority species.

### **European Hedgehog (*Erinaceus europaeus*)**

Hedgehog are listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006 and is also listed as a UK BAP priority species.

### **Birds**

All bird species including their eggs and nests, are protected from harm during the breeding season under the WCA 1981 to varying degrees. Some bird species are also included on Schedule 1 of the WCA 1981 (as amended) and inclusion on this schedule makes it an offence to intentionally or recklessly disturb these birds at, on or near an ‘active’ nest. A number of birds are listed as species of

principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006.

### **Reptiles**

Widespread reptiles; Adder (*Vipera berus*), Grass snake (*Natrix natrix*), Common lizard (*Lacerta vivipara*) and Slow-worm (*Anguis fragilis*) are protected against killing, injuring and sale under UK legislation through their inclusion in Appendix III of the Bern Convention (1979), Schedule 5 of the WCA 1981 (as amended).

Sand Lizard (*Lacerta agilis*) and Smooth snake (*Coronella austriaca*) are also EPS listed on Annex IV of the Habitats Directive 1992 which is transposed into UK law by the Habitats Regulations, and on Schedule 5 of the WCA 1981 (as amended).

All reptiles are listed as UK BAP Priority species and are also listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006.

### **Amphibians**

Widespread amphibians; Smooth newt (*Triturus vulgaris*), Palmate newt (*Triturus helveticus*), Common frog (*Rana temporaria*) and Common toad (*Bufo bufo*) are only protected from sale under Schedule 5 of the WCA 1981 (as amended). Common toad is also listed as a UK BAP Priority species.

Great crested newt (*Triturus cristatus*) and Natterjack toad (*Bufo calamita*) are also EPS listed on Annex II and IV and Annex IV respectively of the Habitats Directive 1992 which is transposed into U.K law by the Habitats Regulations, and on Schedule 5 of the WCA 1981 (as amended). Both are also listed as a UK BAP Priority species and GCN are also listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006.

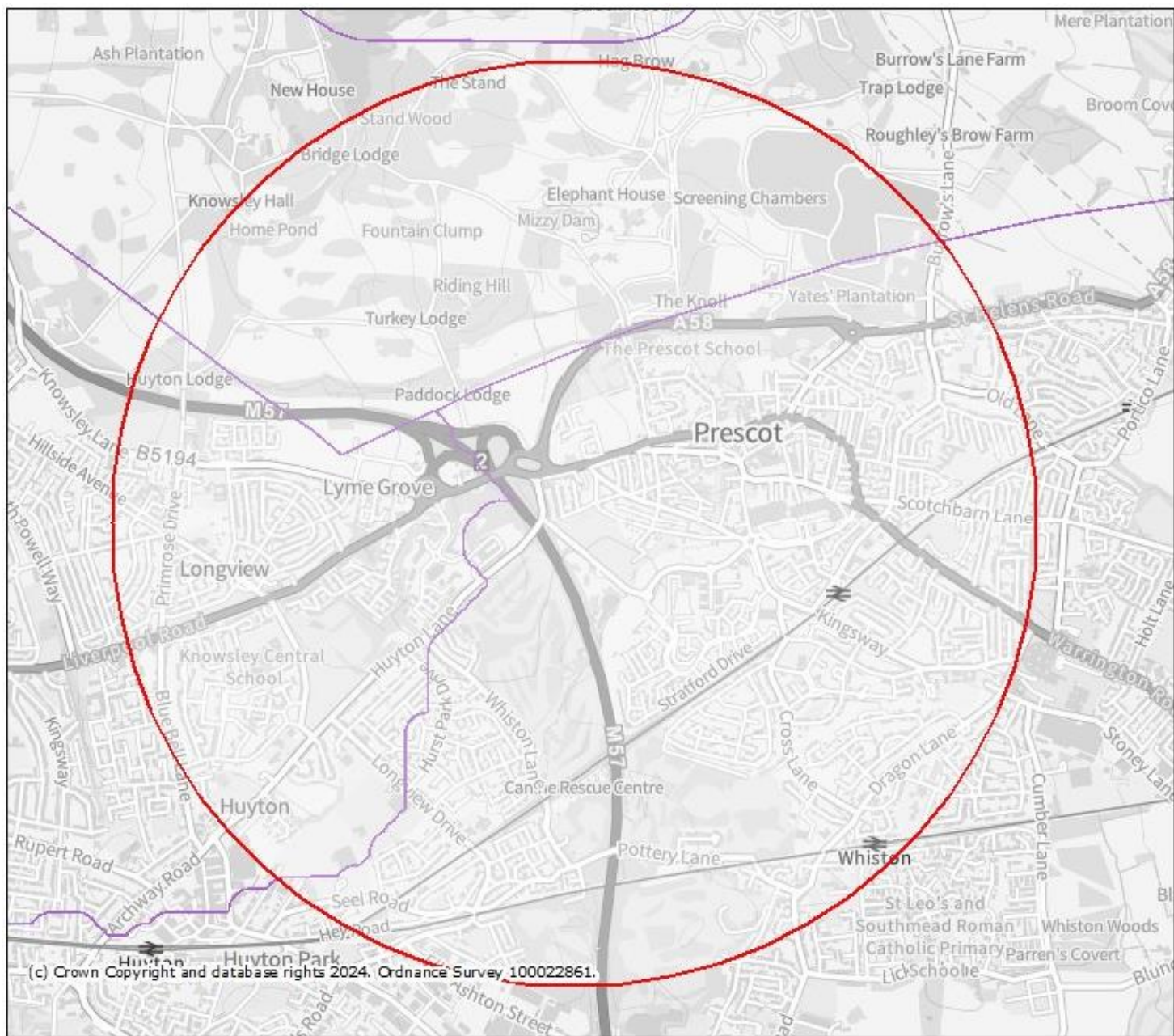
### **Invertebrates**

A large number of British invertebrates are protected under Schedule 5 of the WCA 1981 (as amended). Different species are protected under one, some or all of the parts of Section 9. Hundreds of invertebrate species are of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006. Similarly, several hundred are also listed as a UK BAP priority species.

### **White-clawed crayfish (*Austropotamobius pallipes*)**

White-clawed crayfish is listed in Appendix III of the Bern Convention, and Annexes II and IV of the EC Habitats Directive, and is protected under Schedule 5 of the WCA 1981 (as amended) in respect of taking from the wild and sale. White-clawed crayfish is a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006 and is also listed as a UK BAP priority species.

## APPENDIX C – MAGIC MAP



### Legend

- ☒ Local Nature Reserves (England)
- ☒ National Nature Reserves (England)
- ☒ Ramsar Sites (England)
- ☒ Sites of Special Scientific Interest (England)
- ☐ SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)
- ☐ Special Areas of Conservation (England)
- ☐ Possible Special Areas of Conservation (England)
- ☐ Potential Special Protection Areas (England)

Projection = OSGB36

```
xmin = 339600
```

```
ymin = 389300
```

$$\max = 352200$$
 $y_{\max} = 395600$ 

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## Legend

- Priority Habitat Inventory -  
Deciduous Woodland  
(England)
- Priority Habitat Inventory -  
Traditional Orchards  
(England)
- Woodpasture and  
Parkland BAP Priority  
Habitat (England)
- Open Mosaic Habitat  
(Draft)

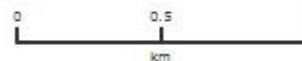
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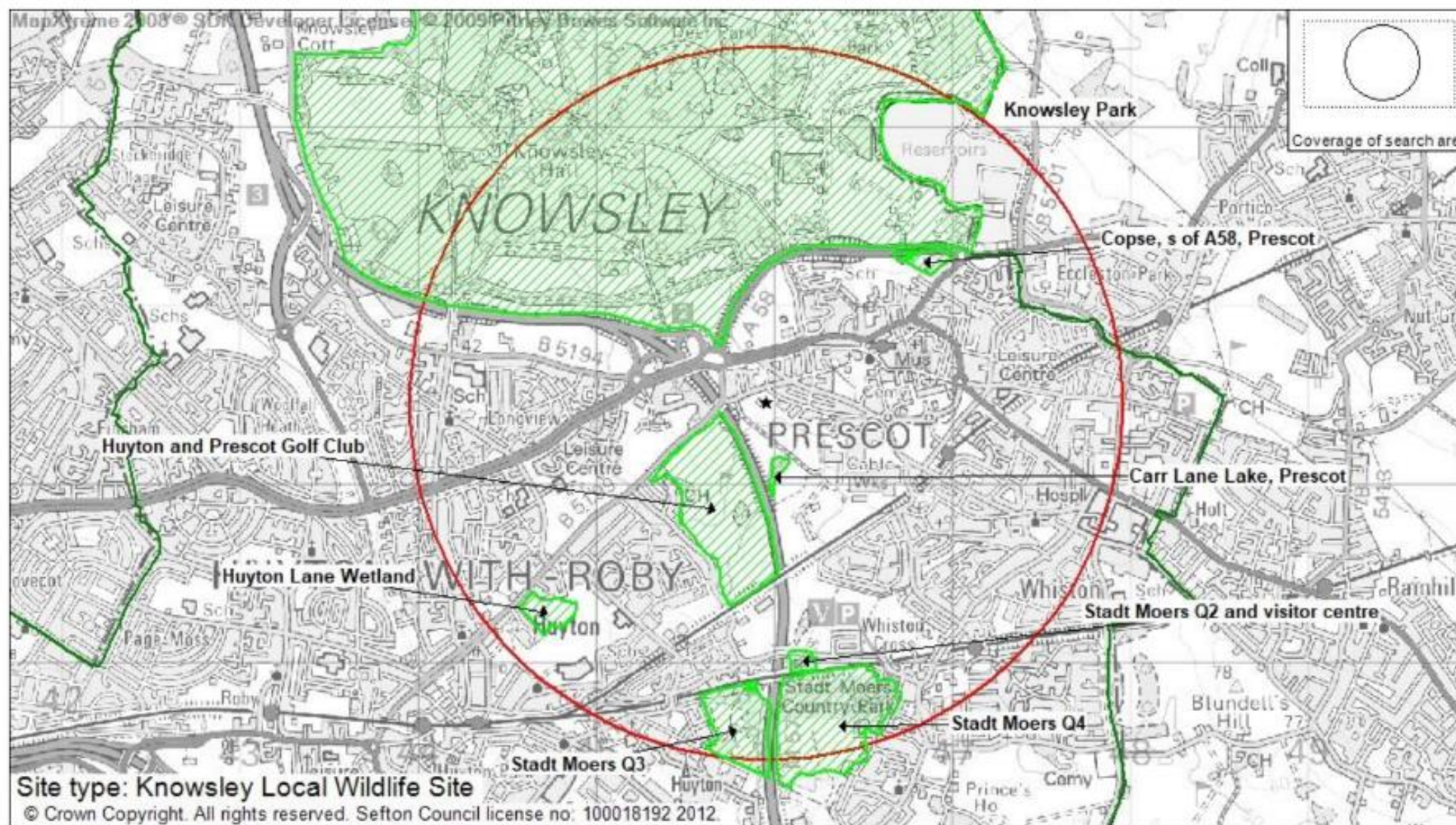


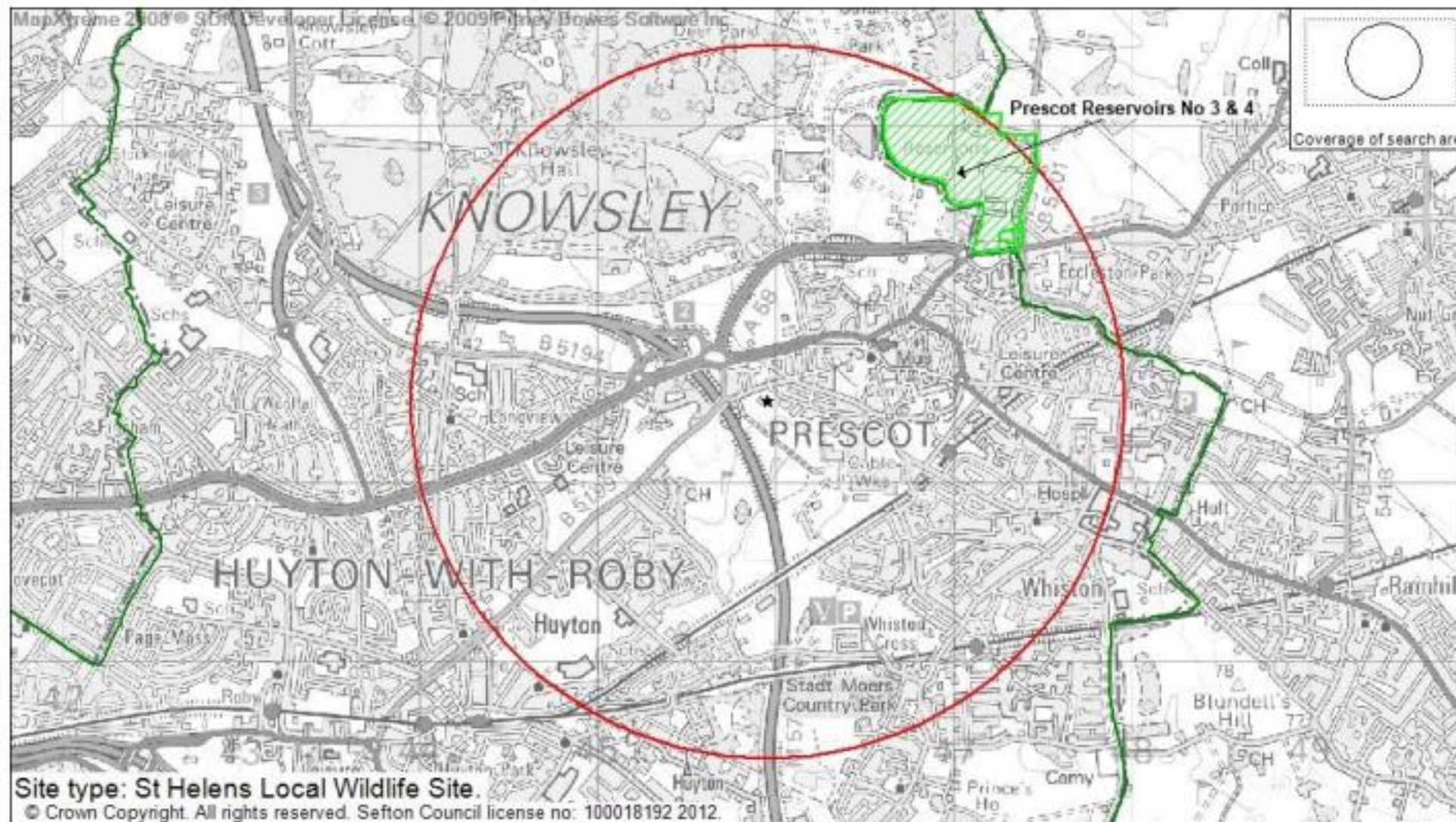
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APPENDIX E- UKHabs Map

