

Preliminary Ecological Appraisal and Biodiversity Net Gain (BNG) Feasibility Report:
The Land off Healey Lane, Batley

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Field Investigations and Data

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work. Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by Everything Ecology Ltd for inaccuracies in the data supplied by any other party.

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1 Summary

1.1 Purpose of report

1. This report presents a Preliminary Ecological Appraisal (PEA) and Biodiversity Net Gain (BNG) Feasibility Assessment of land off Healey Lane, Batley. The Site address is Healey Lane, Healey, Batley, Kirklees; the Nearest Postcode is WF17 8BN. OS Central Grid Reference: SE2270023980.

2. Please refer to Section 8 for a location plan.

3. The report identifies the Site's main ecological characteristics, and using field survey and desk survey data, a baseline biodiversity net gain assessment of the habitats present within the red line boundary is made. The report also provides a baseline assessment of any potential species of interest which may use the Site. In addition, the report includes an assessment of the potential ecological constraints of developing this Site, along with advice on ways to avoid, minimise or mitigate potential impacts. Finally, recommendations for further surveys and ecological enhancement of the Site are made where appropriate.

1.2 Methods

4. As part of the appraisal, a desk study and data consultation have been undertaken. A desk survey was undertaken using data obtained from West Yorkshire Ecology Service and the MAGIC website. A field survey was undertaken on 13th May 2024, where the following methods were used to assess the Site habitats and their likelihood of supporting protected and notable species:

    - Habitat identification and mapping – using UK Habitat Classification scheme methodology.
    - Protected and notable species assessment.
    - BNG feasibility – species and habitats.

1.3 Key Issues

1.3.1 Habitats and BNG

5. The habitats on Site were common and widespread, with no notable or protected plant species present and no invasive species noted. Main habitats were modified grassland with areas of bare ground, tall forbs and scattered trees, dense scrub, derelict hard standing and a line of mature urban trees along the south boundary.

6. The proposed site plan lacks detail and does not specific the proposed species to be used within each habitat parcel. As such some assumptions have been made regarding the proposed habitats on site. These assumptions are detailed in Table 6-1 in Section 6.

7. Using the Proposed Site Plan as a guide, the current proposals will result in a **-32.32% net loss** of biodiversity in habitat units and a **51.78% net gain** in hedgerow units.

8. The current proposals result in a **deficit of 0.43 units**, which must be compensated offsite through habitat creation to achieve the required 10% net gain.

9. The deficit of units can be offset by redesigning the scheme on-site or by:

- Management of land within the control of the developer offsite (this would require the offsite habitat to be surveyed).
- Purchase of the required compensation value from a Habitat Bank.
- Payment of a commuted sum to the Local Planning Authority or a combination of all or some of the above.

10. The metric trading rules for area habitats have not been satisfied through the creation of the proposed habitats. The trading summary tab in the metric shows that there is a loss of -0.73 low distinctiveness habitat units derived from the loss of modified grassland. There is also a loss of -0.08 habitat units derived from the loss of scrub habitat on Site.

11. The available area for uplifting on-site is small. The current losses could be addressed, or made smaller, by increased tree planting and planting mixed native scrub on Site.

12. The scheme could be further revised to create additional public open space that could be planted as scrub. However, this would likely require reducing the number of proposed properties.

13. Following the Kirklees Net Gain Technical Advice Note, a 10% gain should be sought in the mixed scrub and individual urban tree habitat types specifically, as well as a 10% net gain overall on the Site.

14. Once the mechanism to address the deficit has been determined, a Biodiversity Management and Monitoring Plan is required to detail how the habitats on site and off site will be managed. The Biodiversity Management and Monitoring plan should confirm the assumptions made regarding the proposed habitats in Table 6-1. To do this an updated landscaping plan should provide full species listed for each habitat parcel and indicate/confirm which areas of the site will be outside the ownership of the proposed dwellings. These areas can be managed for biodiversity and, as such, can provide an increased level of uplift within the metric.

1.3.2 Invertebrates

15. The Site is likely to support a moderate assemblage of invertebrates.

16. Landscaping plans should aim to retain some tussocky grassland around the perimeter of the Site, and new grassland should be sown with a neutral meadow mix to provide additional foraging and breeding opportunities for invertebrates.

1.3.3 Amphibians

17. The Site does not include habitats suitable for breeding amphibians. No accessible standing waterbodies are located within 250 m of the Site boundary.

18. The Site offers moderate suitability for amphibians in their terrestrial phase; however, the absence of records or breeding habitats in the immediate area means the site is unlikely to provide significant value for amphibians.

19. Therefore, amphibians offer no further constraint to the proposals at this time. A brash pile and rubble pile on the Site should be removed by hand as a precautionary measure.

1.3.4 Reptiles

20. The habitats on Site are of moderate value to reptiles; however, the suburban location means it is unlikely that reptiles will use the Site.

21. Therefore, reptiles offer no further constraint to the proposals at this time.

1.3.5 Birds

22. It is considered unlikely that the Site offers significant value to local bird populations. Nesting and foraging habitat within the Site is suitable for a limited number of common species.

23. As such, standard nesting bird protection measures and timing constraints are recommended during any Site clearance works; please refer to section 6.6.5 for further details.

24. Enhancements for birds should be considered, including planting berry-bearing native scrub and hedgerows and integrating bird nesting features into new buildings.

1.3.6 Bats

25. No nocturnal surveys are required for the mature trees on Site, and there are no buildings on Site. A dead tree at the south boundary has Potential Roost Features, which are considered suitable for Individual Bats (PRF-I) and should be retained if possible. If the dead tree needs to be removed, the tree will require an aerial assessment to confirm its suitability and inform the level of compensation necessary (i.e., the number of tree-mounted bat boxes).

26. There are bat records within 2 km of the Site. The Site has been assessed as holding Low suitability for habitat for foraging and commuting bats.

27. A lighting plan will be required for the Site that avoids light spill onto the perimeter, in particular onto the mature trees along the south boundary of the Site, so that this can be retained as a darker area for bat foraging/commuting.

28. Further enhancements for bats should also be considered, including integrating bat bricks or bat tiles into new buildings in appropriate locations.

1.3.7 Badgers

29. The Site's habitats are suitable for foraging and commuting badgers, with sett building habitat considered to be limited. Excavations should be left with a sloping end or covered over. If setts are noted on site, an Ecologist should be informed.

1.3.8 European Hedgehog

30. Hedgehogs are assumed to be occasionally on Site as they are present in the local area and habitats on Site offer foraging and breeding/hibernating suitability.

31. Scrub habitat and a pile of brash on-site should be removed by hand to minimise potential harm to hedgehogs.

32. Construction plans should include the installation of 13cm x 13cm holes in boundary fencing to ensure the development is porous to hedgehogs.

1.4 Further information Required

33. A summary of the required surveys and further information needed is detailed in Table 1-1.

Table 1-1 Summary of recommendations

Category	**Information required**
Plans	Proposed Artificial Lighting at night plan – showing lux contours across the site.
Plans	Updated landscaping plan Full species list should be included so the habitats can be confidently translated into the metric. The plan should indicate/confirm which areas of the site will be outside the ownership of the proposed dwellings. These areas can be managed for biodiversity and, as such, can provide an increased level of uplift within the metric.

2 Introduction

34. This report was written by Katie Hadwin, MSc BSc (Hons) ACIEEM. Katie has over 12 years of experience carrying out ecological assessments. Katie is registered to use a Class Licence (GCN: 2016-19812-CLS-CLS & DOR: 2017-27666-CLS-CLS) to survey great crested newts and hazel dormice, respectively.

35. The report was commissioned by Nick Bailey on behalf of MTSPV.

36. The Site is a 0.4929 ha trapezoid of land located between Healey Lane and West Park Road in Batley, herein referred to as the Site. The Site address is Healey Lane, Healey, Batley, Kirklees; the Nearest Postcode is WF17 8BN. OS Central Grid Reference: SE2270023980. The location plan for the Site is available in Section 8.

37. The Site is located within a suburban area to the west of Batley on land that previously belonged to Kirklees Council. Historically, the land was a play area for the adjoining Healey Junior, Infant and Nursery School. It appears to have been vacant and unmanaged for over a decade.

38. The habitats within the Site were primarily modified grassland, with two large areas of hard standing surrounded by areas of bare ground. Scrub areas have developed in the southwest corner of the Site, and a line of scrub comprised of self-set young trees was present along the edge of the stone wall to Healey Lane in the north. An area of grassland with tall ruderal species was present along the southwest boundary. A line of mature trees was located on top of a bank that slopes down to West Park Road. A UKHab plan is included in Section 8.

39. The proposals for the Site are for the construction of 15 dwellings with access off Healey Lane. The developer is submitting an Outline Planning Application for the Site.

2.1 Objectives

40. The objectives of this report are shown in Table 2-1.

Table 2-1. Objectives of the report

Objectives
To provide an ecological baseline for the Site.
To identify key ecological constraints to the proposed development.

To inform master planning to allow significant ecological effects to be avoided or minimised wherever possible.
To allow any further ecological surveys required to inform an Ecological Impact Assessment to be identified and appropriately designed.
To allow likely mitigation or compensation measures to be developed.
To determine the on Site baseline habitat value using DEFRA Statutory Biodiversity Metric
To determine the feasibility of achieving a 10% net gain on Site.

3 Planning policy and legislation

41. This legal information is a summary and intended for general guidance only. It is recommended that the original documentation be referred to for detailed and definitive information.

3.1 The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2020

42. The Conservation of Habitats and Species Regulations 2017 (as amended) transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding Site or resting place of such an animal (even if the animal is absent at the time). This has recently been amended by the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2020, which continue the same provision for European protected species, licensing requirements, and protected areas after the United Kingdom's exit from the European Union.

3.2 Wildlife & Countryside Act 1981

43. The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CRoW) 2000 and the Natural Environment and Rural Communities Act (NERC) 2006 (which also places a duty on authorities to have due regard for biodiversity and nature conservation) consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- Intentionally kill, injure, or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act or its dependent young while it is nesting.

- Intentionally kill, injure, or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection.

- Pick or uproot any wild plant listed under Schedule 8 of the Act.

3.3 Section 41 Habitats and Species (NERC Act 2006)

44. Section 41 (S41) of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers, such as public bodies, including local and regional authorities, in implementing their duty under Section 40.

3.4 The Protection of Badgers Act 1992

45. This Act was introduced to combat the threats posed to badgers by illegal activities such as badger digging/badger baiting and sets out a list of offences.

3.5 National Planning Policy Framework

46. The National Planning Policy Framework (NPPF) outlines government planning policies and how they should be applied to local authorities (Ministry of Housing, Communities & Local Government, 2021). The framework places emphasis on sustainable development, encouraging the re-use of land that has previously been developed, overusing land that has a higher environmental value and minimising impacts on biodiversity. The NPPF has three overarching objectives:

- An economic objective – to help build a strong, responsive and competitive economy by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity and by identifying and coordinating the provision of infrastructure.

- A social objective – to support strong, vibrant and healthy communities by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support 'communities' health, social and cultural well-being.

- An environmental objective – to contribute to protecting and enhancing our natural, built and historic environment, including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

47. It also states that to conserve and enhance the natural environment, planning policies and decisions should contribute to and enhance the natural and local environment by:

- Protecting and enhancing valued landscapes, Sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)

- Recognising the intrinsic character and beauty of the countryside and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land and of trees and woodland

- Maintaining the character of the undeveloped coast while improving public access to it where appropriate

- Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures

- Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans.

- Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate

3.6 Local Planning Policy

48. The Site is located within the Kirklees Council administrative area. The Kirklees Local Plan Strategy and Policies (Adopted 27 February 2019) have a number of relevant biodiversity policies, with a key objective of the Local Plan being to protect and enhance the integrity of the natural environment in Kirklees.

49. A Wildlife Habitat Network has been identified in Kirklees by West Yorkshire Ecology, intended to protect and strengthen ecological links within the district and to adjoining authorities. Some areas have been identified as strategic green infrastructure. Policy LP30 states that:

> The council will seek to protect and enhance the biodiversity and geodiversity of Kirklees, including the range of international, national and locally designated wildlife and geological sites, Habitats and Species of Principal Importance and the Kirklees Wildlife Habitat Network.

50. Kirklees Council has also published a Biodiversity Net Gain Technical Advice Note (June 2021), giving guidance to developers and ecologists. As set out in LP30, development proposals should provide biodiversity net gains through good design, including specific habitat creation and biodiversity enhancements. Proposals will be required to:

(i) result in no significant loss or harm to biodiversity in Kirklees through avoidance, adequate mitigation or, as a last resort, compensatory measures secured through the establishment of a legally binding agreement;

(ii) minimise impact on biodiversity and provide net biodiversity gains through good design by incorporating biodiversity enhancements and habitat creation where opportunities exist;

(iii) safeguard and enhance the function and connectivity of the Kirklees Wildlife Habitat Network at a local and wider landscape-scale unless the loss of the Site and its functional role within the network can be fully maintained or compensated for in the long term;

(iv) establish additional ecological links to the Kirklees Wildlife Habitat Network where opportunities exist; and

(v) incorporate biodiversity enhancement measures to reflect the priority habitats and species identified for the relevant Kirklees Biodiversity Opportunity Zone.

51. Local Nature Reserves (LNR) are Sites for both people and wildlife. They are of special interest for the flora, fauna, and geological or physical geographical features

and are managed for the purpose of their preservation or for providing opportunities for study or research. They also provide opportunities for the public to enjoy nature.

52. Local Wildlife Sites (LWS) are Sites identified as locally important for wildlife. They are designated through review against set criteria.

3.7 International and National Biodiversity Designations

53. Ramsar Sites are listed under the Convention on Wetlands of International Importance under the criteria of rarity and diversity of both habitat and species and fragility of ecosystems. They are afforded statutory protection under paragraph 118 of the National Planning Policy Framework.

54. Special Protection Areas (SPA) are classified under the EC Directive on the Conservation of Wild Birds to ensure the survival and reproduction of migratory and other species. They are afforded statutory protection under the law.

55. Special Areas of Conservation (SAC) are designated under the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora to maintain or restore natural habitats and wild species. They are afforded statutory protection under the law.

56. Sites of Special Scientific Interest (SSSI) are identified under the Wildlife and Countryside Act (1981) for habitat and natural features, including flora and fauna, geology and geomorphology.

57. National Nature Reserves (NNR) are identified to protect habitats and communities of plants and animals and geological or physical geographical features of special interest.

58. In the case of European designated Sites, a Habitats Regulations Appropriate Assessment is required for any proposal likely to have significant effects on the Site.

59. The Flood Risk Regulations (2009) and the Flood and Water Management Act (2010) establish how flood and coastal erosion risks will be managed in England and Wales.

4 Methods

4.1 Desk study and data consultation

60. Ecological and biological records for the Site and surrounding area (up to two kilometres) were requested from the organisations included in Table 4-1.

Table 4-1 Organisations consulted for biological records.

Date	Organisation	Details of records requested
22/03/2023	West Yorkshire Ecology Service	All protected and notable species within 2 km of the Site centroid
03/06/2024	Multi-Agency Geographic Information for the Countryside (MAGIC)	All relevant habitat and species layers checked within 2 km of the Site centroid, including granted European Protected Species Licences, Great Crested Newt Licence Returns and Priority Habitats

61. Information regarding designated wildlife sites within the local area was requested from the organisations in Table 4-2.

Table 4-2 Designated Sites.

Date	Organisation	Details of information requested
03/06/2024	Multi-Agency Geographic Information for the Countryside (MAGIC)	Local Nature Reserves, National Nature Reserves, Ancient Woodland, Sites of Special Scientific Interest, Areas of Outstanding Natural Beauty, Special Areas of Conservation, Special Protection Areas, or Ramsar Sites within a 2 km radius of the Site.
22/03/2023	West Yorkshire Ecology Service	Non-statutory Sites search with 2 km

62. In addition to the above, online mapping sources, including Google Maps, Google Earth Pro and Grid Reference Finder, were used to view satellite imagery and online maps of the Site and surrounding land.

4.2 Field survey

4.2.1 Habitats

UK Habitat Classification System

63. The survey was carried out in accordance with the UK Habitat Classification System (UKHab) methodology[1]. The habitats within the boundary of the Site were broadly mapped, describing the principal habitat types and identifying the dominant plant species present within each habitat type. A botanical species list sufficient to determine broad habitat types was collected on site. The DAFOR scale has been used to rate the abundance of plant species as follows:

Dominant – 76-100% cover
Abundant – 51-75% cover
Frequent – 26-50% cover
Occasional – 11-25% cover
Rare – 0-10% cover
Present – abundance not estimated.

64. The information collected during the survey was then approximately digitally mapped using a combination of field maps, GPS waypoints, satellite images and QGIS software. The UKHab plan is available in Section 8.

65. Please refer to Table 4-3 for UKHab metadata.

Table 4-3 UKHab metadata

Metadata	Item
Scope	Baseline habitat survey to inform BNG baseline
Area surveyed	With red line boundary
Edition	UKHab 2.0
Minimum mapping unit	25 m^2
Secondary Codes	All Secondary Codes
Map projection	British National Grid – EPSG:27700-OSGB 1936
Year	2024
Surveyor	Katie Hadwin ACIEEM

Invasive flora - Controlled and invasive species assessment

66. The presence of invasive non-native species was searched for during the assessment, including Japanese knotweed *Reynoutria japonica*, Himalayan/Indian

[1] UKHab Ltd (2023). UK Habitat Classification Version 2.0 at http://www.ukhab.org/

balsam *Impatiens glandulifera*, giant hogweed *Heracleum mantegazzianum* and New Zealand pygmyweed *Crassula helmsii*.

67. An active search for these species was not undertaken. However, if these and any other potentially invasive species were observed on the Site, they were recorded, and target were noted where possible.

4.2.2 Species and species groups

4.2.3 Bats

Preliminary Roost Feature Assessments and Habitat Suitability Assessment

68. No buildings were present on Site.

69. Where accessible, mature trees within and immediately adjacent to the boundary of the Site were visually assessed for suitable bat roosting features from ground level.

70. A Ground Level Tree Assessment (GLTA) of individual trees or groups of trees was undertaken for potential roost features (PRFs) used by roosting bats, including natural holes, woodpecker holes, cracks and splits in major limbs, loose bark, dense thick-stemmed ivy, hollows/cavities, and bird, bat or other mammal boxes. Signs indicating the use of tree features by roosting bats include scratches or staining around entry points, bat droppings in or around or below the entrance, audible squeaking at dusk or in warm weather, and flies around entry points in addition to smoothed surfaces and the absence of cobwebs and other detritus.

71. Trees were assessed for their suitability to support bats and categorised as either having NONE suitability, either no PRFs in the tree or highly unlikely to be any, FAR; further assessment required to establish if PRFs are present in the tree, or PRF-I; a tree with at least one PRF present.

72. A PRF aerial inspection survey was not undertaken to establish the potential suitability of a PRF category to determine the following; instead, it was only made from GLTA: PRF-I; PRF only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitat. PRF-M: PRF is suitable for multiple bats and, therefore, may be used by a maternity colony.

73. The habitat within the Site boundary was also assessed for its suitability to support foraging and commuting bats. The suitability of a Site is dependent on both the connectivity of the Site to other habitats of value and the quality of the habitats within and surrounding the Site.

74. Please refer to Table 4-4 for an outline of the suitability classifications for potential flight paths and foraging habitats.

Table 4-4 Suitability of potential flight paths and commuting Habitats[2]

Potential suitability	Potential flight paths and foraging habitats
None	No habitat features on site likely to be used by commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight lines or generate/shelter insect populations available to foraging bats).
Negligible	No obvious habitat features on-site are likely to be used as flight paths or foraging bats; however, a small amount of uncertainty remains in order to account for non-standard bat behaviour.
Low	Habitats that could be used by small numbers of commuting bats, such as a gappy hedgerow or unvegetated stream, but are isolated, i.e., not very well connected to the surrounding landscape by another habitat. The habitat on Site is suitable for foraging but is an 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	Continuous habitats connected to the wider landscape could be used by bats for commuting, such as lines of trees and scrub or linked back gardens. The Site's habitat is connected to the wider landscape and could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape is likely to be used regularly by commuting bats in areas such as river valleys, streams, hedgerows, lines of trees, and woodland edge. High-quality habitat that is well connected to the wider landscape is likely to be used regularly by foraging bats, such as broadleaved woodland, tree-lined watercourses, and grazed parkland. The Site is close to and connected to known roosts.

4.2.4 Amphibians, including great crested newts.

Aquatic and terrestrial habitat suitability assessment

75. Aerial images and online mapping resources were searched for the presence of standing water bodies or other wetland habitats (ponds, lakes, ditches, marshes, or swamp habitats) within 250m of the Site, which would likely be suitable for amphibians.

76. No standing waterbodies were identified, except for one possible ornamental pond 25m to the north of the Site within the private garden of 271 Healey Lane. The pond

[2] Collins, J. (ed) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn).* Table 4.1 Guidelines for assessing the potential suitability of proposed development Sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement. *The Bat Conservation Trust, London. ISBN 978-1-7395126-0-6*

was not accessed, so no Habitat Suitability Index HSI was carried out; however, it is unlikely that the pond, if present, would provide a suitable breeding habitat.

Great crested newt terrestrial habitat assessment

77. The habitat within the survey area was assessed for its suitability to support terrestrial GCN. Any features of particular interest for GCN were noted and mapped during the UKHab assessment and compared against the terrestrial habitat requirements of GCN detailed in the Great Crested Newt Conservation Handbook[3] and Great Crested Newt Mitigation Guidelines[4].

78. Features searched for and noted were suitable daytime refugia (logs, bricks, and rubble); undergrowth and leaf litter for foraging and overwintering; rough grassland, pasture and hedgerows for foraging and movement between ponds and dispersal; and refugia in mammal burrows and tree stump voids for when the weather becomes colder.

4.2.5 Reptiles – habitat suitability

79. The suitability of the Site's habitats for reptiles was assessed following the NARRS Reptile Habitat guide. This includes assessing the presence of variable vegetation structures with a mixture of vegetation heights, tangled or thorny areas, mosaics, bare patches, lots of edges ('ecotones') and good basking places. The number of sunny, sheltered locations that are unshaded and south-facing was assessed. The topography of the Site and the connectivity around the Site were also considered.

4.2.6 Badgers – tracks and signs

80. Suitable habitats were searched for evidence of badgers, including setts, snuffle holes, runs, and the presence of hair on squeeze holes under fences or through any scrub habitat.

4.2.7 Birds – Habitat Suitability Survey

81. Suitable habitats on Site were checked for evidence of breeding, which includes noting defunct nests and the presence of suitable nesting habitats.

[3] Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001), Great Crested Newt Conservation Handbook, Froglife, Halesworth.
[4] English Nature (2001) Great crested newt mitigation guidelines. Version: August 2001

4.2.8 Other protected species assessment

82. Any incidental records of other notable mammals, amphibians, invertebrates, or other species observed when conducting surveys and assessments across the Site were recorded. Habitats suitable to support such species were also assessed.

Survey timing and weather conditions

83. The survey took place in daylight hours with good visibility. The temperature was 15°C with 0% cloud cover and a light breeze (Beaufort Scale 2). There was no rain.

Surveyors

84. The survey visits were undertaken by the surveyors, as detailed in Table 4-5.

Table 4-5 Surveyor details

Date	Surveyor	Position and qualifications
13/05/2024	Katie Hadwin	Consultant Ecologist, BSc (Hons) MSc ACIEEM

4.3 Constraints and limitations

85. The findings and conclusions of ecological assessments have a limited shelf life. Ecological conditions and constraints will change over time, and as such, the findings of this report are valid for 12-18 months, after which the report should be reviewed to assess whether the survey should be updated.[5]

86. No constraints were such that they affected the overall conclusions and recommendations made in this report. However, the survey was undertaken just outside the optimal botanical survey season.

[5] CIEEM 2019 Advice note on the life span of ecological Reports and Surveys

5 Baseline Ecological Conditions

87. In this section, the baseline ecological conditions for the Site are outlined. The current assessment is confined to the Site boundary plus a 30m buffer zone to look for evidence of mobile species.

88. The biological records returned within the data search from West Yorkshire Ecology Service will be discussed within each corresponding species group. A full list of records obtained can be provided upon request.

5.1 Designated Sites

5.1.1 Statutory designated Sites

89. There are no internationally or nationally designated Sites within the 2km search area.

90. There are no local statutory designated Sites within the 2km search area.

91. There is no ancient semi-natural woodland/ancient, replanted woodland within the 2km search area.

92. Please see Figure 8-3 for a map of statutory designated Sites.

5.1.2 Non-statutory designated Sites

93. There are no locally designated non-statutory Sites within the 2km search area.

94. The Site centroid does not lie within the Kirklees Wildlife Habitat Network.

95. The southeast corner of the Site falls into an area marked as ‘built-up’ in the Kirklees Biodiversity Opportunity Zone map.

96. Healey Junior Infants and Nursery School adjoins the Site to the east and is an Urban Green Space.

97. Please see Figure 8-4 for a map showing non-statutory designations.

5.2 Data search

98. The species records from the data search from West Yorkshire Ecology are discussed below within each corresponding species section.

5.2.1 European licence applications

99. One granted European Protected Species Mitigation Licence (EPSML) for bats was returned in the desk study. This was for common pipistrelle in 2011.

100. Please refer to section 9.1 for full details of the licences returned.

5.3 Habitats

101. A UKHab plan of the habitats within the Site is in Section 8.

102. The UKHab habitats recorded on the Site are as follows:

Developed land/sealed surface (u1b) – vacant/derelict land (0.0908 ha)

103. Two large areas of derelict hard standing were present, remnants of former playgrounds/buildings. The areas have been cleared of most vegetation, with mosses and sparse grasses present.

Modified grassland (g4) – including bare ground, tall forb, ruderal/ephemerals and scattered trees (0.356 ha in total)

104. Modified grassland was the dominant habitat on Site. 0.3235 ha of this was species-poor, with an average of 5 species per m^2, around 85% grasses. Grasses were identified vegetatively and appear to comprise frequent cocksfoot *Dactylis glomerata,* occasional couch *Elymus sp.*, timothy grass *Phleum pratens,* and bent *Agrostis sp.* with rarer frequency perennial rye grass *Lolium perenne,* Yorkshire fog *Holcus lanatus* and meadow-grass *Poa sp.* Forbs were limited with rare frequencies of species such as common ragwort *Jacobaea vulgaris*, hairy bittercress *Cardamine hirsuta*, creeping thistle *Cirsium arvense*, herb Robert *Geranium robertianum*, common mouse-ear *Cerastium fontanum,* narrow-leaved dock *Rumex stenophyllus*, cleavers *Galium aparine*, creeping cinquefoil *Potentilla reptans*, wood avens *Geum urbanum*, common vetch *Vicia sativa* and dandelion *Taraxacum officinale agg.* The grassland is unmanaged and tussocky.

105. An area of modified grassland 0.0325 ha, in between hardstanding, had a higher ratio of forbs to grasses and varied sward height. Species composition was similar with additional frequent black medick *Medicago lupulina*, clover species *Trifolium* sp., occasional field speedwell *Veronica persica* and ribwort plantain *Plantago lanceolate*. In this area species per m^2 was an average of 6.

106. In areas with tall forbs species, including frequent nettle *Urtica dioica* and rosebay willowherb *Chamaenerion angustifolium*, bindweed species, occasional hogweed *Heracleum sphondylium* and small quantities of broad-leaved dock *Rumex obtusifolius* were present.

107. Scattered trees in grassland included predominantly young cherry *Prunus avium,* sycamore *Acer pseudoplatanus*, oak *Quercus sp.* and holly *Ilex aquifolium.*

Mixed scrub (h3h) – including self-set young trees (0.0317 ha)

108. Along the stone wall that forms the north boundary, shrubs and young tree saplings have formed a narrow line of scrub. The main species present were bramble *Rubus fruticosus agg.*, sycamore, silver birch *Betula pendula*, ash *Fraxinus excelsior* and dog rose *Rosa canina.*

109. An area of dense mixed scrub was present in the southwest corner of the Site. Species included saplings <5m tall derived from the mature trees lining the southern boundary, as well as shrub species. Ash and bramble were abundant, with frequent whitebeam *Sorbus aria* and cherry and occasional oak. Less frequently present were horse chestnut *Aesculus hippocastanum*, holly, elder *Sambucus nigra*, ivy *Hedera helix*, alder *Alnus glutinosa,* and butterfly bush *Buddleia sp.*.

Blackthorn scrub (h3a) – (0.0152 ha)

110. Towards the southern boundary, an area of blackthorn *Prunus spinosa* was encroaching onto grassland.

Line of Trees – (0.085 km)

111. Along the south boundary was a line of young to semi-mature trees, including sycamore, sweet chestnut, silver birch, hawthorn, common lime, wild cherry, English oak, horse chestnut, London plane *Platanus x hispanica*, Norway maple *Acer platanoides*, whitebeam (dead) and cypress *Cupressus sp*

112. A shrubby understorey was located under the trees, including regenerating tree species, ivy, elder, hawthorn *Crataegus monogyna*, holly and flowering currant *Ribes sanguineum.* The tall forb grassland continued under the trees to the boundary, with bulb planting, including daffodils.

5.4 Biodiversity Net Gain Baseline

113. The DEFRA Statutory Biodiversity Metric was used to calculate the Site's baseline habitat unit value, shown in Table 5-1, with hedgerow habitat unit value, shown in Table 5-2.

114. The Kirklees Biodiversity Net Gain Technical Advice Note was used to determine the strategic significance of the Site.

Table 5-1 Baseline Habitats

Ref	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Condition	Strategic significance	Habitat Units
1	Grassland	Modified grassland	0.31805	Low	Poor	Area/compensation not in local strategy/ no local strategy	0.64
2	Grassland	Modified grassland	0.03246	Low	Moderate	Area/compensation not in local strategy/ no local strategy	0.13
3	Urban	Developed land; sealed surface	0.09105	V. Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	0.00
5	Heathland and shrub	Mixed scrub	0.03129	Medium	Poor	Area/compensation not in local strategy/ no local strategy	0.13
6	Heathland and shrub	Blackthorn scrub	0.0152	Medium	Poor	Area/compensation not in local strategy/ no local strategy	0.06
	Individual trees	Urban tree	0.00814	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	0.07
						Total Habitat Units	**1.02**

Table 5-2 Baseline Hedgerows

Ref	Hedge Number	Habitat Type	Length (km)	Distinctiveness	Condition	Strategic significance	Habitat Units
1	FOT1	Line of Trees	0.085	Low	Moderate	Area/compensation not in local strategy/ no local strategy	0.34

Total Hedgerow Units	**0.34**

115. Most of the Site (0.4468 ha) comprises habitats of low or very low distinctiveness. The scrub that has developed along the northern boundary and within the southwestern corner and the line of semi-mature trees along the southern boundary are habitats of medium distinctiveness.

116. Please refer to section 9.2 for the species list.

5.5 Species and species groups

5.5.1 Plants

117. No notable plant species were returned in the 2 km data search.

118. No notable plant species were recorded during the Site visit. The habitats on Site are common and widespread.

Invasive species

119. No invasive plant species were recorded on Site during the PEA assessment. The data search returned two historical records of Himalayan balsam *Impatients glandulifera* and one historical record of giant hogweed *Heracleum mantegazzaianum*, all over 1.4km distant from the Site.

5.5.2 Invertebrates

The habitats within the Site offered suitability for a moderate assemblage of invertebrates to be present. The unmanaged tussocky grassland provides suitable breeding and foraging habitat for common and widespread invertebrates. The trees and scrub also provide some suitability. The Site was situated within a residential area with well-vegetated gardens and mature trees.

5.5.3 Amphibians

120. No accessible standing water bodies were present within 250 m of the Site. Therefore, no HSI assessments were undertaken as part of this survey.

121. One record for the great crested newt from 2016 was returned in the data search, located 1.5km from the Site. No other records of amphibians were returned.

122. The Site offers no suitability for the breeding amphibians. The habitats on Site offered moderate suitability for amphibians in their terrestrial phase, however, their presence on Site was considered unlikely due to the distance of the Site from any suitable breeding habitat (i.e. standing water bodies). The pile of brash at Target Note 1 and pile of rubble at Target Note 2 provided potential hibernacula for amphibians.

5.5.4 Reptiles

123. No reptile records were returned within the data search for the Site or surrounding area.

124. The habitats on Site offer moderate suitability for foraging and commuting reptiles. The pile of brash at Target Note 1 and the pile of rubble at Target Note 2 provided potential hibernacula for amphibians. However, the surrounding suburban development with a high level of disturbance means it is unlikely that reptiles will be present on Site.

5.5.5 Birds

125. One record of swift *Apus apus* was returned from the data search, located 1.2km from the Site. Swift is a West Yorkshire priority species and a red-listed bird in Species of Conservation Concern[6].

126. There were 34 historical records of birds returned dated 1970-1988, including a number of red and amber listed species and species within the Kirklees Biodiversity Action Plan or noted as a West Yorkshire priority species. Two records for Swift were returned from 2010. All records were located over 1.6km from the Site.

127. During the field survey, a number of bird species were noted, including blackbird *Turdus merula*, blue tit *Cyanistes caeruleus* and the amber listed woodpigeon *Columba palumbus.* The species were all noted within the trees and scrub to the south of the Site. Bird activity within the surrounding gardens was moderate.

128. The habitats on Site offered no suitability for ground-nesting birds. Habitats offered moderate suitability for foraging birds, particularly the scrub and urban trees, which also offered some suitability for nesting and roosting. The Site is likely to offer moderate local value to common and widespread bird species.

[6] https://www.bto.org/Sites/default/files/publications/bocc-5-a5-4pp-single-pages.pdf

5.5.6 Bats

129. Forty-one recent records and 30 historical records of bats were returned in the data search within 2km of the Site. Of the recent records, 26 related to common pipistrelle *Pipistrellus pipistrellus*, five were for soprano pipistrelle *Pipistrellus pygmaeus*, one record was for brown long-eared bat *Plecotus auritus*, seven were for noctule *Nyctalus noctula*, one for lesser noctule *Nyctalus leisleri* and one for a *Myotis* bat species. The records included a maternity roost for common pipistrelle located 0.7 km east of the Site, the closest record. A possible common pipistrelle roost was noted 1.8km from the Site. A granted EPMSL for common pipistrelle was located 1.3km from the Site to the southeast.

130. Historical records noted nine roosts within 2km, all for unspecified bats or common pipistrelle, with the closest record 0.7 km from the Site.

131. The mature trees on Site were assessed for their potential to support roosting bats. All trees were assessed as having NONE in terms of suitability for roosting bats, with the exception of a dead tree within the line of trees at the southern boundary, which was assessed as having PRF suitability due to the presence of lifted bark, snags and shallow knotholes with an estimate of PRF-I, for individual bats.

Habitat suitability - foraging and commuting

132. The habitats within the Site were considered to offer Low suitability for foraging bats, with the grassland, scrub and trees likely to support their invertebrate food source.

133. The Site was unlit, although the surrounding road network was lit with streetlights. However, there were a good number of gardens with mature trees in the surrounding landscape, giving intermittent connectivity to lines of trees and extensive grassland areas to the northeast of the Site. The line of trees to the south continued along the frontage of the adjacent school, linking to an area of grassland and more gardens and tree-lined roads. Connectivity to more natural areas to the west was considered poor. The Site is considered to offer Low suitability for commuting bats.

5.5.7 Badger

134. No badger *Meles meles* records were returned from within 200m of the Site centroid, and the nearest known sett was over 1.4km distant. The Site does not fall within an area of increased probability of badger activity as defined by West Yorkshire Ecology.

135. The Site is isolated by its urban location, and no evidence of badgers was recorded during the Site visit. The habitats on Site offer some suitability for commuting and foraging badgers, with limited sett-building potential.

5.5.8 European Hedgehog

136. The data search returned three records for hedgehog *Erinaceus europaeus* from within 2 km of the survey Site. No records were returned for the Site. All records were from the west of the Site, the closest being 0.57 km distant.

137. The Site offered good suitability for foraging hedgehogs with scrub and grassland habitats. There were limited opportunities for breeding or hibernation.

138. The Site was porous to hedgehogs, and it is likely that the surrounding network of gardens would support hedgehogs in the area, although roads and garden walling may present barriers to movement. Hedgehog should be assumed to be occasionally present.

6 Ecological constraints and opportunities, and recommendations for mitigation and further survey

6.1 Proposals

139. A proposed landscaping layout for the Site was provided by the client [Drawing 101 Version F (Dated:20.01.25)].

140. The proposed landscape layout produced by TPM Landscape Architects in June 2024 is for approval and was used to estimate the likely habitats present post-development and demonstrate the feasibility of achieving a net gain on Site. No complete species list was provided at the time of assessment. As such the assumptions detailed in Table 6-1 have been made when translating the proposed habitats into the metric:

Table 6-1 Assumptions made when translating habitats

Habitat type specified on Landscape plan	**Assumption**
Proposed Ornamental Planting	These habitat parcels will comprise of introduced garden variety shrubs including *Cistus laxus* 'Snow White', *Euonymus fortunei* 'Emerald 'n' Gold', *Euonymus europaeus* 'Red Cascade', *Hydrangea panicula* 'Limelight', *Hydrangea paniculata* 'Little Lime', *Hebe rakaiensis*, *Leucothoe Scarletta*, *Nandina domestica*, *Philadelphus* 'Belle Etoile', *Pieris japonica* 'Little Heath', *Photinia* 'Red Robin' Ball, *Rosa* 'Bonica', *Sarcococca humilis*, *Skimmia japonica* 'Rubella', *Skimmia confusa* 'Kew Green', *Sarcococca hookerana digyna*, *Viburnum davidii, carex morrowii 'Ice Dance' , Dryp Dryopteris filixmas, Geranium sanguineum, Helleborus foetidus and Luzula sylvatica 'Nivea'.*
Proposed Native Shrub Mix	These habitat parcels will comprise of native scrub species which will meet the definitions of mixed scrub in the UKHab criteria. Species will include

Habitat type specified on Landscape plan	Assumption
	hawthorn *Crataegus monogyna,* Holly *Ilex aquifolium,* Blackthorn Prunus spinosa, Dog Rose *Rosa canina,* Guelder rose *Viburnum opulus.*
Proposed Trees	These are assumed to be mainly non-native species including Snowy Mespilus *Amelanchier lamarckii* x 2 (T14,17), Hornbeam species *Carpinus betulus* 'Frans Fontaine' x 7 (T1-7), *Cornus kousa* 'China Girl' x 2 (T9,11), Crab Apple species *Malus* 'Red Obelisk' x 4 (T8,10,12,13). With native species Rowan *Sorbus aucuparia* x 2 (T15-16).
Proposed Native Hedgerow Mix	A hedgerow with greater than 80 % cover of UK Native or archaeopyte woody species to include, Hawthorn *Crataegus monogyna,* Hazel Corylus avellana, Holly *Ilex aquifolium,* Blackthorn *Prunus spinosa and* Dog Rose *Rosa canina.*
Proposed Grassland	These habitat parcels will comprise of Species rich turf comprising of a 80:20 grass to species ratio including species such as Common: Knapweed *Centaurea nigra*, Self-Heal *Prunella vulgaris,* Red Clover *Trifolium pratense*, White Clover *Trifolium repens,* Ribwort Plantain *Plantago lanceolata*, Dandelion *Taraxacum officinale*, Birdsfoot Trefoil *Lotus cornuiculatus*, Black Medick *Medicago lupulina* and Flax *Linum usitatissimum ,* Common Fumitory *Fumaria officinalis*, Cowslip *Primula veris* , Burnett Saxifrage *Pimpinella saxifrage*, Lady's Bedstraw *Galium verum* , Yellow Rattle *Rhinanthus minor* , Yarrow Achillea millefolium Hedge Bedstraw Galium mollugo, Common Sorrel *Rumex*

Habitat type specified on Landscape plan	Assumption
	acetosa, Sheeps Fescue *Festuca Ovina,* Strong Creeping Red Fescue *Festuca rubra rubra,* Slender Creeping Red Fescue *Festuca rubra litoralis,* Chewings Fescue *Festuca rubra commutate,* Smooth Meadow Grass *Poa pratensis,* Browntop Bent *Agrostis capillaris,* Creeping Bent *Agrostis stolonifera*, Perenial rye grass *Lolium perenne*

141. The plan provided is included in Appendix 1.1.

142. The proposals are assumed to result in complete clearance of the Site except for the line of trees along the south boundary, which will be protected and retained.

143. The proposal is to build 19 residential dwellings and gardens with an access road. The line of trees to the south is assumed to be retained in its entirety. Native hedgerows are assumed to be installed to the rear of gardens abutting Healey Lane, along with an area of native shrub mix, trees, grassland and introduced shrubs. Any habitats associated with homeowner control have been emitted from calculations, as there can be no guarantee of maintenance of the condition of these habitats post-sale.

144. The mixed scrub, grassland, some introduced shrub and trees, and native species hedgerows are assumed not to be included within the curtilage of the proposed dwellings, and as such can be managed for biodiversity in perpetuity. If this is not the case the calculation provided within this report will not be accurate.

145. The Kirklees Biodiversity Net Gain Technical Advice Note was used to determine the strategic significance of the Site.

146. Proposed habitats are detailed in Table 6-2 and Figure 9-1.

Table 6-2 Proposed Habitats (using concept plan)

Board Habitat Type	Proposed habitat	Area ha	Proposed condition	Area Units
Urban	Developed land sealed surface	0.28969	N/A - Other	0.00
Urban	Introduced shrub	0.01207	Condition Assessment N/A	0.02
Heathland and shrub	Mixed scrub	0.01512	Moderate	0.10
Grassland	Modified grassland	0.00797	Good	0.04
Urban	Vegetated garden	0.16323	Condition Assessment N/A	0.32
Individual trees	Urban tree	0.0692	Moderate	0.21

Table 6-3 Proposed Hedgerow Habitats

Hedge No.	Habitat type	Length (km)	Condition	Strategic Significance	Hedgerow Units
H01	Native hedgerow	0.011	Moderate	Area/compensation not in local strategy/ no local strategy	0.04
H02	Native hedgerow	0.018	Moderate	Area/compensation not in local strategy/ no local strategy	0.06
H03	Native hedgerow	0.0236	Moderate	Area/compensation not in local strategy/ no local strategy	0.08

6.2 Designated Sites

6.3 Habitats and plants

147. All plant species and habitats recorded on the Site are common and widespread. The Site does not include priority habitats, and no notable plant species were recorded during the PEA.

Invasive species

148. No invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 were recorded during the PEA assessment.

6.4 BNG feasibility

6.4.1 Habitat area

149. Using the proposed Site plan as a guide, the proposed development will result in a **-32.32% net loss** of biodiversity in habitat units and a **51.78% net gain** in hedgerow units.

150. The baseline habitats on Site are valued at 1.02 habitat units and 0.34 hedgerow units using the DEFRA Statutory Biodiversity Metric. The proposed habitat creation using the proposed Site plan as a guide will result in a total negative change of -0.33 habitat units and a positive change of +0.18 hedgerow units.

151. The metric trading rules for area habitats have not been satisfied through the creation of the proposed habitats. The trading summary tab in the metric shows that there is a loss of -0.73 low distinctiveness habitat units derived from the loss of modified grassland. There is also a loss of -0.08 habitat units derived from the loss of scrub habitat on Site.

152. The unit deficit in habitats is -0.43.

153. The available area for uplifting on-site is small. The current losses could be addressed, or made smaller, by increased tree planting and planting mixed native scrub on Site.

154. The scheme could be further revised to create additional public open space that could be planted as other neutral grassland or modified grassland or scrub. However, this would likely require reducing the number of proposed properties or hardstanding.

6.5 The Biodiversity Net Gain Principles

155. The ten Biodiversity Net Gain Principles[7]. should be followed as part of the design, construction, and operational phase:

- Apply the mitigation hierarchy.
- Avoid losing biodiversity that cannot be offset elsewhere.

[7] Biodiversity Net Gain: Good practice principles for development © CIEEM, CIRIA, IEMA, 2016

- Be inclusive and equitable.
- Address risk
- Make a measurable net gain contribution.
- Achieve the best outcomes for biodiversity.
- Be additional.
- Create a net gain legacy.
- Optimise sustainability.
- Be transparent.

6.6 Species and species groups

6.6.1 Invertebrates

156. The Site is likely to support a moderate invertebrate assemblage. Post-development landscaping should include areas of tussocky grassland around the edge of the Site where it is feasible to retain breeding and foraging habitat. Grassland in areas of public open space should be sown with a neutral grassland meadow mixture aimed at supporting invertebrates.

6.6.2 Amphibians

157. Amphibians offer no further constraint to the proposals. Standard protection measures should be followed as part of the Site clearance and construction works. These should be included in the. In particular, the potential hibernacula at Target Notes 1 and 2 should be cleared by hand following a suitable method statement.

6.6.3 Reptiles

158. Reptiles offer no further constraint to the proposals. Standard protection measures should be followed as part of the Site clearance and construction works. In particular, the potential hibernacula at Target Notes 1 and 2 should be cleared by hand following a suitable method statement.

6.6.4 Bats

Nocturnal Surveys

159. The PRF-I suitability tree (T01) on Site requires an aerial assessment to determine its potential and status for roosting bats, as an assessment was only made from ground level.

160. Should the assessment determine the tree as maintaining PRF-I status, a nighttime survey may be required before removal, or a Roost Resource Approach may be taken, ensuring appropriate PRF-I compensation in advance of removal (i.e. bat boxes installed) and a Precautionary Working Method Statement for all works be in place and followed.

161. Artificial lighting at night (ALAN) is detrimental to bats. The Site is currently unlit at night. It is recommended that an appropriate lighting plan be implemented for the development to avoid light spill throughout the site and onto the perimeter of the Site, especially the line of mature trees along the south boundary.

6.6.5 Birds

162. No further survey is required if the proposed works are undertaken outside the main nesting period (March to August). A detailed breeding bird survey has not been undertaken as part of this PEA.

163. It is considered possible that the Site offers nesting opportunities for a limited number of bird species. However, the extent of the habitats, their condition and the Site's urban location will likely restrict the Site from being used by rare or notable bird species.

164. As the Site offers suitability for nesting birds, the proposed works, without suitable avoidance or mitigation, could result in the destruction or disturbance of active bird nests, which could result in individual birds and/or chicks being injured or killed.

165. Under the Wildlife and Countryside Act 1981, as amended (section 1), it is an offence to remove, damage or destroy the nest of any wild bird while that nest is in use or being built. Planning consent for development does not provide a defence against prosecution under this Act.

166. It is recommended that the works be undertaken outside the main bird nesting period, which runs from March to August inclusive. Some bird species, such as

pigeons, can nest throughout the entire year, and some bird species, like blackbirds, can have multiple broods, which can extend the nesting period. Likewise, if the weather is favourable, some species can start nesting in late winter. Therefore, before the proposed works start on Site, a visual assessment by construction staff or a designated biodiversity champion must be undertaken if the works are undertaken outside the main nesting period.

167. Should works need to be carried out within the main nesting period, a suitable method statement for the protection of nesting birds will need to be put in place, which will include:

- A pre-works inspection of suitable nesting features and nests within the Site buildings and habitats and the immediate work area should be undertaken by a Suitably Qualified Ecologist (SQE). If active nests are found, work cannot commence until all chicks have fledged.
- If, at any point during the works, nesting birds are found, works should be suspended, and advice should be sought from a Suitably Qualified Ecologist.

168. The hedgerows to be planted under the existing line of trees should comprise native berry-bearing species to provide suitable foraging and nesting habitats for common birds.

6.6.6 Badgers

169. Badgers are currently not actively using the Site, and the Site and surrounding area (with 200 m) offer some suitability for foraging and commuting badgers. To avoid animals becoming trapped, holes must be covered or left with a sloping end. If a sett is found, work must stop, and an ecologist be informed.

6.6.7 Hedgehog

170. Hedgehogs are likely to be in the area and are assumed to be occasionally present on Site. The pile of brash at Target Note 1 provides an ideal hibernaculum for hedgehog; this should be carefully removed by hand following a suitable method statement. Scrub habitat should be removed in a similar way.

171. Fencing between plot curtilages should include a 13 cm x 13 cm hole to create a ‘hedgehog highway’ through the Site and ensure that the Site continues to be porous to hedgehogs.

6.7 Enhancement

172. The proposals will include species-specific features to enhance the Site further for biodiversity. It is recommended that integrated bird nesting features for swifts and house sparrows, and bat roosting features be included in the proposed buildings as part of the scheme. Indicative locations of these boxes are provided on Figure 9-2. As are locations of invertebrate boxes.

173. Example features are included in Appendix 9.

7 Conclusions

174. This report is designed as a discussion document to inform the design process. Once all relevant and required information is available (lighting plans, landscaping scheme with full proposed species list, etc.), it is recommended that, in line with the best practice approach, a BNG design stage report is produced.

175. If T01 can be retained, no additional surveys for protected species would be required. As such, the Local Authority may consider this report sufficient to determine the likely impact of the development, per the Kirklees Net Gain Technical Guidance Note.

176. Once further information is available, a BNG Design Stage Report should be completed. Following this, to ensure the conditions specified in the metric are achieved, a Biodiversity Management and Monitoring Plan would be required in line with statutory advice.

177. The current net loss in habitat units is likely to be able to be compensated for on-site, with some amendments to site design. If this is not possible, the deficit would need to be compensated for by :

- Management of land within the control of the developer offsite;
- Purchase of the required compensation value from a Habitat Bank;
- Payment of a commuted sum to the Local Planning Authority or a combination of all or some of the above.

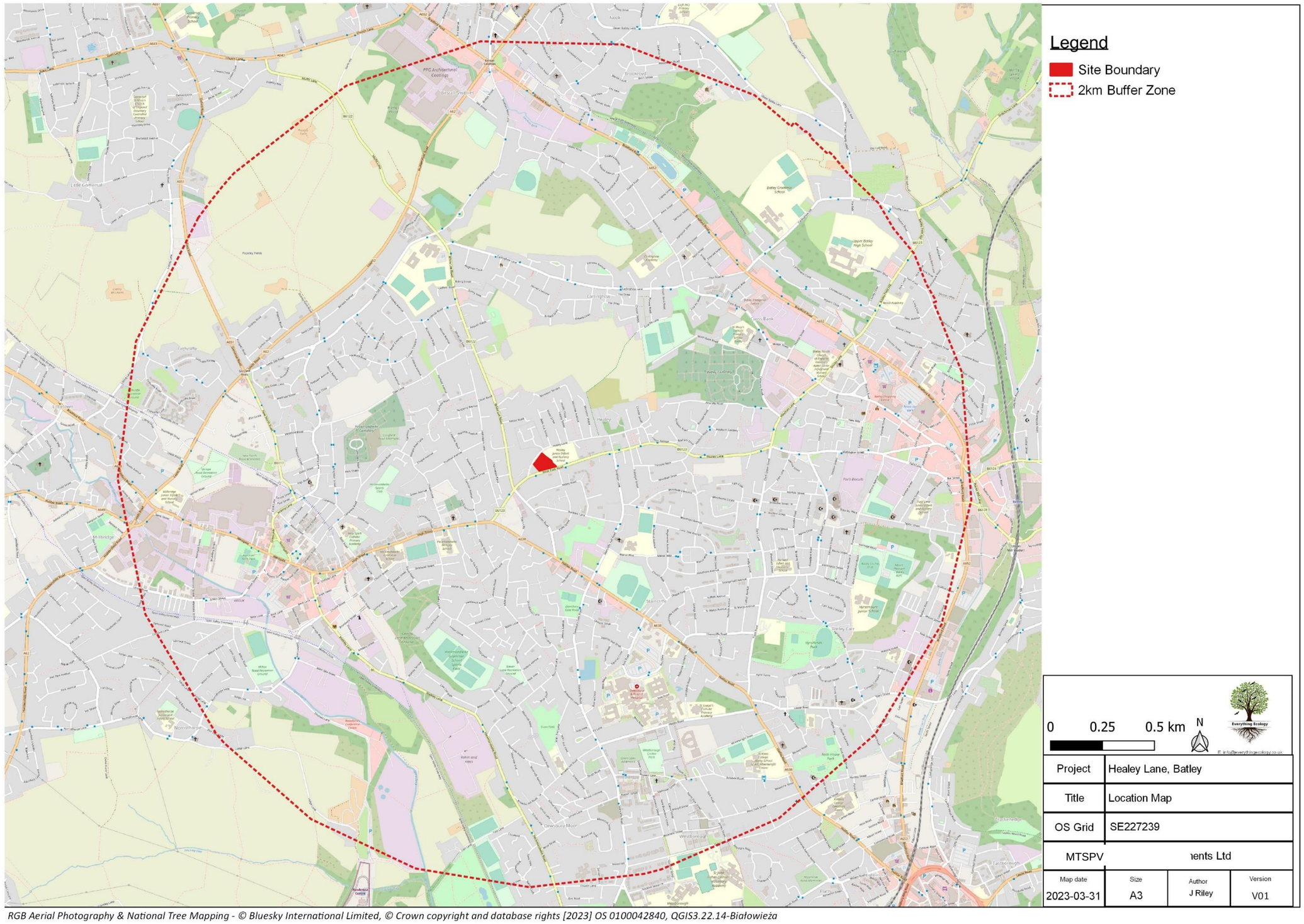
178. The updated landscaping plan should prioritise planting additional trees and creating additional scrub or grassland on site. Detailed landscaping plans (including a full species list) are required to confirm the BNG element of this assessment. The landscaping plans should indicate/confirm which areas of the site will be outside the ownership of the proposed dwellings.

179. The introduction of Biodiversity Net Gain does not lessen the protections surrounding protected species, and the conservation status of these species must be maintained or enhanced to achieve a net gain. In terms of the site's ecological function, this means reducing the level of artificial lighting throughout the Site to allow bats to forage and commute through and around the site, particularly maintaining a dark corridor along the line of mature trees along the south boundary.

180. Enhancements on Site could include the integration of bat and bird boxes into dwellings to create additional roosting and nesting opportunities for bats and birds.

181. The updated landscaping plan should indicate/confirm which areas of the site will be outside the ownership of the proposed dwellings. These areas can be managed for biodiversity and, as such, can provide an increased level of uplift within the metric. The updated landscaping plan should include the locations of species-specific enhancements if installed (i.e., bat boxes, bird boxes, hedgehog highways, invertebrate boxes).

8 Figures



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Figure 8-1 Location Plan



Target Notes

Red Line Boundary

INDIVIDUAL TREES

Individual tree Baseline

Existing Small Urban Tree

HEDGEROWS

Hedgerow Baseline

Line of trees

HABITATS

Habitats Baseline

Blackthorn scrub

Developed land; sealed surface

T10 offers low suitability for roosting bats

Mixed scrub

Modified grassland

Baseline Broad Habitat Type	Baseline Habitat Type	Area
Urban	Developed land; sealed surface	681
Urban	Developed land; sealed surface	226
Grassland	Modified grassland	51
Grassland	Modified grassland	111
Heathland and shrub	Mixed scrub	56
Grassland	Modified grassland	214
Grassland	Modified grassland	186
Heathland and shrub	Mixed scrub	129
Heathland and shrub	Blackthorn scrub	152
Grassland	Modified grassland	102
Heathland and shrub	Mixed scrub	56
Grassland	Modified grassland	41
Heathland and shrub	Mixed scrub	75
Grassland	Modified grassland	606
Grassland	Modified grassland	24
Grassland	Modified grassland	4
Grassland	Modified grassland	348
Grassland	Modified grassland	2074
Urban	Developed land; sealed surface	181

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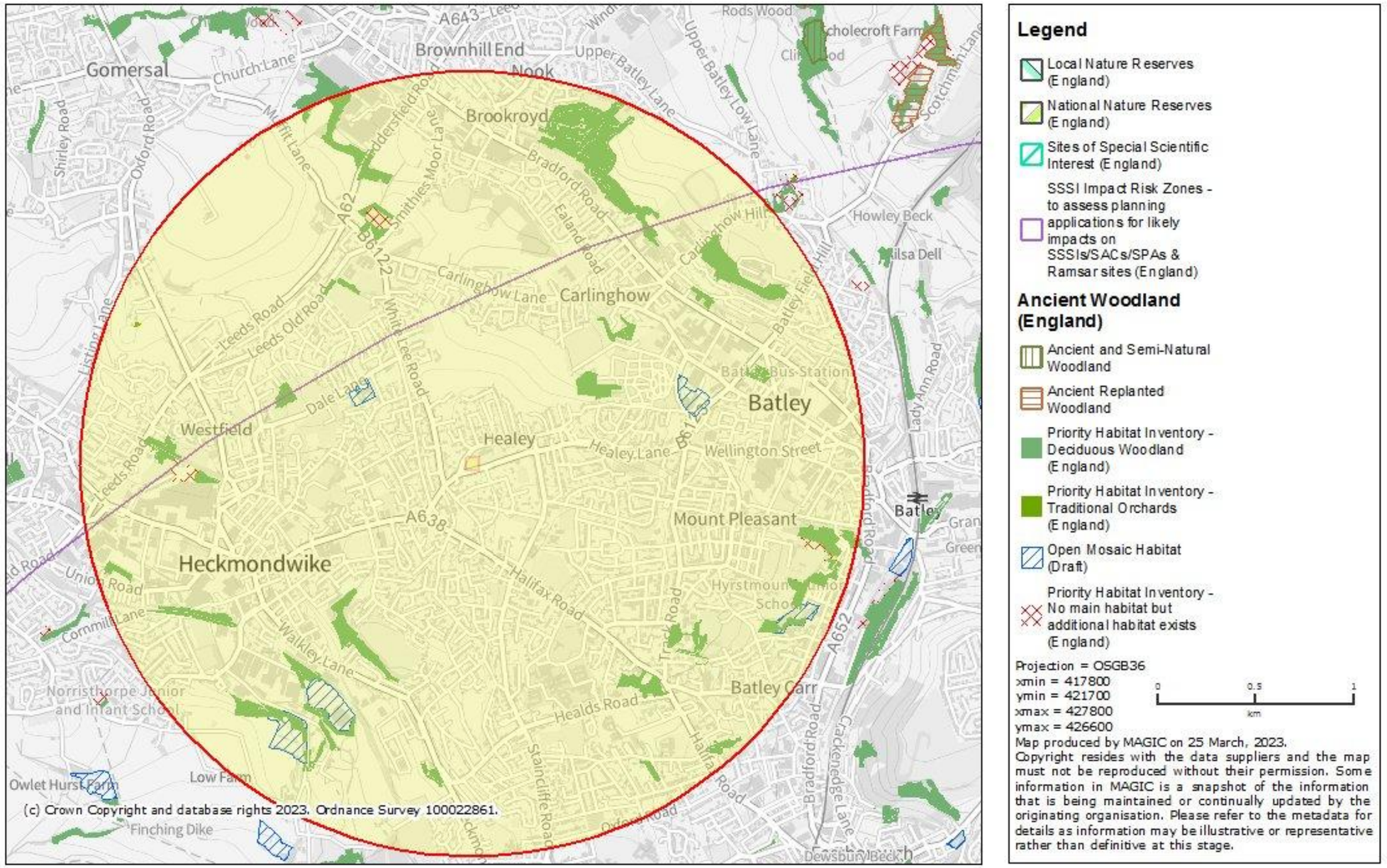
Project	Healey Lane
Title	Baseline UKhab Plan
OS Grid	SE227239
Client	MTSPV

Map date	Size	Author	Version
2024-06-17	A3	Paul Liptrot	V02

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Figure 8-2 UKHab Plan

MAGIC Magic Map - Statutory Designations & Habitats



Legend

- Local Nature Reserves (England)
- National Nature Reserves (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)

Ancient Woodland (England)

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland
- Priority Habitat Inventory - Deciduous Woodland (England)
- Priority Habitat Inventory - Traditional Orchards (England)
- Open Mosaic Habitat (Draft)
- Priority Habitat Inventory - No main habitat but additional habitat exists (England)

Projection = OSGB36
xmin = 417800
ymin = 421700
xmax = 427800
ymax = 426600

0 0.5 1 km

Map produced by MAGIC on 25 March, 2023.
Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Figure 8-3 Designated Sites and Priority Habitat

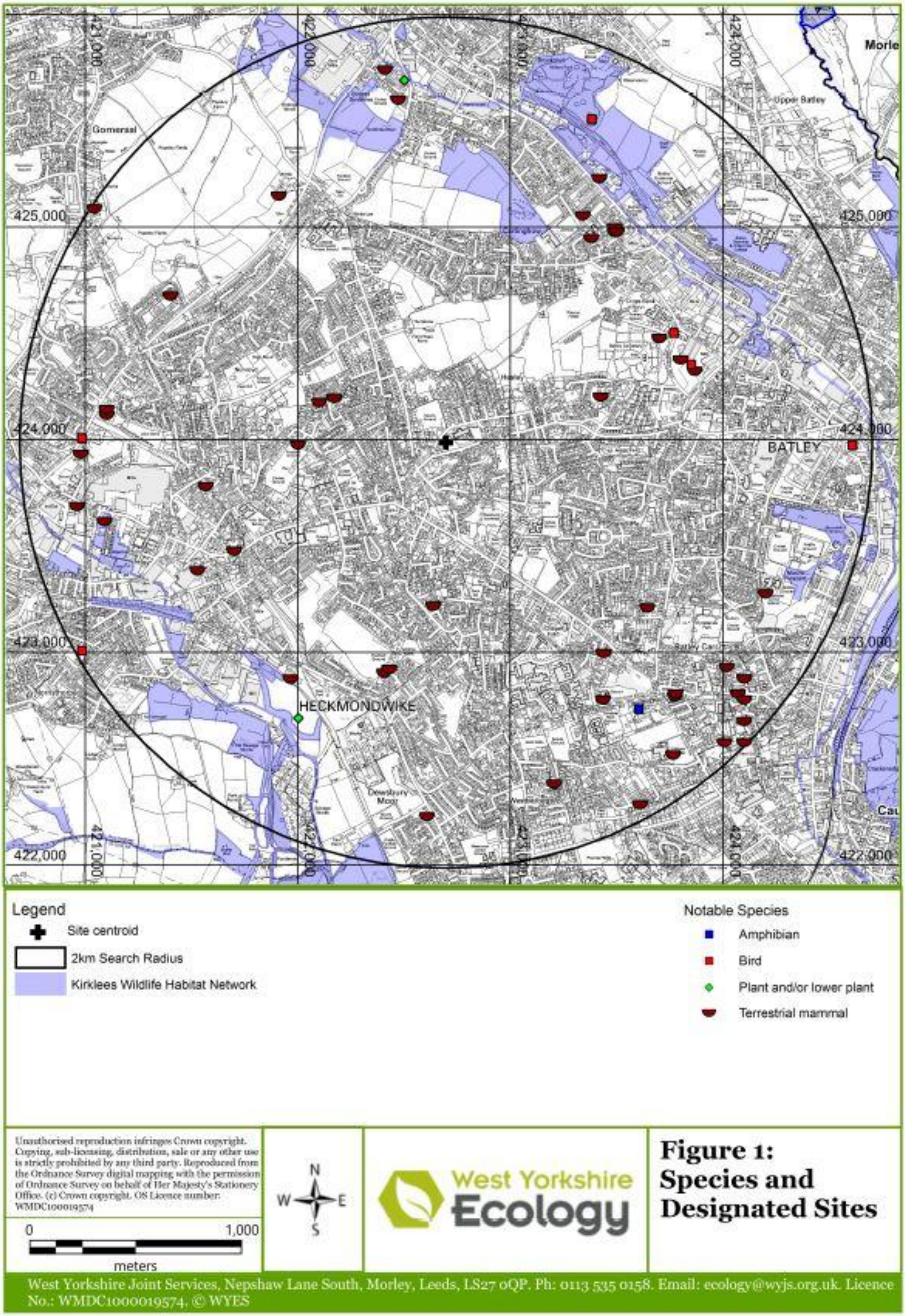


Figure 8-4 Species and Designated Sites

9 Appendices

Email: info@EverythingEcology.co.uk

9.1 Desktop study

Table 9-1 Granted EPSML within 2 km of survey Site.

Species group to which licence relates	Species on the licence	Licence Start Date	Licence End Date	Does licence impact on a breeding site	Does licence allow damage of breeding site	Does licence allow damage of a resting place	Does licence allow destruction of breeding site	Does licence allow destruction of a resting place	OS Grid Reference	Approximate distance from site km
Bat	C-PIP	28/09/2011	01/12/2012	N			N	Y	SE233228	1.31

182. The data searches returned a negative result from within 2 km of the survey Site for : Ancient Woodland (England), Great Crested Newt Class Survey Licence Returns (England), Great Crested Newt Pond Surveys 2017 – 2019, Areas of Outstanding Natural Beauty (England), Limestone Pavement Orders (England), Moorland Line (England), National Nature Reserves (England) – points, National Nature Reserves (England), Ramsar Sites (England) – points, Ramsar Sites (England), Proposed Ramsar Sites (England) – points, Proposed Ramsar Sites (England), Special Areas of Conservation (England) – points, Special Areas of Conservation (England), Possible Special Areas of Conservation (England) – points, Possible Special Areas of Conservation (England), Special Protection Areas (England) - points Special Protection Areas (England) Potential Special Protection Areas (England) – points, Potential Special Protection Areas (England) Biosphere Reserves (England) – points, Biosphere Reserves (England), RSPB Reserves (GB) – points RSPB Reserves (GB)

9.2 On Site - Species List [8]

[8] Survey undertaken outside the optimal period for botanical surveys.

Common Name	Scientific name	Modified Grassland[1]	Scrub	Line of Trees
Woody Species				
Norway maple	*Acer platanoides*			R
Sycamore	*Acer pseudoplatanus*		R	F
Horse chestnut	*Aesculus hippocastanum*		R	R
Alder	*Alnus glutinosa*		R	
Silver birch	*Betula pendula*		R	R
Butterfly bush	*Buddleja davidii*		R	
Sweet chestnut	*Castanea sativa*			R
Hawthorn	*Crataegus monogyna*	R		R
Cypress sp.	*Cupressus sp.*			R
Ash	*Fraxinus excelsior*		A	
Ivy	*Hedera helix*	R	R	O
Holly	*Ilex aquifolium*	R	R	R
London plane	*Platanus x hispanica*			R
Cherry	*Prunus avium*	R	F	
Blackthorn	*Prunus spinose*		R	
Oak	*Quercus sp.*	R	O	R
Flowering currant	*Ribes sanguineum*			R
Dog rose	*Rosa canina*	R	R	
Bramble	*Rubus fruticosus agg.*	R	A	
Elder	*Sambucus nigra*		R	R
Whitebeam	*Sorbus aria*		F	O
Grasses				
Bent	*Agrostis sp.*	O		
Cocksfoot	*Dactylis glomerata*	F		
Couch	*Elymus sp.*	O - F		
Yorkshire fog	*Holcus lanatus*	R		
Perennial rye grass	*Lolium perenne*	R		
Timothy	*Phleum pratense*	O		
Meadow grass	*Poa sp.*	R		
Forbs				
Burdock	*Arctium sp.*	R		
Bindweed	*Bindweed species*	F		
Hairy bittercress	*Cardamine hirsute*	R		
Common knapweed	*Centaurea nigra*	R		
Common mouse ear	*Cerastium fontanum*	R		
Creeping thistle	*Cirsium vulgare*	O		
Willowherb	*Epilobium sp.*	O (LF)		
Rosebay willowherb	*Chamaenerion angustifolium*	F (LF)		
Cleavers	*Galium aparine*	R		
Herb Robert	*Geranium robertianum*	R		
Geranium sp.	*Geranium sp.*	R		
Wood avens	*Geum urbanum*	R		
Hogweed	*Heracleum sphondylium*	R (LO)		
Hybrid bluebell	*Hyacinthoides x massartiana*	R		
Common ragwort	*Jacobaea vulgaris*	R		
Red deadnettle	*Lamium purpureum*	R		
Black medick	*Medicago lupulina*	A		
Daffodils	*Narcissus spp.*	R		
Ribwort plantain	Plantago lanceolate	R		
Creeping cinquefoil	*Potentilla reptans*	R		
Creeping buttercup	*Ranunculus repens*	R		
Broad-leaved dock	*Rumex obtusifolius*	R		
Narrow-leaved dock	*Rumex stenophyllus*	R		
Groundsel	*Senecio vulgaris*	R		
Chickweed	*Stellaria media*	R		

Dandelion	*Taraxacum officinale agg.*	R		
Clover species	*Trifolium sp.*	O		
Mayweed	*Tripleurospermum sp.*	R		
Tulips	*Tulipa spp.*	R		
Common nettle	*Urtica dioica*	R (LA)		
Common vetch	*Vicia sativa*	O		
Speedwell	*Veronica sp.*	R		
Field speedwell	*Veronica persica*	O		
Mosses		R		
Fauna noted on Site				
Woodpigeon	*Columba palumbus*			
Blue tit	*Cyanistes caeruleus*			
Blackbird	*Turdus merula*			
Ants				
Bumblebee (queen)				
Ladybird				
Spider				
1[1] DAFOR for overall Site				

9.3 Site Photographs



Photo 1: View into Site from Healey Lane



Photo 2: Modified grassland towards E boundary



Photo 3: Modified grassand/mixed scrub along W boundary



Photo 4: Modified grassland and scrub along N boundary



Photo 5: Hardstanding view towards S boundary



Photo 6: Scattered trees in SW corner



Photo 7: Dead tree with PRF-I

9.4 BNG Condition Assessments

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)													
UK Habitat Classification (UKHab) Habitat Type													
Grassland - Modified grassland													
Habitat Description													
ukhab – UK Habitat Classification													
On-site or off-site, site name and location	On-site Healey Lane	**Survey date and Surveyor name**	13-05-24 Katie Hadwin										
		Survey reference (if relating to a wider survey)											
Limitations (if applicable)		**Habitat parcel reference**											
		g4 with 510, 81	g4										
		Grid reference											
		see map	see map										
Condition Assessment Criteria		**Criterion passed (Yes or No)**											**Notes (such as justification)**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	Y	N										g4 with 510,81 - species number/m2 = 6 all other g4 species/m2 = 5
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Y	N										
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	Y										
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	N	Y										
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	N	Y										
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y	Y										
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y	Y										
Essential criterion achieved (Yes or No)		Y	N										
Number of criteria passed		5	5										
Condition Assessment Result (out of 7 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**											
Passes 6 or 7 criteria including passing essential criterion A	Good (3)												
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	X											
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)		X										
Suggested enhancement interventions to improve condition score													
Footnotes													
Footnote 1 – Creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris*. **Footnote 2** – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover. **Footnote 3** – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement. **Footnote 4** – Wildlife and Countryside Act 1981 (as amended).												

Condition Sheet: LINE OF TREES Habitat Type

Habitat Types

Line of trees
Line of trees – associated with bank or ditch
Ecologically valuable line of trees
Ecologically valuable line of trees – associated with bank or ditch

Please see the separate Individual trees condition sheet for linear blocks and groups of trees in an urban setting. You should only use this Line of trees condition assessment and record this habitat type in rural locations.

Habitat Description

See the Statutory Biodiversity Metric User Guide.

This assessment is based on the Hedgerow Survey Handbook[1]. For further clarifications please refer to the Handbook.
Where ancient and veteran trees are present within the line of trees, see Footnote 2 for standing advice.

On-site or off-site, site name and location	On-site Healey Lane	**Survey date and Surveyor name**	13-05-24 Katie Hadwin
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference	see map	**Habitat parcel reference**	FOT1

	Condition Assessment Criteria	**Criterion passed (Yes or No)**	**Notes (such as justification)**
A	At least 70% of trees are native species.	Y	
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Y	
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	Y	
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice[2].	N	
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Y	
	Number of criteria passed	4	

Condition Assessment Result (out of 5 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	X
Passes 2 or fewer criteria	Poor (1)	

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – DEFRA (2007) *Hedgerow Survey Handbook: A standard procedure for local surveys in the UK.* 2nd ed [online]. Defra, London. PB1195. Available from: Hedgerow Survey Handbook (publishing.service.gov.uk).

Footnote 2 – Where ancient and veteran trees are present, see gov.uk standing advice on ancient and veteran trees. Available from:
Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)
and:
Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

Condition Sheet: SCRUB Habitat Type			
Habitat Types			
Heathland and shrub - Blackthorn scrub **Heathland and shrub - Gorse scrub** **Heathland and shrub - Hawthorn scrub** **Heathland and shrub - Hazel scrub** **Heathland and shrub - Mixed scrub** **Heathland and shrub - Dunes with sea buckthorn (H2160)** **Heathland and shrub - Willow scrub**			
Habitat Description			
h3h - mixed scrub; h3a - blackthorn scrub			
For Dunes with sea buckthorn see:	Dunes with sea-buckthorn (Dunes with Hippophae rhamnoides) - Special Areas of Conservation (jncc.gov.uk)		
For other scrub types see:	ukhab – UK Habitat Classification		
On-site or off-site, site name and location	On-site	**Survey date and Surveyor name**	13/05/2024
		Survey reference (if relating to a wider survey)	

Limitations (if applicable)		**Habitat parcel reference**										
		h3h	h3a									
		Grid reference										
		see map	see map									

Condition Assessment Criteria		**Criterion passed (Yes or No)**										**Notes (such as justification)**
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range).[1] - At least 80% of scrub is native, - There are at least three native woody species[2], - No single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* (only in its restricted native range), or box *Buxus sempervirens*, which can be up to 100% cover).	Y	N									
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[3]) shrubs are all present.	N	N									
C	There is an absence of invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) and species indicative of suboptimal condition[6] make up less than 5% of ground cover.	Y	Y									
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	N	N									
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	N	N									
	Number of criteria passed	2	1									

Condition Assessment Result (out of 5 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**										
Passes 5 criteria	Good (3)											
Passes 3 or 4 criteria	Moderate (2)											
Passes 2 or fewer criteria	Poor (1)	X	X									

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Professional judgement should be used alongside the UKHab description.

Footnote 2 – Native woody species as defined and listed in the Hedgerow Survey Handbook: DEFRA (2007) *Hedgerow Survey Handbook: A standard procedure for local surveys in the UK.* 2nd ed. [online]. Defra, London. PB1195. Available from: Hedgerow Survey Handbook (publishing.service.gov.uk).

Footnote 3 – See gov.uk standing advice on ancient and veteran species. Available from:

Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk) and
Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.u

Footnote 4 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

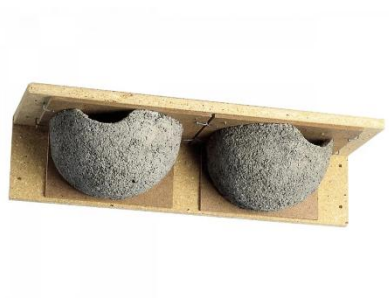
Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

Footnote 6 – Species indicative of suboptimal condition for this habitat type may include: non-native conifers, tree-of-heaven *Alianthus altissima*, holm oak *Quercus ilex*, European turkey oak *Quercus cerris*, cherry laurel *Prunus laurocerasus*, snowberry *Symphoricarpos* spp., shallon *Gaultheria shallon*, American skunk cabbage *Lysichiton americanus*, buddleia *Buddleja* spp., cotoneaster *Cotoneaster* spp., Spanish bluebell *Hyacinthoides hispanica* and hybrid bluebells *Hyacinthoides x massartiana*. There may be additional relevant species local to the region and or site.

9.5 Species-specific enhancements

9.5.1 Bird boxes

Vivara Pro WoodStone House Sparrow Nest Box		**Swift Block (Large)**	
			
House sparrows (Passer domesticus) are sociable opportunists that survive in most UK habitats, from towns and cities to farmland and countryside. Substantial declines in both urban and rural populations (estimated 71% decrease between 1977 and 2008) have led to concerns for this species. This House Sparrow Nest Box is manufactured from WoodStone - a mix of concrete and FSC wood fibres. This material is strong and highly insulating which helps to provide a thermally stable environment within the box. It also protects against damage from predators such as cats, woodpeckers and squirrels. It is available with one or two breeding chambers, which can be particularly suitable for house sparrows as they prefer to nest in colonies. The House Sparrow Nest Box can be integrated into the masonry of a new house or fixed onto an external wall using strong screws and wall plugs (not included). If possible, it should be positioned near to vegetation and at a minimum of 2m above ground.		The Swift Block is designed to create nesting space for swifts that can be easily integrated into new builds or retrofitted in existing properties. The front of the Swift Block is designed to sit flush with the outside bricks of a build, with the entrance slightly protruding. The Swift Block features an internal nesting bowl, a small entrance hole to deter larger birds and predators, full instructions cast into the surface for easy fitting, and a stylish entrance feature. Made from cast concrete, meaning that it is long lasting and will not rot or deteriorate like a traditional wooden nest box. The cast concrete is made using up to 75% waste materials from the Cornish China Clay industry and is standard UK breezeblock size. The Swift Block should be positioned at least 5m from ground level avoiding south facing walls, on the side of a building that gets shade during the day, or under an overhang or eaves. It should be mounted away from windows and vents and predator access. Swift Blocks should also be placed in a spot with clear adjacent access, allowing high speed, direct flight entry. N.b The Swift Block does include a plate to close off the back of the box.[9]	

9A Schwegler House Martin Nest		**No. 10B Schwegler Swallow Nest**
		
Easily fixed under the eaves on the outside walls of buildings, these nest boxes are perfect for house martins to return to year after year. The bowl-shaped nest is made of air-permeable wood-concrete and a backing board made of exterior grade, formaldehyde-free chipboard to prevent warping. **Siting:** Under eaves on the externals walls of buildings at a minimum height of 2m above the ground, on the sheltered side of the building. As the chipboard on these nests is moisture resistant but not weatherproof, they should always be positioned in a sheltered Site, such as under overhanging eaves.		The 10B Nest Bowl is made entirely from Woodcrete, a durable blend of wood and concrete that is guaranteed to last for at least 25 years. It is designed to be installed inside an outbuilding such as a shed, stable or barn where there is constant access for birds through a door or window. As swallows are social nesters more than one bowl can be used in the same building, although they should be placed at least one metre apart. The distance between the top of the bowl and the ceiling should be a minimum of 6cm. The design of the bowl means that it can be easily cleaned out in the autumn when the birds have departed. Cleaning is not absolutely necessary but is recommended if possible.

1B Schwegler Nest Box	**Schwegler Insect Nesting Aid, Wood-concrete**

[9] All available from NHBS https://www.nhbs.com/4?q=&hPP=60&idx=titles&p=0&fR%5Bhide%5D%5B0%5D=false&fR%5Blive%5D%5B0%5D=true&fR%5Bshops.id%5D%5B0%5D=4&fR%5Bsubsidiaries%5D%5B0%5D=1&slug=bird-boxes



Natural cavity nest sites have declined dramatically so providing a nest box in your garden or woodland can provide much-needed breeding and roosting space for cavity-nesting species. The 1B is the bestselling nest box for garden birds and will attract a wide range of species and is available with different entrance hole sizes. Examples of bird species attracted to the different entrance hole sizes are:

32mm: great, blue, marsh, coal and crested tit, redstart, nuthatch, collared and pied flycatcher, wryneck, tree and house sparrow (and bats)

26mm: blue, marsh, coal and crested tit and possibly wren. All other species are prevented from using the nest box due to the smaller entrance hole

Oval (29 x 55mm): redstarts (because more light enters the brood chamber) and it is suitable for all other species which nest in the 32mm boxes

Schwegler bird boxes are carefully designed to provide a stable environment and to mimic natural nest and roost sites with internal brood chamber dimensions that are similar to natural cavities. These Woodcrete nest boxes are famous for their durability - lasting for at least 20-25 years. Woodcrete is a breathable blend of wood, concrete and clay which will not rot, leak, crack or warp, whilst preventing condensation and maintaining more constant temperatures inside than wooden boxes.



By providing a safe haven for species of solitary Hymenopterans, such as wild bees, sand wasps and common wasps, you can promote these species in your garden. These species fulfil essential ecological roles including pollination and pest control.

Ideally place the nesting aid in a sunny site that is protected from wind and rain. Examples of good sites include allotment sheds, pergolas, walls, gardens and even balconies up to the third or fourth floor. Remember to leave the aid outside during the winter otherwise the insects will emerge from their winter hiding places too early and die. The house is made from wood-concrete; an exceedingly durable, rot-proof and breathable natural material designed to mimic the properties of natural nest sites and last 20 - 25 years.

Bee Brick (multiple can be made into a wall or integrated into buildings)



The Bee Brick can be used in place of a standard brick or block in construction to create habitat for solitary bees. Alternatively, it can be used as a standalone bee house in your garden or wild patch. It will provide much needed nesting space for solitary bee species such as red mason bees and leafcutter bees, both of which are non-aggressive.

Each Bee Brick contains cavities in which solitary bees can lay their eggs before sealing the entrance with mud and chewed-up vegetation. The offspring will emerge the following spring and the cycle will begin again. Each cavity goes part way into the brick, which is solid at the back.

Bee Bricks should be placed in a warm sunny spot on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes. It is highly recommended that bee-friendly plants should be located nearby so that the bees using the bricks have food, otherwise it is unlikely that the brick will be used. Lavender, honeysuckle and buddleia are all pollinator-friendly plants.

Bee Bricks are made in Cornwall in England using the waste material from the Cornish China clay industry. 75% of the brick is made from recycled materials and concrete, making it both strong and environmentally friendly.

9.5.2 Bat boxes

Vivara Pro Build-in WoodStone Bat Box		Ibstock Enclosed Bat Box 'C'
		
The Vivara Pro Build-in WoodStone Bat Box has been specifically designed to fit into the cavity of house walls. It features a slim sized entrance hole which can sit flush in a course of bricks to provide a discreet entry way for bats. It is manufactured from hard-wearing WoodStone and plywood with removable side panels so that several boxes can be placed side by side. Position the box at least 2m above ground level away from artificial light sources. WoodStone is a mixture of sawdust from FSC wood sources and concrete, and it is designed to last for years. It is breathable so there will be no problems with condensation and Woodstone maintains a consistent temperature inside, providing excellent insulation for roosting bats. Dimensions: (H) 500 x (W) 210 x (D) 150mm, Weight: 5.6kg * Height: 500mm * Width: 210mm * Depth: 150mm * Weight: 5.6kg * Material: WoodStone		The Enclosed Bat Box 'C' from Ibstock is designed for the pipistrelle bat. It is ideal for new builds as it can be integrated directly into the brickwork to produce a discrete but attractive home for bats. The inside of the box is designed to create several roosting zones which are ideal for crevice dwelling bats such as the pipistrelle. The bottom entrance means that no maintenance is required as droppings will simply fall out the bottom. This Ibstock Bat Box C is available in two sizes and three colours. Choose from smooth red, smooth blue or smooth cream brick. The box has an attractive bat motive on the front and is both durable and fully frost resistant. Dimensions: Small Box - 215 x 215mm, Large Box - 215 x 290mm. 10

[10] All available from NHBS https://www.nhbs.com/4?q=&hPP=60&idx=titles&p=0&fR%5Bhide%5D%5B0%5D=false&fR%5Blive%5D%5B0%5D=true&fR%5Bshops.id%5D%5B0%5D=4&fR%5Bsubsidiaries%5D%5B0%5D=1&hFR%5Bsubjects_equipment.lvl1%5D%5B0%5D=Bat%20Boxes%20%3E%20Integrated%20Bat%20Boxes&slug=bird-boxes

9.6 Proposed Site Plan

Figure 9-1 Landscape Layout (for approval)



Email: info@EverythingEcology.co.uk

Figure 9-2 Proposed Site Plan Habitat translate into metric (including species enhancements)

