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Appendix 7.3: Breeding Bird Survey Report

Client

Hallam Land Management Limited

Project

Land East of Knowsley Lane, Knowsley

Date

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1.0 INTRODUCTION

- 1.1 The following Breeding Bird Report has been prepared by FPCR Environment and Design Ltd on behalf of the Hallam Land Management as an appendix to the Ecology Chapter of the Environment Statement (ES) for Land East of Knowsley Lane, Knowsley (Central OS Grid Ref: SJ43739466) herein referred to as 'the Site'.
- 1.2 This document should be read in conjunction with the other ecological documents prepared for this application, comprising the Ecology and Biodiversity chapter of the Environment Statement (Chapter 7), and other associated Appendices¹.

Site Context

- 1.3 The Site is located on the southern border of Knowsley village. It comprises approximately 33.6ha of arable field, priority deciduous woodland, modified grassland, hedgerows, scrub and a number of ponds.
- 1.4 The north of the Site is bordered by a residential area, to the west and east there are areas used for commercial use within young woodland, with further areas of arable, grassland and woodland habitats to the south, east and west of Site.

Site Proposals

- 1.5 The proposals for the Site include up to 700 new dwellings with associated access and gardens. Green infrastructure proposals include the retention and enhancement of existing woodland and scrub and creation of additional native mixed scrub, individual trees, species rich grassland and woodland. This will provide a buffer and enhancement to retained woodland habitat. Other habitats include formal and informal amenity grassland areas, a traditional orchard and ornamental planting.

Report Aims & Objectives

- 1.6 This report has been prepared to achieve the following objectives:
- Describe the survey methodologies employed to inform this assessment;
 - Identify the presence, species and distribution of breeding birds within or in the vicinity of the Site;
 - Evaluate the conservation importance of habitats within the Site to local bird populations and identify any areas of ornithological interest;
 - Identify and describe potentially significant ecological effects associated with the proposals on breeding birds; and
 - Make recommendations to minimize the potential impact of development and to consider opportunities for additional mitigation, compensation and enhancement where relevant.

¹ FPCR (2025) Home Farm, Knowsley – Environmental Statement Appendix 7.1 – Ecology and Biodiversity

2.0 LEGISLATION & STATUS

Legislation

- 2.1 The Wildlife and Countryside Act 1981 (as amended)² (WCA) is the principal legislation affording protection to UK wild birds. Under this legislation all birds, their nests and eggs are protected by law, and it is an offence, with certain exceptions, to recklessly or intentionally:
- Kill, injure or take any wild bird.
 - Take, damage, or destroy the nest of any wild bird while in use or being built; or
 - Take or destroy the egg of any wild bird.
- 2.2 Additional protection is afforded to species listed on Schedule 1 of the WCA, whereby intentional disturbance whilst building or occupying a nest or disturbance of dependent young is also considered an offence.
- 2.3 Certain species have also been identified as Species of Principal Importance (SPI) under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006³. The S.41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.
- 2.4 The local biodiversity action plan for North Merseyside includes action plans for certain species within the county. Specific species plans include corn bunting *Emberiza calandra*, grey partridge *Perdix perdix*, lapwing *Vanellus vanellus*, skylark *Alauda arvensis*, song thrush *Turdus philomelos* and urban birds.

Status

- 2.5 In addition to statutory protection, some bird species are classified according to their conservation status, such as their inclusion on the Red and Amber lists of Birds of Conservation Concern⁴ (BoCC) in the UK:
- 2.6 Red list (high conservation concern) species meet at least one of the following criteria:
- They are globally threatened according to IUCN criteria;
 - Their population has declined rapidly (50% or more) in recent years; and/or
 - They that have declined historically and not shown a substantial recent recovery.
- 2.7 Amber list (medium conservation concern) species are those that meet at least one of the following criteria:
- They have an unfavourable conservation status in Europe;
 - Their population or range has declined moderately (between 25% and 49%) in recent years;
 - Their population has declined historically but made a substantial recent recovery;

² Wildlife and Countryside Act 1981 (as amended). London: HMSO. [Online]. Available at: <https://www.legislation.gov.uk/ukpga/1981/69>

³ Natural Environment and Rural Communities Act 2006. London: HMSO. [Online]. Available at: <https://www.legislation.gov.uk/ukpga/2006/16/>

⁴ Stanbury, A.J. et al. (2021) The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 747.

- They are rare breeders; and/or
- They have internationally important or localised populations.

2.8 Green list (low conservation concern) species fulfil none of the above criteria.

3.0 METHODOLOGY

Desktop Study

- 3.1 To compile existing baseline ornithological information, statutory and non-statutory organisations were consulted for data regarding designated sites for which birds are a designating feature and protected/notable bird records. These included Biobank Merseyside (the local biodiversity records centre of North Merseyside) and Multi Agency Geographic Information for the Countryside (MAGIC) website.

Field Survey

- 3.2 The survey methodology employed was in accordance with the protocol specified within current best practice guidelines⁵. All birds encountered (seen or heard) were recorded on a field survey plan using standard BTO species codes and symbols for bird activities and to denote activity, sex, and age where appropriate.
- 3.3 Breeding status was inferred for each species based on the sixteen categories implemented by the European Ornithological Atlas Committee (EOAC)⁶ and their corresponding definitions, in addition to four additional codes to classify non-breeding species as birds recorded away from suitable breeding habitat, summering non-breeders, passage migrants, or flyovers. Birds were considered to be holding a territory and therefore likely to be utilising the Site for breeding if they were displaying breeding behaviours, such as: singing, nest building, food carrying or territorial defence. If birds did not display such behaviours, e.g. they were only recorded flying over the Site, they were considered non-breeders.
- 3.4 Best practice guidelines consider six survey visits to be sufficiently robust to identify, estimate populations of, and understand the distributions of the majority of bird species using complex habitats (e.g. lowland deciduous woodland or wetland) supporting a wide range of bird species and that require heavy reliance on vocal encounters.
- 3.5 A route was mapped out prior to the surveys being undertaken, paying particular attention to any linear features, such as hedgerows and watercourses, and other features such as ponds and scrub. To provide inter-survey temporal variation between surveys to account for variation in species' detectability throughout the day, the starting location and direction of walking were stratified across the six surveys.
- 3.6 A total of six surveys were undertaken, spanning the season in which the majority of breeding activity occurs for typical species, and no species with vastly differing breeding cycles are reasonably expected to occur at the Site following the consultation results and assessment of the habitats present. To provide a proportionate level of accuracy in the determination of the population status of breeding birds in the survey area, dawn survey visits were undertaken in early April, late April, early May, mid-June, and early July, and a single dusk survey was completed in early June 2024, commencing an hour prior to sunset and finishing an hour after sunset.

⁵ Bird Survey & Assessment Steering Group 2025. *Bird Survey Guidelines for Assessing Ecological impacts* v.1.1.1. Available at: <https://birdsurveyguidelines.org>

⁶ Sharrock, J.T.R (1973) Ornithological Atlases. *Auspicium* 5:13-15.

- 3.7 Bird surveys were not undertaken in unfavourable conditions, such as heavy rain or persistent strong wind (conditions which can negatively affect the results). Table 1 provides details of the survey dates and weather conditions.

Table 1: Survey Dates & Conditions

Survey	Date	Cloud Cover (%)	Rain	Wind (Beaufort)	Visibility
BBS 1	04.04.25	75	Dry	3 – Gentle Breeze	Good
BBS 2	23.04.25	90	Dry	3 – Gentle Breeze	Very Good
BBS 3	09.05.25	10	Dry	1 – Light Air	Excellent
BBS 4 - dusk	05.06.25	95	Dry	3 – Gentle Breeze	Very Good
BBS 5	19.06.25	0	Dry	1 – Light Air	Good
BBS 6	03.07.25	10	Dry	1 – Light Air	Very Good

Assessment

Population Significance

- 3.8 The Site was assessed against the published selection criteria for LWS in North Merseyside⁷ which evaluates the Site against thresholds for county value. The selection criteria for LWS includes the below criterion for breeding birds:
- *“Any site which regularly supports a wild breeding population of a rare or scarce North Merseyside breeding species”;*
 - *Any site from which the following have been recorded in the last five year period for which data are available.*
 - a) *30 breeding species*
 - b) *60 breeding and/or wintering species*
 - c) *100 breeding and/or wintering and/or passage species*
- 3.9 The most recent county annual bird report Lancashire Bird Report 2020 was consulted to inform the assessment, as it covers the Knowsley area. The abundance of breeding species referred to in this report follows the guidelines as used in the county annual bird report:
- Abundant: more than 5000 annually
 - Very common: 1001 – 5000 annually
 - Common: 201-1000 annually
 - Fairly common: 21-200 annually
 - Uncommon: 11-20 annually
 - Scarce: 51-250 records in the past 25 years
 - Rare: 11-50 records in the past 25 years

⁷ Merseyside Environmental Advisory Service (2008) North Merseyside: Local Wildlife Site Selection Guidelines. [Access online: <https://www.merseysidebiodiversity.org.uk/download/north-merseyside-local-wildlife-site-selection-guidelines/>]

- Vagrant (or very rare passage migrant): 1-10 records in past 25 years

Species and Assemblage Assessment

- 3.10 The Chartered Institute of Ecology and Environmental Management (CIEEM) guidance on ecological impact assessment assesses nature conservation importance within a geographical context⁸. This has been utilised to undertake an impact assessment of the proposals regarding wintering birds and the scale of impact. The use of professional judgement based on local knowledge was also be used to determine the importance of ornithological features.

Limitations

- 3.11 It is considered that there were no limitations to the surveys and subsequent assessment.

⁸ CIEEM, 2018. Guidelines for Ecological Impact Assessment in the UK and Ireland. Updated September 2019. Winchester: Chartered Institute of Ecology and Environmental Management. [Online]. Available at: <https://cieem.net/wp-content/uploads/2019/02/Combined-EcIA-guidelines-2018-compressed.pdf> [

4.0 RESULTS

Desk Study

- 4.1 The locations of designated sites and notable species records identified through the desktop study search area has been presented in Figures 7.1-7.3

Designated Sites

- 4.2 While no internationally designated sites are located within 10km of the Site boundary, four sites designated for their ornithological interest were identified within the desk study at a slightly greater distance. A summary of the bird species and assemblages included within the designated site citation is provided in Table 3 below. A full description of all designated sites within the search area is provided within the ecology ES chapter 7 and Appendix 7.1.

Table 3: Desktop Study Results – Designated Sites Cited for Ornithological Interest

Site Name	Distance from Site at Closest Point	Description
Liverpool Bay SPA	10.7km west	The SPA hosts important marine foraging areas for little terns breeding within the Dee Estuary SPA (22.4km southwest), and foraging areas for common terns breeding at the Mersey Narrows & North Wirral Foreshore SPA. Qualifying features are breeding common tern <i>Sterna hirundo</i> and little tern <i>Sterna albifrons</i> . The site also supports an internationally important waterbird assemblage.
Mersey Estuary SPA and RAMSAR	10.7km south	The intertidal flats and saltmarshes provide feeding and roosting sites for large populations of waterbirds. The site supports an internationally important waterbird assemblage.
Mersey Narrows and North Wirral Foreshore RAMSAR, SPA and SAC	11.2km west	The area supports large numbers of feeding waders at low tide and includes important high-tide roost sites. The site also supports breeding common tern and an internationally important waterbird assemblage.
Ribble and Alt estuaries RAMSAR/SPA	11.8km northwest	The Ribble and Alt estuaries RAMSAR,/SPA comprises extensive areas of sandflats and mudflats, saltmarsh and coastal grazing marsh. Qualifying features include breeding ruff <i>Philomachus pugnax</i> , common tern and lesser black-backed gull <i>Larus fuscus graellsii</i> .
Martin Mere RAMSAR/SPA	18.8km	Comprises a low-lying complex of open water, marsh and grassland habitats overlying deep peat and occupying part of the former site of a large freshwater lake drained for agriculture in the nineteenth century. The Wildfowl & Wetlands Trust (WWT) who manage the area as a nature reserve, with a large visitors centre. Numbers of wintering waterbirds regularly exceed 20,000 individuals and include internationally important numbers of swans, ducks and geese.
Dee Estuary RAMSAR/SPA	22km	Of major importance for waterbirds. During the winter the habitats, provide feeding and roosting sites for internationally important numbers of ducks and waders

Protected / Notable Species

- 4.3 The locations of protected species records provided by Merseyside Biobank are shown on Figure 7.3.
- 4.4 No bird records were returned from within the Site boundary; however, two records were returned from within 1km of the Site boundary; house sparrow *Passer domesticus* and barn owl *Tyto alba*.

- 4.5 183 records of notable birds were returned at tetrad spatial resolution. These records were of 31 notable species; a full list is provided in ES Chapter Appendix 7.1.

Field Survey

- 4.6 A total of 55 bird species were recorded within the survey area during the six survey occasions (for complete list see Appendix 7.3.1). Of these, 24 appear on one or more of the following and are hereafter referred to as 'notable species':

- Schedule 1 of WCA;
- BoCC Red or Amber lists;
- Section 41 of the NERC Act 2006; and / or
- Local Biodiversity Action Plan

- 4.7 The notable species recorded during surveys are summarised below in Table 5, with their respective distributions illustrated in Figures 7.3.1-7.3.6. The European Ornithological Atlas Committee (EOAC) breeding statuses are provided and their definitions provided in Appendix 7.3.B.

Table 5: Notable Breeding Species Recorded

Species	Legal / Conservation Status	Peak Count / No. of Survey Visits	EOAC Breeding Status
Mallard <i>Anas platyrhynchos</i>	Amber List	3/2	POSSIBLE H
Teal <i>Anas crecca</i>	Amber List	2/1	NON-BREEDER M
Quail <i>Coturnix coturnix</i>	Amber List WCA Sch. 1	1/1	POSSIBLE S
Stock Dove <i>Columba oenas</i>	Amber List	3/3	POSSIBLE H
Woodpigeon <i>Columba palumbus</i>	Amber List	53/6	PROBABLE P
Moorhen <i>Gallinula chloropus</i>	Amber List	3/2	CONFIRMED FL
Lapwing <i>Vanellus vanellus</i>	Red List NERC S.41	3/3	PROBABLE N
Lesser Black-backed Gull <i>Larus fuscus</i>	Amber List	6/2	NON-BREEDER UH
Sparrowhawk <i>Accipiter nisus</i>	Amber List	1/2	POSSIBLE H
Kestrel <i>Falco tinnunculus</i>	Amber List	1/4	POSSIBLE H
Skylark <i>Alauda arvensis</i>	Red List NERC S.41	5/6	PROBABLE T
Willow Warbler <i>Phylloscopus trochilus</i>	Amber List	1/1	POSSIBLE S
Whitethroat <i>Curruca communis</i>	Amber List	4/5	PROBABLE P
Wren <i>Troglodytes troglodytes</i>	Amber List	7/6	POSSIBLE S, H

Species	Legal / Conservation Status	Peak Count / No. of Survey Visits	EOAC Breeding Status
Starling <i>Sturnus vulgaris</i>	Red List NERC S.41	16/4	POSSIBLE H
Song Thrush <i>Turdus philomelos</i>	Amber List NERC S.41	6/6	PROBABLE N
Mistle Thrush <i>Turdus viscivorus</i>	Red List	2/1	POSSIBLE H
House Sparrow <i>Passer domesticus</i>	Red List NERC S.41	29/6	CONFIRMED ON
Dunnock <i>Prunella modularis</i>	Amber List NERC S.41	5/6	POSSIBLE S, H
Meadow Pipit <i>Anthus pratensis</i>	Amber List	2/1	NON-BREEDER M
Bullfinch <i>Pyrrhula pyrrhula</i>	Amber List NERC S.41	2/3	POSSIBLE H
Greenfinch <i>Chloris chloris</i>	Red List	6/6	PROBABLE P
Linnet <i>Linaria cannabina</i>	Red List NERC S.41	5/5	PROBABLE B
Reed Bunting <i>Emberiza schoeniclus</i>	Amber List NERC S.41	4/5	PROBABLE T

Breeding Bird Assemblage Description

4.8 The majority of bird species recorded on site are typical of the habitats present in a regional context, with very little connection to the nearby estuarine habitats evident. The actively cropped arable field on the western part of the Site supported a limited assemblage of breeding birds which included lapwing *Vanellus vanellus* and skylark *Alauda arvensis*. These species were recorded as probable breeders in the cropland field interior, with breeding behaviours observed including possible nest occupation and consistent territory defence. A single quail *Coturnix coturnix* was heard singing from this habitat on the dusk survey but further evidence of breeding was not obtained confirmed. Small numbers of other notable species including stock dove *Columba oenas*, woodpigeon *Columba palumbus*, meadow pipit *Anthus pratensis* and starling *Sturnus vulgaris* utilised these areas for foraging. Swallow *Apus apus* were recorded hawking insects over these fields in summer.

4.9 The hedgerow and woodland blocks provided suitable breeding and foraging habitat for the range of common and widespread generalist and woodland edge species recorded including a range of notable, but also common and widespread species that are typical of the habitats present. Notable species using the woodland areas were;

- willow warbler *Phylloscopus trochilus*,
- wren *Troglodytes troglodytes*,
- song thrush *Turdus philomelos*
- and mistle thrush *Turdus viscivorus*.

4.10 The hedgerows were used by notable species including;

- whitethroat *Curruca communis*,
- dunnock *Prunella modularis*,

- bullfinch *Pyrrhula pyrrhula*,
- greenfinch *Chloris chloris*,
- linnet *Linaria cannabina* and
- reed bunting *Emberiza schoeniclus*.

- 4.11 The woodland area also contained a series of ponds. Moorhen *Gallinula chloropus* was found to be breeding there and a small number of mallard *Anas Platyrhynchos* and teal *Anas crecca* were observed during the early season surveys. The latter two species were not considered to be nesting on Site as no breeding behaviour was seen, and they were not recorded in later surveys.
- 4.12 The grassland habitat forming the majority of the Site was not considered to be utilised by any breeding species although it did provide a hunting area for kestrel *Falco tinnunculus*. Singing male reed buntings *Emberiza schoeniclus* held territories in the scrubby section of land south of the arable field.
- 4.13 An urban bird assemblage was also recorded to the north of the Site where the cropland field bordered a residential area. This included house sparrow *Passer domesticus* and starling, which were likely breeding offsite and using the onsite habitats as foraging resources.
- 4.14 One qualifying species of the Ribble and Alt estuaries SPA, lesser black-backed gull *Larus fuscus*, was recorded in limited numbers on two occasions. The habitats on Site are unsuitable for this species in terms of breeding and the presence of these birds was in relation to foraging opportunities only. These gulls are opportunistic scavengers, and the Site is not considered to be an important foraging resource. It is more likely to be on the route between the birds' roosting and foraging areas.

5.0 DISCUSSION

- 5.1 The proposals will result in the loss of farmland and grassland habitats from the Site; however, woodland, hedgerows and scrub will largely be retained.
- 5.2 The following section provides an assessment of the potential impacts of the proposals upon breeding bird assemblages within and in the vicinity of the Site. The evaluation has been informed by the most recent layout.

Designated Sites

- 5.3 No designated sites lie within 10 km of the Site. Furthermore, habitats on and around the Site are different to those found within the designated sites and are therefore unsuitable for qualifying breeding species.

Impact Assessment

- 5.4 The following potential impacts to the recorded bird populations and assemblage may result from the proposals:
- Direct loss/change of habitat, including habitat fragmentation
 - Disturbance during construction and/or operation

Habitat Loss

- 5.5 The proposals will require the loss of the area of arable land and the vast majority of the grassland habitats recorded within the Site. The majority of hedgerow and woodland habitats are to be retained, with only some minor losses required. This will result in minor losses of breeding habitat for the generalist assemblage recorded, however these will not be significant due to the small-scale losses proposed.
- 5.6 The green infrastructure includes additional mixed scrub, tree and shrub planting with attenuation features which will provide good habitat for the assemblage of common and widespread generalist, woodland edge and urban species recorded on the Site. Many of these species will also utilise garden habitats as they mature, which will provide further opportunities in the long-term.
- 5.7 The decrease in grassland habitat will have a negligible impact on the bird population utilising the Site as it is largely of limited suitability for the species recorded and does not provide significant foraging opportunities owing to its lack of mosaic and thus prey items. The enhancement of retained grassland and addition of mixed scrub will benefit a range of the generalist bird species including starling, stock dove and jackdaw.
- 5.8 The loss of the arable habitat on site will lead to the loss of breeding habitat for two skylark pairs and one lapwing pair. The proposals do not provide open areas of suitable habitat for either species as such it is considered both species will be lost as breeding species within the site.

Disturbance

Construction

- 5.9 Construction operations have the potential to disturb birds using the development area for breeding, roosting, and foraging. Operations likely to disturb breeding birds include noise and

displacement during vegetation clearance, initial ground works and some construction activities. During the breeding season disturbance may lead to nest desertion or the avoidance of the area and reduce the suitability of retained nesting areas, such as the retained hedgerows or woodland edge.

- 5.10 Within the Site habitat loss will be the primary adverse effect and any impacts from disturbance need only be considered for areas of suitable habitat that remain following clearance. This includes areas of woodland and hedgerows.

Operation

- 5.11 It is reasonable to expect that the increased numbers of people and domestic dogs will result in some disturbance to local breeding bird populations, both within the application Site and in the surrounding area. Research indicates that impacts are most likely from dogs, particularly those off the lead, where they may increase opportunistic predation of birds by other predators. This disturbance therefore has the potential to decrease breeding success as birds are either preyed on or temporarily displaced from valuable resources. Based on the limited extent of formal access to the surrounding countryside and areas suitable for off lead dogs, it is considered that the increase in people and domestic dogs would be of negligible significance.
- 5.12 Research has shown that domestic cats may impact upon wild bird populations, especially locally, within 100m of each cat's home⁹. However, a precautionary approach is advised, as the bird species involved are very productive and cats are also most likely going after birds that are in poor condition¹⁰. It is considered likely that areas of suitable bird habitat that are likely to be affected by cat predation would comprise the gardens, hedgerows, woodland, scrub and some areas of countryside in the surrounding landscape. In the absence of mitigation, it is considered that any increase in bird predation on these areas as a result of the proposed development would only result in an adverse impact of up to local significance.

Mitigation

Habitat Loss

- 5.13 To mitigate for the fragmentation of some onsite hedgerow as a result of the proposed access roads and residential areas, further hedgerow planting will be provided onsite to provide connectivity to adjacent habitats. Planting should comprise a range of native species, with preference for those which are fruit, nut and seed bearing.
- 5.14 Proposals include extensive scrub planting around the retained areas of woodland and around site boundaries. The inclusion of these areas will provide alternative habitat for nesting and foraging birds within the breeding bird assemblage of the Site.

Disturbance

Construction

- 5.15 To avoid disturbance to breeding birds, ground clearance works, and vegetation will be undertaken prior to the bird-breeding season (March to August, inclusive). If this is not possible, the area will be checked prior to removal of vegetation or ground works by an experienced ecologist. If active nests are found, vegetation will be left untouched and suitably buffered from

⁹ Animal Conservation (2020) The small home ranges and large local ecological impacts of pet cats.

¹⁰ <https://www.sciencefocus.com/nature/pet-cats-should-they-be-kept-indoors>

works until all birds have fledged. Specific advice will be provided prior to undertaking the clearance. This would be a statutory requirement due to the protection of all nesting birds and their nests under the Wildlife and Countryside Act, 1981. A suitably qualified ecologist would supervise this.

- 5.16 Retained habitats should be suitably buffered from construction activities to prevent desertion of active nests. A buffer of five meters should be kept from the woodland edge and hedgerows to be retained during constructions works undertaken in the bird breeding season (March to August, inclusive).

Operation

- 5.17 In order to deter encroachment of domestic cats into sensitive areas and also to provide refuges for birds, it is recommended that the boundaries around the development are strengthened through the planting of native thorny plant species (e.g. blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna*).

Compensation

Habitat Loss

- 5.18 To compensate for the loss of breeding habitat for ground nesting species alternative habitat should be provided offsite. There are two different options available to mitigate for this.
- 5.19 One option is for the conversion of arable land to meadow grassland or the enhancement of existing grassland to support ground nesting birds. This habitat should be managed to ensure a varied sward, with a shorter sward available for breeding lapwing between March and June. It is recommended that this area is in close proximity to the Site and is an open area away from trees and hedgerows, damper soils are preferable to provide suitable foraging for lapwing, with a varied sward also providing invertebrate foraging opportunities for skylark.
- 5.20 Alternatively, enhancement will be made to existing offsite farmland by way of creating skylark plots. Skylark plots are areas of set aside within a crop which provides suitable foraging habitat which in turn will increase breeding success. Plots will be located at least 50m from any field boundaries and margins.

Enhancements

- 5.21 Additional planting will be incorporated into the Sites GI which would provide additional foraging and breeding habitat for a range of bird species. Priority will be given to the provision of native, fruit bearing species of local origin to provide an optimal foraging resource for a range of bird species including the thrush species recorded.
- 5.22 Attenuation features will be designed where possible to encourage a varied bed profile to allow marginal vegetation to establish where this does not affect the drainage capacity of the features, species mix includes common reed *Phragmites australis*. This will provide improved nesting opportunities for reed bunting and moorhen and further encourage onsite breeding by these species.
- 5.23 Additional enhancements that could be integrated with the on-going management of the site include the erection of a mixture of nest box types. The following provides details of other suitable nest box types to be erected at suitable locations:

- Small open fronted nest boxes again should be placed throughout the site especially on trees which support a climber such as ivy which provides a degree of concealment. These boxes typically attract robin and blackbird; and
- Universal swift bricks should be built into houses, these boxes are typically used by urban birds including house sparrow, swift and starling. Given the urbanised area surrounding the Site and the proposals it is considered these boxes will have a decent uptake.

5.24 Whilst not recorded onsite, the county is known to support red listed willow tit *Poecile montanus* as such it is not recommended that small hole nest boxes (26mm and 32mm) are provided onsite, due to the chance of increased competition from species typically bolstered by the provision of these types of nest boxes¹³ (i.e. blue tits), should willow tit be present in the wider area.

¹³ Parry & Broughton (2018) Nesting behaviour and breeding success of Willow Tits *Poecile montanus* in north-west England. Ringing & Migration. Vol 22, Issue 2.

6.0 CONCLUSION

- 6.1 The suite of breeding bird surveys identified a range of bird assemblages within and in the vicinity of the Site. The impacts on these were assessed against the proposals for the development.
- 6.2 Survey has demonstrated that the Site supports a a range of common and widespread bird species typical of the habitats present onsite, including an assemblage of generalist and woodland edge species and some ground nesting species.
- 6.3 The proposals will result in the loss of cropland habitats which will cause the loss of breeding skylark and lapwing within the Site. This habitat was rarely used by the remaining assemblage recorded and therefore the proposed loss of these habitats will have a negligible effect on these species.
- 6.4 The proposed loss to hedgerows will lead to a minor reduction in the available of suitable habitat for the generalist/woodland edge assemblage recorded, however this will be mitigated through additional hedgerow and tree planting.
- 6.5 The proposed green infrastructure, including scrub planting will provide optimal habitats for the generalist and woodland edge assemblage recorded, resulting in positive effects on these species. These habitats will also provide suitable habitat for some farmland birds including linnet where these habitats will border offsite cropland.
- 6.6 Proposals have from been landscape and ecology led from an early stage in the process, ensuring that the scheme can be designed to mitigate for negative effects associated with the construction proposals and anticipated habitat losses.
- 6.7 Through this combination of intrinsic mitigation, targeted mitigation, compensation and enhancement detailed within this appendix report and EcIA, has demonstrated that the proposals will lead to at most short-term negative effects on breeding birds. However mid-to long-term, negligible to not significant effects are anticipated for breeding birds.

APPENDIX 7.3.A: EOAC BREEDING STATUS – CATEGORIES AND DEFINITIONS

Breeding Status evidence can be broken down into four sections, each with their own codes, as defined by the European Ornithological Atlas Committee:

Confirmed breeder

DD – distraction display or injury feigning

UN – used nest or eggshells found from this season

FL – recently fledged young or downy young

ON – adults entering or leaving nest-site in circumstances indicating occupied nest

FF – adult carrying faecal sac or food for young

NE – nest containing eggs

NY – nest with young seen or heard

Probable breeder – Evidence accumulated during the survey indicates that the bird species is breeding on site.

P – pair in suitable nesting habitat

T – permanent territory (defended over at least 2 survey occasions)

D – courtship and display

N – visiting probable nest site

A – agitated behaviour

I – brood patch of incubating bird (from bird in hand)

B – nest building or excavating nest-hole

Possible breeder – Evidence accumulated during the survey indicates that the bird species could be breeding on site, but the evidence is less conclusive than that obtained for probable breeders.

H – observed in suitable nesting habitat

S – singing male

Non-breeder

F – flying over

M – migrant

U – summering non-breeder

UH – observed in unsuitable nesting habitat

APPENDIX 7.3.B: BREEDING BIRD SURVEY RESULTS SUMMARY

Species: British Common Name	Species: Latin name	Survey Number						Conservation Status & Protection
		1	2	3	4	5	6	
Mallard	<i>Anas platyrhynchos</i>	3		1				Amber List
Teal	<i>Anas crecca</i>	2						Amber List
Pheasant	<i>Phasianus colchicus</i>	6	3	1			1	Not Listed
Quail	<i>Coturnix coturnix</i>				1			Amber List WCA Sch. 1
Red-legged Partridge	<i>Alectoris rufa</i>	10	5	4	2	2	1	Not Listed
Swift	<i>Apus apus</i>				3 flyover	4 flyover	2 flyover	Red List
Feral Pigeon	<i>Columba livia f. domestica</i>	2						Not Listed
Stock Dove	<i>Columba oenas</i>	3	2	1				Amber List
Woodpigeon	<i>Columba palumbus</i>	53	27	31	27	29	18	Amber List
Collared Dove	<i>Streptopelia decaocto</i>						1	Green List
Moorhen	<i>Gallinula chloropus</i>				3	3		Amber List
Oystercatcher	<i>Haematopus ostralegus</i>						1 flyover	Amber List
Lapwing	<i>Vanellus vanellus</i>	2	3	2				Red List NERC S.41
Herring Gull	<i>Larus argentatus</i>						17 flyover	Red List NERC S.41
Lesser Black-backed Gull	<i>Larus fuscus</i>				6	2		Amber List
Grey Heron	<i>Ardea cinerea</i>		1				2 flyover	Green List
Sparrowhawk	<i>Accipiter nisus</i>	1 flyover					1	Amber List
Buzzard	<i>Buteo buteo</i>	1 flyover			1	1		Green List
Great Spotted Woodpecker	<i>Dendrocopos major</i>	1	1	1				Green List
Kestrel	<i>Falco tinnunculus</i>	1 flyover	1		1	1		Amber List
Jay	<i>Garrulus glandarius</i>	2		1	1	1		Green List

Species: British Common Name	Species: Latin name	Survey Number						Conservation Status & Protection
		1	2	3	4	5	6	
Magpie	<i>Pica pica</i>	1	2	6		1	3	Green List
Jackdaw	<i>Coloeus monedula</i>	10	4	12	5	12	3	Green List
Carrion Crow	<i>Corvus corone</i>	4	1	5	3	3	2	Green List
Coal Tit	<i>Periparus ater</i>	2				2		Green List
Blue Tit	<i>Cyanistes caeruleus</i>	11	7	6	2	9	14	Green List
Great Tit	<i>Parus major</i>	3	3	4	2	6	5	Green List
Skylark	<i>Alauda arvensis</i>	4	4	2	2	2	5	Red List NERC S.41
Swallow	<i>Hirundo rustica</i>	2 flyover	2 flyover			1 flyover		Green List
House Martin	<i>Delichon urbicum</i>				10 flyover			Red List
Long-tailed Tit	<i>Aegithalos caudatus</i>	3	2	8		26	12	Green List
Willow Warbler	<i>Phylloscopus trochilus</i>		1					Amber List
Chiffchaff	<i>Phylloscopus collybita</i>	3	4	3	3	7	7	Green List
Blackcap	<i>Sylvia atricapilla</i>	1	1	1	1	2	1	Green List
Whitethroat	<i>Curruca communis</i>		3	4	4	3	1	Amber List
Goldcrest	<i>Regulus regulus</i>		1	2		1	3	Green List
Wren	<i>Troglodytes troglodytes</i>	5	4	5	2	7	7	Amber List
Nuthatch	<i>Sitta europaea</i>	1		1		1		Green List
Treecreeper	<i>Certhia familiaris</i>					1	2	Green List
Starling	<i>Sturnus vulgaris</i>	4	16	6		10		Red List NERC S.41
Song Thrush	<i>Turdus philomelos</i>	6	5	5	4	5	2	Amber List NERC S.41
Mistle Thrush	<i>Turdus viscivorus</i>				2			Red List
Blackbird	<i>Turdus merula</i>	15	13	15	12	18	19	Green List

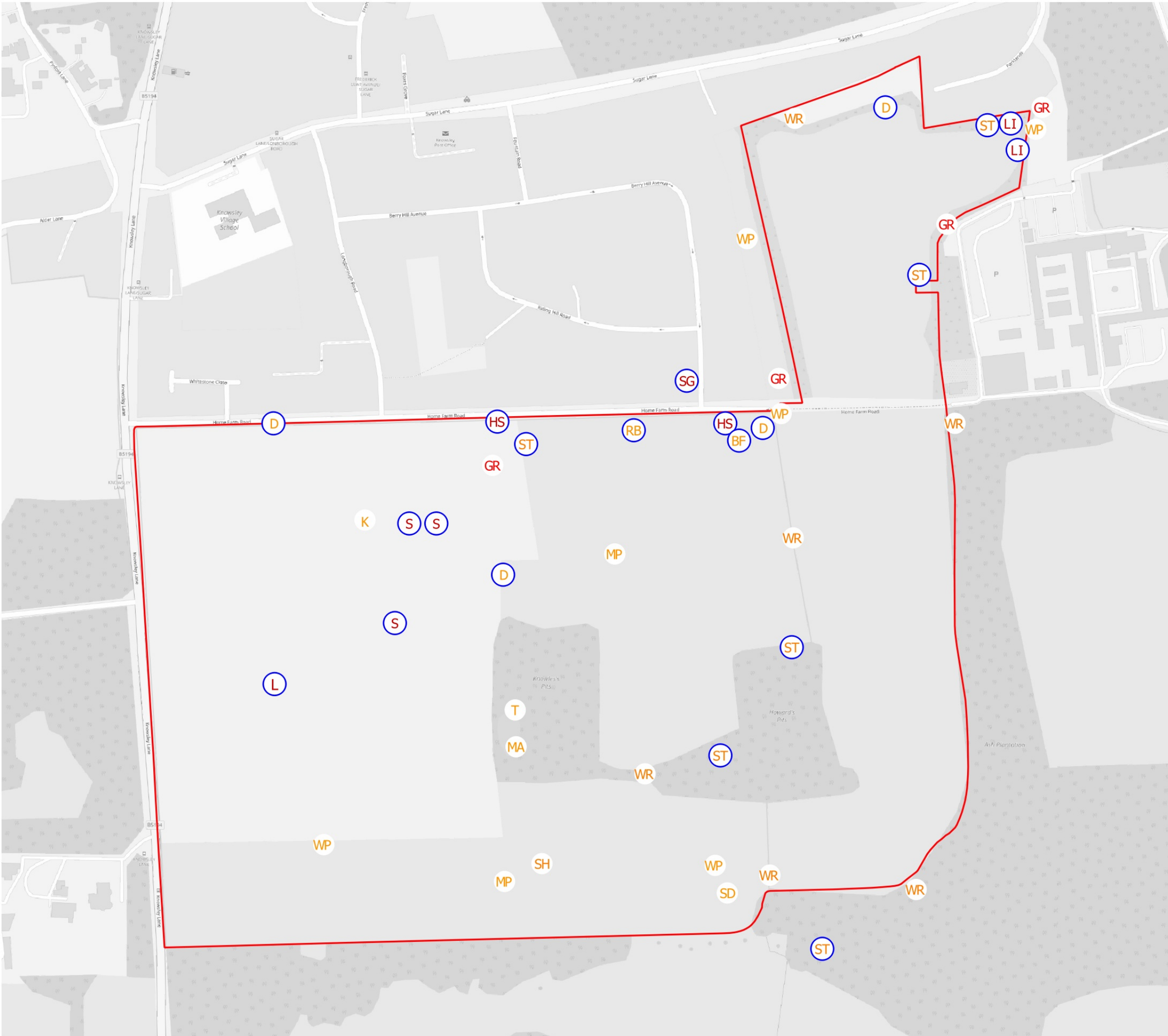
Species: British Common Name	Species: Latin name	Survey Number						Conservation Status & Protection
		1	2	3	4	5	6	
Robin	<i>Erithacus rubecula</i>	5	2	6	8	5	6	Green List
House Sparrow	<i>Passer domesticus</i>	23	12	20	11	16	27	Red List NERC S.41
Dunnoek	<i>Prunella modularis</i>	3	5	5	1	4	5	Amber List NERC S.41
Pied Wagtail	<i>Motacilla alba</i>				1			Green List
Meadow Pipit	<i>Anthus pratensis</i>	2						Amber List
Chaffinch	<i>Fringilla coelebs</i>	1	1	1		2	3	Green List
Bullfinch	<i>Pyrrhula pyrrhula</i>	2	2	1				Amber List NERC S.41
Greenfinch	<i>Chloris chloris</i>	6	2	4	1	2	5	Red List
Linnet	<i>Linaria cannabina</i>	3	2	3	2	5		Red List NERC S.41
Goldfinch	<i>Carduelis carduelis</i>	3	5	5	3	7	5	Green List
Reed Bunting	<i>Emberiza schoeniclus</i>	1	4	1	2	2		Amber List NERC S.41
Ring-necked Parakeet	<i>Psittacula krameri</i>	2						Not Listed
Total No. Species		40	34	33	30	35	30	

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Registered Office: Lockington Hall, Lockington, Derby DE74 2RH

Company No. 07128076. [T] 01509 672772 [E] mail@fpcr.co.uk [W] www.fpcr.co.uk

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Site Boundary

BoCC 5 Red List Species

HS House Sparrow

L Lapwing

LI Linnet

S Skylark

SG Starling

GR Greenfinch

NERC Species of Principal Importance

Schedule 1 Species

BoCC 5 Amber List Species

BF Bullfinch

D Dunnock

K Kestrel

MA Mallard

MP Meadow Pipit

RB Reed Bunting

SD Stock Dove

T Teal

ST Song Thrush

SH Sparrowhawk

WP Woodpigeon

WR Wren

date

07/08/25

client

Hallam Land Management Ltd

project

Land east of Knowsley Lane, Knowsley

title

BBS RESULTS PLAN - DISTRIBUTION OF NOTABLE SPECIES - 04/04/25

scale

1:3,200 @ A3

number

FIGURE 7.3.1

rev

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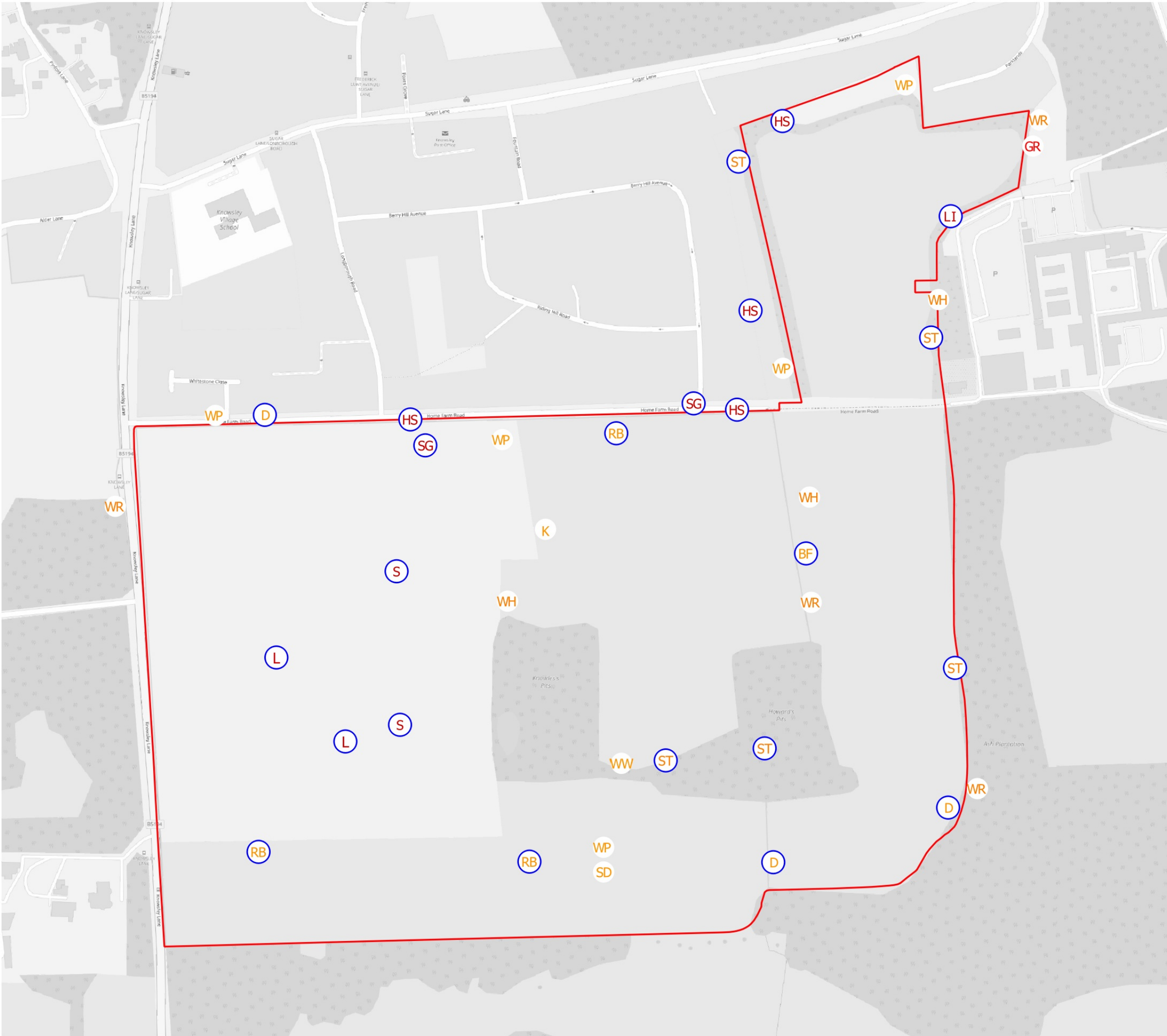
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DV / MS

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Site Boundary

BoCC 5 Red List Species

HS House Sparrow

L Lapwing

LI Linnet

S Skylark

SG Starling

GR Greenfinch

BoCC 5 Amber List Species

BF Bullfinch

D Dunnock

K Kestrel

RB Reed Bunting

SD Stock Dove

WW Willow Warbler

WH Whitethroat

ST Song Thrush

WP Woodpigeon

WR Wren

NERC Species of Principal Importance

Schedule 1 Species

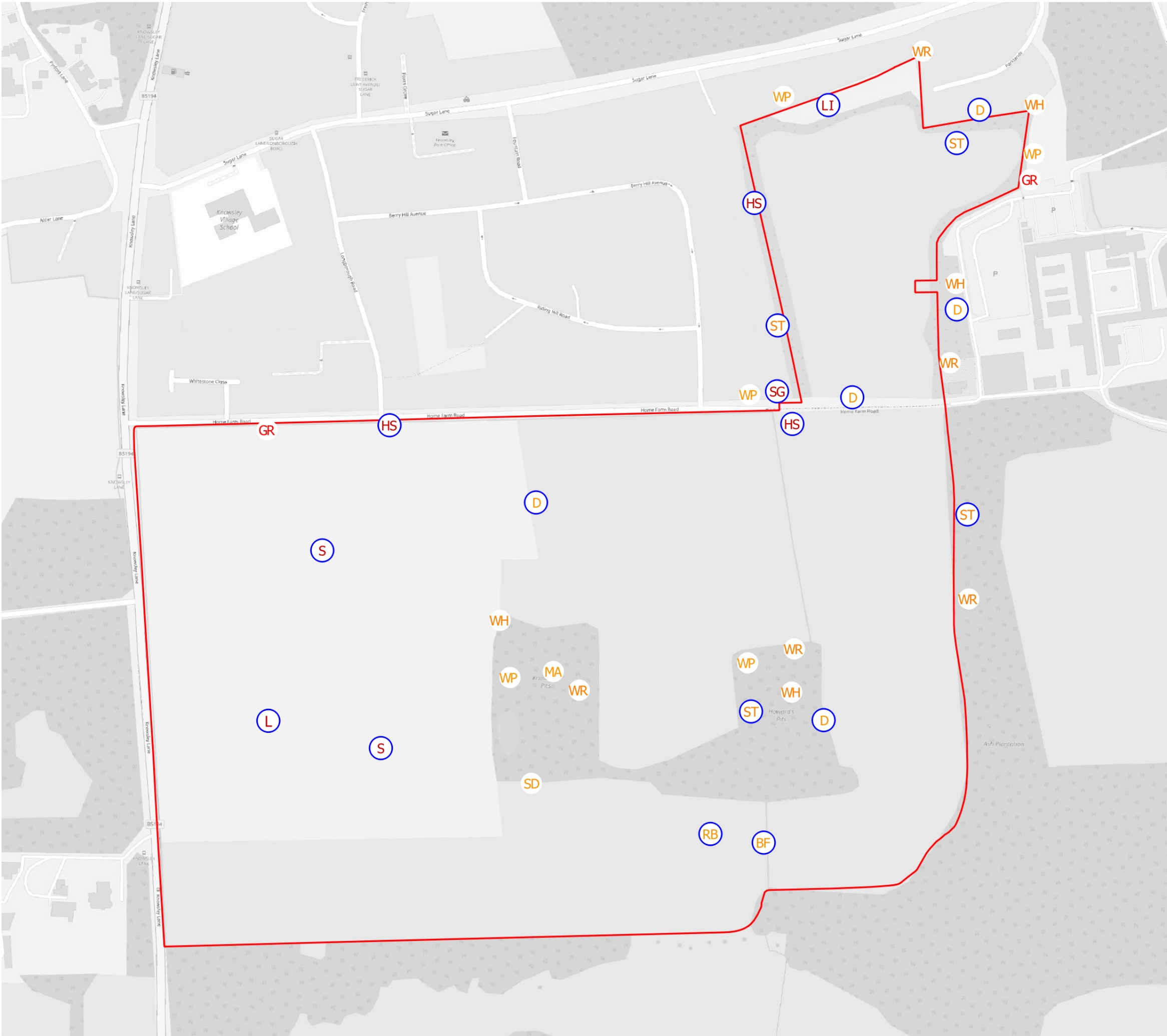
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project	Land east of Knowsley Lane, Knowsley		
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number	FIGURE 7.3.2	rev	-

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Site Boundary

BoCC 5 Red List Species

BoCC 5 Amber List Species

NERC Species of Principal Importance

Schedule 1 Species

HS

House Sparrow

L

Lapwing

LI

Linnet

S

Skylark

SG

Starling

GR

Greenfinch

BF

Bullfinch

D

Dunnock

MA

Mallard

RB

Reed Bunting

SD

Stock Dove

WH

Whitethroat

ST

Song Thrush

WP

Woodpigeon

WR

Wren

date

07/08/25

client

Hallam Land Management Ltd

project

Land east of Knowsley Lane,
Knowsley

title

BBS RESULTS PLAN - DISTRIBUTION OF
NOTABLE SPECIES - 09/05/25

number

FIGURE 7.3.3

drwn/chkd

DV / MS

scale

1:3,200 @ A3

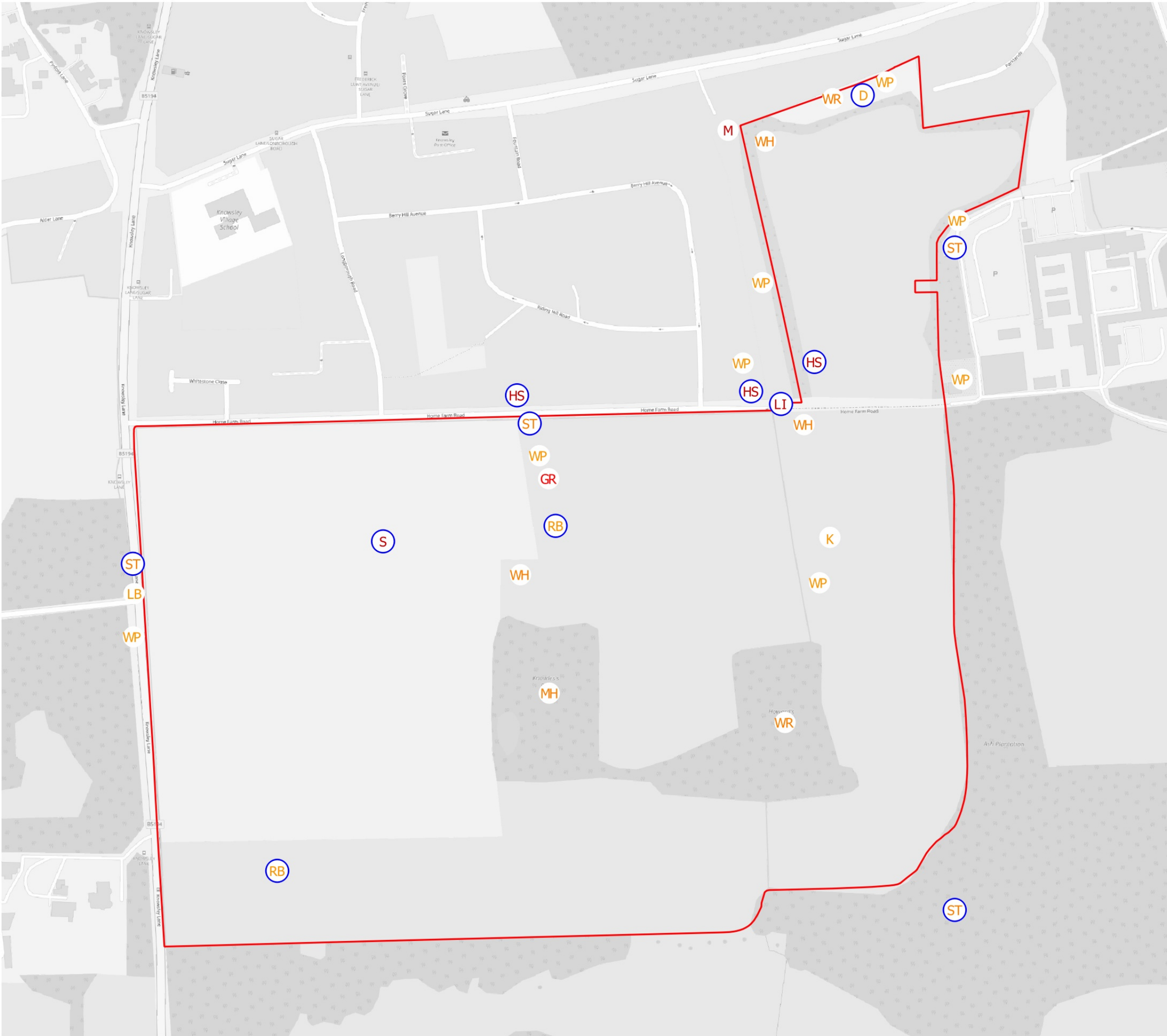
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Site Boundary

HS

House Sparrow

LI

Linnet

M

Mistle Thrush

S

Skylark

GR

Greenfinch

D

Dunnock

K

Kestrel

LB

Lesser Black-backed Gull

RB

Reed Bunting

WH

Whitethroat

MH

Moorhen

ST

Song Thrush

WP

Woodpigeon

WR

Wren

NERC Species of Principal Importance

Schedule 1 Species

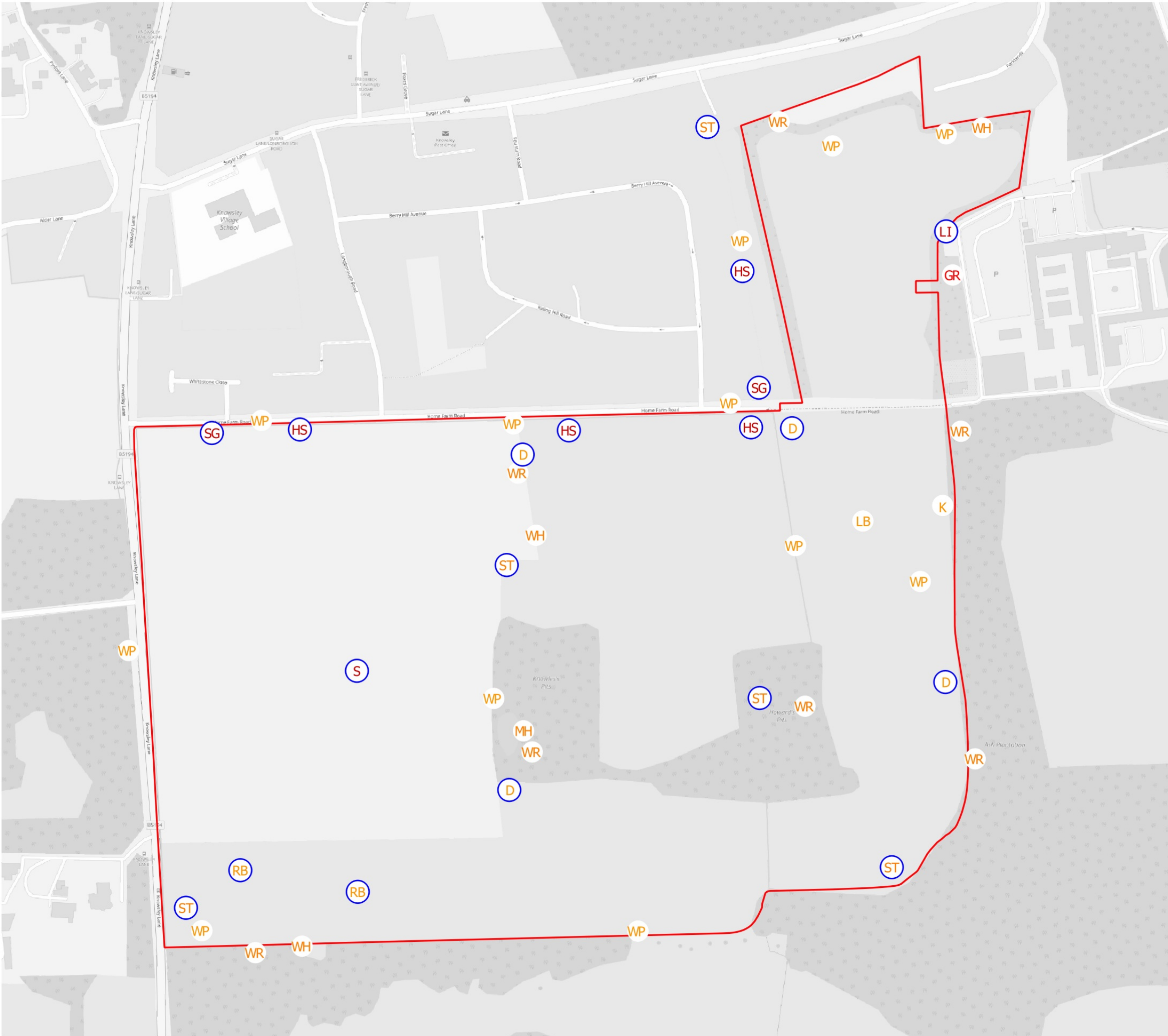
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project	Land east of Knowsley Lane, Knowsley		
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number	FIGURE 7.3.4	rev	-

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Site Boundary

BoCC 5 Red List Species

HS House Sparrow

LI Linnet

S Skylark

SG Starling

GR Greenfinch

BoCC 5 Amber List Species

D Dunnock

K Kestrel

LB Lesser Black-backed Gull

RB Reed Bunting

WH Whitethroat

MH Moorhen

ST Song Thrush

WP Woodpigeon

WR Wren

NERC Species of Principal Importance

Schedule 1 Species

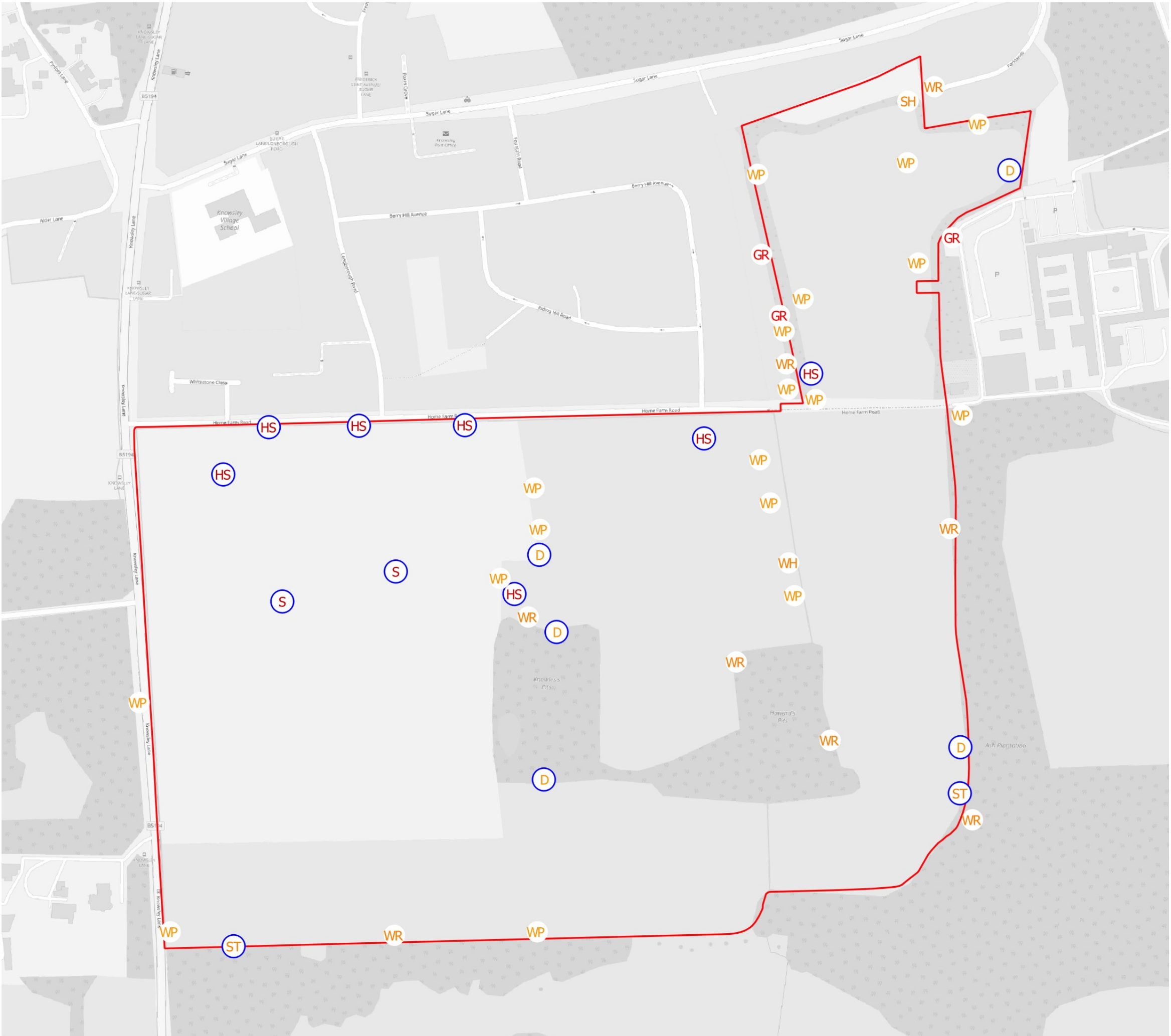
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project	Land east of Knowsley Lane, Knowsley		
title	BBS RESULTS PLAN - DISTRIBUTION OF NOTABLE SPECIES - 19/06/25	scale	1:3,200 @ A3
number	FIGURE 7.3.5	rev	-

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Site Boundary

BoCC 5 Red List Species

HS

House Sparrow

S

Skylark

GR

Greenfinch

BoCC 5 Amber List Species

D

Dunck

WH

Whitethroat

ST

Song Thrush

SH

Sparrowhawk

WP

Woodpigeon

WR

Wren

NERC Species of Principal Importance

Schedule 1 Species

N

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date	07/08/25	drwn/chkd	DV / MS
client	Hallam Land Management Ltd		
project	Land east of Knowsley Lane, Knowsley		
title	BBS RESULTS PLAN - DISTRIBUTION OF NOTABLE SPECIES - 03/07/25	scale	1:3,200 @ A3
number		rev	-
FIGURE 7.3.6			