



Brandhall Urban Village

Preliminary Ecological
Appraisal Report

Sandwell Metropolitan Borough Council

28 May 2021

Quality information

Prepared by	Checked by	Verified by	Approved by
SC	SC	MO	
BSc (Hons) MSc CEcol CEnv MCIEEM Associate Ecologist	BSc (Hons) MSc CEcol CEnv MCIEEM Associate Ecologist	BSc (Hons) CEnv MCIEEM Technical Director (Ecology)	

Revision History

Revision	Revision date	Details	Authorized	Name	Position

Distribution List

# Hard Copies	PDF Required	Association / Company Name

Prepared for:

Sandwell Metropolitan Borough Council

Prepared by:

AECOM Limited
The Colmore Building
20 Colmore Circus
Queensway
Birmingham
B4 6AT
United Kingdom

T: +44 (121) 212 3035
aecom.com

© 2021 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Infrastructure & Environment UK Limited (“AECOM”) for sole use of our client (the “Client”) in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

Executive Summary	5
1. Introduction.....	6
2. Ecological Baseline, Constraints and Recommendations.....	8
3. Opportunities for Enhancements	16
4. Conclusion.....	17
Appendix A Drawings	18
Appendix B Relevant Legislation and Planning Policy	19
Appendix C Methodology	23
Appendix D Target Notes and Photographs	26

Tables

Table 1. Designated Sites within Study Area.....	8
Table 2. Summary of Bat presence/ potential presence within the Survey Area	11
Table 3. Summary of features with potential to support Great Crested Newt.....	13
Table 4. Summary of features with potential to support Reptiles.....	Error! Bookmark not defined.
Table 5. Summary of features with potential to support Birds	14
Table 6. Summary of Recommendations	17

Executive Summary

Site Details	<p>The Scheme known as Brandhall Urban Village is proposed at the 36ha former Brandhall Golf Club, Oldbury in the West Midlands.</p>
Scheme Details	<p>The Scheme is for the development of an urban village including public open space, which might comprise approximately 550 residential units, care home facility, a few shops and possibly a school. Ecological survey and assessment work is required to inform the Site masterplan design, development strategy and planning application, which is expected to be submitted during late-2021.</p>
Ecological Features that may be affected by the Scheme	<p>The Site comprises a designated rock outcrop, broadleaved semi-natural woodland with some mature trees, amenity grassland, pools and two minor watercourses. The Site is accessed by the public and is surrounded by roads and houses, which are part of the local urban conurbation.</p>
Recommendations for further survey and assessment	<p>Bat emergence/return survey visits of trees with high and moderate roost potential to determine if they are an ecological constraint to the Scheme and an activity survey to record key commuting/foraging routes across the Site. Also a winter survey of trees with high and moderate roost potential to search for hibernating bats.</p>
Recommendations for Mitigation	<p>Reduction of broadleaved semi-natural woodland clearance and replacement for loss of this habitat of principal importance. Protection of mature trees, particularly penduculate oak.</p>
Opportunities for Biodiversity Enhancements	<p>Sympathetic management of woodland, grassland watercourses and pools. Eradication of wall cotoneaster to allow native plants to flourish. Installation of bat, bird and invertebrate boxes.</p>

1. Introduction

Background

- 1.1 This Preliminary Ecological Appraisal Report (PEAR) has been prepared by AECOM on behalf of Sandwell Metropolitan Borough Council (SMBC), to assess the ecological constraints in connection with developing a new urban village (hereafter referred to as the Scheme). The Scheme is located at the former Brandhall Golf Course in Oldbury, West Midlands, as shown by the red line boundary on Plate 1 below (and Figure 1 in Appendix A). All land situated within this red line is hereafter referred to as the Site.
- 1.2 The assessment of ecological constraints has been undertaken with reference to current good practice¹ and forms part of the technical information commissioned by SMBC in connection with the Scheme. The PEAR addresses relevant wildlife legislation and planning policy as summarised in Appendix B and is consistent with the requirements of *British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development*.
- 1.3 This PEAR is intended for advice in respect of Scheme design and site layout. Further ecological surveys and ecological impact assessment (including detailed mitigation measures) will be required in connection with a planning application and to contribute to an Environmental Impact Assessment once the Scheme proposals have been finalised and any required surveys have been completed.

The Site

- 1.4 The Site is located to the south of Heron Road in Oldbury at Ordnance Survey national grid reference SO992862 and is approximately 36ha in size. The Site is shown below in Plate 1.



Plate 1: Site Boundary

- 1.5 The Site mainly comprises amenity grassland, belts of broadleaved woodland with some mature trees, which are intergral components of the former golf course. Two minor watercourse are present within the

¹ CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

Site which join and drain off-site to the north. The Site is bounded by the M5 motorway to the west and residential housing on the other sides, which are associated with the local urban conurbation.

The Scheme

1.6 The Scheme proposes the development of an urban village including public open space at the Site, which might comprise approximately 550 residential units, care home facility, a few shops and possibly a school. This would necessitate some woodland removal to accommodate the urban village. Where necessary, mitigation measures to reduce impact to important ecological features will be implemented as well as embedded biodiversity enhancements as part of the Scheme. The planning application is expected to be submitted during late-2021.

Purpose of the Preliminary Ecological Appraisal

1.7 This PEAR presents ecological information obtained during the following:

- a desk-study undertaken on 11 March 2021 to obtain records of:
 - statutory designated nature conservation sites of international importance within 10km of the Site; and,
 - statutory and non-statutory designated nature conservation sites of national and lower importance, notable habitats² and protected and notable species³ within 2km of the Site (the area covered by the desk study is hereafter referred to as the Study Area);
- a walkover survey of accessible land within and up to 30m adjacent to the Site (the area covered by the survey is hereafter referred to as the Survey Area) on four day visits between 1 April and 13 May 2021;
- a tree climbing survey of mature trees that involved an inspection of potential bat roost features took place at the Site on 26 April 2021; and,
- a great crested newt eDNA survey of potential breeding habitat at the Site on 13 May 2021.

1.8 The purpose of the PEAR is to provide a high-level ecological appraisal of the Site, specifically to identify:

- baseline conditions and determine the presence of Important Ecological Features (IEF)⁴ (or those that could be present), as far as is possible;
- potential ecological constraints to the Scheme and make initial recommendations to avoid impacts on IEFs, where possible;
- any requirements for mitigation, where possible, including mitigation measures that will be required and those that may be required (depending on results of further surveys or final scheme design);
- to establish any requirements for more detailed surveys; and,
- any opportunities offered by the Scheme to deliver biodiversity enhancements.

1.9 The methodology followed for undertaking the desk study and field surveys is detailed in Appendix C, including any limitations to the assessment.

²Notable habitats are taken as principal habitats for the conservation of biodiversity listed under Section 41 of the *Natural Environment and Rural Communities Act 2006*; habitats listed under the Birmingham and the Black Country Biodiversity Action Plan (BAP); hedgerows identified as being 'important' under the wildlife criteria of the *Hedgerow Regulations 1997*, ancient woodlands and veteran trees.

³Notable species are taken as principal species for the conservation of biodiversity listed under Section 41 of the *Natural Environment and Rural Communities Act 2006*; any species listed in an IUCN Red Data Book; and any other species listed under the Birmingham and Black Country BAP.

⁴ Important Ecological Features are habitats, species, ecosystems and their functions and processes that are of conservation importance and could potentially be affected by the Scheme.

2. Ecological Baseline, Constraints and Recommendations

- 2.1 The following sections detail the results of the desk and field-based studies undertaken to inform this PEAR. Where necessary, recommendations for mitigation measures to protect known IEFs, or further surveys to determine the presence or absence of likely IEFs, are provided.
- 2.2 With regard to background data, 'recent' records are considered to be those no older than 10 years from the date of the desk study. Records outside of this period are historical and have only been reported where more recent records for a feature do not exist. Exceptions to this are detailed in the appropriate sections below.

Designated Nature Conservation Sites

Desk Study

- 2.3 There are three statutory designated sites within the Study Area: Fen Pools Special Area of Conservation (SAC) of international importance, The Leasowes Site of Special Scientific Interest (SSSI) of national importance and Thimblemill Brook Local Nature Reserve (LNR) of local importance.
- 2.4 There are 10 non-statutory sites: four Sites of Importance for Nature Conservation (SINCs); five lower tier Sites of Local Importance for Nature Conservation (SLINCs) and a Wildlife Corridor within the Study Area.
- 2.5 Details about these 13 designated sites within the Study Area are summarised in Table 1.

Table 1. Designated Sites within Study Area

Designated Site	Reason for Designation	Location of Designated Site ⁵
Fen Pools SAC	Large population of great crested newt (<i>Triturus cristatus</i>).	7km north-west
The Leasowes SSSI	Lowland meadow that supports 28 species of waxcap fungi (<i>Hygrocybe</i> spp.) and broadleaved semi-natural woodland.	1.7km to the south-west
Thimblemill Brook LNR & SINC	Broadleaved semi-natural woodland adjacent to stream.	840m to the north-east
Barnford Hill Park SINC	Geological – an outcrop of a calcareous conglomerate in a former gravel pit.	670m to the north-east
Warley Woods SINC	Broadleaved semi-natural woodland part of which is included on the county Ancient Woodland Inventory.	1.1km to the east
Coombeswood Wedge SINC	Broadleaved semi-natural woodland, lowland meadow and dry acid grassland	1.5km to the south-west
Brandhall Golf Course SLINC	Geological – an outcrop of a calcareous conglomerate in a former gravel pit.	Within the Site
Warley High School Grounds SLINC	Geological – an outcrop of a calcareous conglomerate beneath tree roots on top of a bank.	160m to the north
Langley Reservoir SLINC	Semi-improved neutral grassland.	610m to the north-east
Titford Pool SLINC	Former canal reservoir that supports aquatic plants.	1.4km to the north

⁵Where designated sites are situated outside of the Site boundary, the distance and direction is given at the closest point of the designated site from the Site

Designated Site	Reason for Designation	Location of Designated Site ⁵
Titford Canal SLINC	Remnant stretch of canal that supports aquatic plants.	1.6km to the north
River Tame Wildlife Corridor	Semi-natural habitats alongside the M5 motorway that facilitate wildlife movement north and south of the former Brandhall Golf Course.	Within and adjacent to the Site

Field Survey

- 2.6 The calcareous conglomerate outcrop occurs in the north-east part of the Site and is the reason for designation of Brandhall Golf Course SLINC (Target Note [TN]1 on Figure 1).
- 2.7 The semi-natural habitats across the former Brandhall Golf Course and alongside the M5 motorway are integral parts of the River Tame Wildlife Corridor, which facilitate species dispersal north and south of the Site.

Constraints and Recommendations

- 2.8 The calcareous conglomerate outcrop that is associated with the Brandhall Golf Course SLINC designation should be protected and enhanced as part of the Scheme.
- 2.9 The features associated with the other 11 designated nature conservation sites summarised in Table 1 are sufficiently distant from the Site and will not be impacted by the Scheme. Therefore no further assessment is needed of these 11 designated sites.

Habitats

Desk Study

- 2.10 Part of Warley Woods is an Ancient Woodland Inventory (AWI) site which is located 1.1km east of the Site. The broadleaved semi-natural woodland at the Site qualifies as lowland mixed deciduous woodland, a habitat of principal importance and a conservation priority of the Birmingham and the Black Country BAP.
- 2.11 There are no records of protected or notable flora⁶ within the Study Area.

Field Survey

- 2.12 Summary descriptions of the habitats within the Survey Area are provided below and shown on Figure 1. TN descriptions and photographs are provided in Appendix D.

Buildings

- 2.13 The former golf course Clubhouse on the north side and two smaller maintenance buildings on the south-east side of the Site.

Hardstanding

- 2.14 Areas of hardstanding that comprise a tennis court, car parks and formal surfaced paths are located across the Site.

Amenity grassland

- 2.15 Amenity grassland is the predominant habitat within the Site. This grassland is regularly mown and a sward height of approximately 50mm is maintained. The grassland supports common plant species including common bent (*Agrostis capillaris*), smooth meadow-grass (*Poa pratensis*), red fescue (*Festuca rubra*), perennial rye-grass (*Lolium perenne*) and Yorkshire-fog (*Holcus lanatus*), creeping buttercup

⁶ For this assessment 'flora' includes: vascular and non-vascular plants, fungi and lichens.

(*Ranunculus repens*), white clover (*Trifolium repens*), daisy (*Bellis perennis*) and dandelion (*Taraxacum officinalis* agg.).

Broadleaved semi-natural woodland

- 2.16 Across the Site are belts of broadleaved semi-natural woodland, which is a habitat of principal importance. A wide range of trees and shrubs are present and this includes mature pedunculate oaks (*Quercus robur*). The understorey of the woodland belts is sparse and comprises hawthorn (*Crataegus monogyna*) and hazel (*Corylus avellana*). Recently coppiced woodland occurs on the west side of the Site beneath the high voltage power lines adjacent to the M5 motorway.

Broadleaved plantation woodland

- 2.17 A recently planted belt of alder (*Alnus glutinosa*) occurs either side of the watercourse close to the north Site boundary.

Swamp

- 2.18 There are three areas with swamp at the Site that support a range of common marginal and aquatic plant species including reed sweet-grass (*Glyceria maxima*), bulrush (*Typha latifolia*), yellow iris (*Iris pseudacorus*) mare's-tail (*Hippuris vulagris*).

Running water

- 2.19 There are two minor watercourses, approximately 1m in width, that flow across the central and northern boundary of the Site.

Introduced shrubs

- 2.20 Wall cotoneaster (*Cotoneaster horizontalis*), which is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), is an invasive non-native species that is present in two locations at the Site (TN1 and TN2 on Figure 1). Chinese barberry (*Berberis candidula*) which is a non-native shrub which grows on a slope near the Brandhall Golf Clubhouse on the north side of the Site.

Species-poor intact hedge a hawthorn

- 2.21 A regularly cut hawthorn hedge is located along the south and south-east boundaries of the Site.

Constraints and Recommendations

- 2.22 Warley Woods AWI is sufficiently distant from the Site and is not a constraint to the Scheme.
- 2.23 The Scheme will require the removal of some broadleaved semi-natural woodland. It is recommended that the Scheme should seek to retain and protect broadleaved semi-natural woodland given that it is a habitat of principal importance. Any removal of woodland should be replaced to ensure that there is no net loss of this habitat at the Site.
- 2.24 The other habitats present at the Site are not a constraint to the Scheme.
- 2.25 It is recommended that the Scheme implements careful measures to eradicate wall cotoneaster from the Site and not to cause this species to spread during this process.

Bats

Desk Study

- 2.26 In total, 17 records of bats within the Study Area were returned, which date back to 2011. The closest / most relevant of these records is associated with two common pipistrelles (*Pipistrellus pipistrellus*) which were recorded foraging in a residential garden approximately 300m south of the Site. There are also records of two other bat species; soprano pipistrelle (*Pipistrellus pygmaeus*) and Daubenton's bat (*Myotis daubentonii*) foraging over the Tifford Canal approximately 1.6km north of the Site.

Field Survey

2.27 Table 2 summarises the potential bat roost features and foraging habitats at the Site. No buildings with bat roost potential are present. In total, 29 trees have bat roost suitability which were subject to tree climbing inspection on 26 April 2021. No bats were recorded during these inspection surveys. Of these 29 trees, four, 10 and 15 respectively have high, moderate and low bat roost potential.

2.28 The 14 trees with high and moderate bat roost potential are described in Table 2 and their locations are shown on Figure 1. TN descriptions and photographs are provided in Appendix D.

Table 2. Summary of Bat presence/ potential presence within the Survey Area

Feature	Description	Location ⁷	Relevant Target Notes
T1	Woodpecker hole in black Italian poplar. High potential to support roosting bats.	Within the Site	TN3
T3	Trunk splits in black Italian poplar. Moderate potential to support roosting bats.	Within the Site	TN4
T8	Woodpecker hole in pedunculate oak. Moderate potential to support roosting bats.	Within the Site	TN5
T9	Branch cavity in pedunculate oak. High potential to support roosting bats.	Within the Site	TN6
T11	Long vertical trunk split in black Italian poplar. Moderate potential to support roosting bats.	Within the Site	TN7
T12	Basal trunk cavity in pedunculate oak. Moderate potential to support roosting bats.	Within the Site	TN8
T13	Woodpecker hole in pedunculate oak. High potential to support roosting bats.	Within the Site	TN9
T14	Callus role cavity in black Italian poplar. Moderate potential to support roosting bats.	Within the Site	TN10
T15	Woodpecker hole in goat willow. Moderate potential to support roosting bats.	Within the Site	TN11
T17	Trunk cavity in black Italian poplar. Moderate potential to support roosting bats.	Within the Site	TN12
T18	Branch cavity in pedunculate oak. Moderate potential to support roosting bats.	Within the Site	TN13
T19	Woodpecker hole in pedunculate oak. High potential to support roosting bats.	Within the Site	TN14
T21	Branch cavity in sycamore. Moderate potential to support roosting bats.	Within the Site	TN15

⁷Where features are situated outside of the Site boundary, the distance and direction is given at the closest point of the feature from the Site

Feature	Description	Location ⁷	Relevant Target Notes
T28	Basal trunk cavity in pedunculate oak. Moderate potential to support roosting bats.	Within the Site	TN16
Woodland belts.	Suitability commuting/foraging habitat for bats.	Within the Site and connecting with other potential roost sites (houses) and foraging habitat (watercourses and woodlands) within the Study Area.	N/A

Constraints and Recommendations

- 2.29 The Scheme will require the removal of mature trees including some which have been assessed as having high and moderate bat roost potential. It is recommended that bat emergence/return surveys are carried out of these trees between May and August 2021 to determine if roosts are present which might be constraints to the Scheme and the key commuting/foraging routes across the Site. Trees with moderate to high bat roost potential should also be inspected for hibernating bats during the winter.

Great Crested Newt

Desk Study

- 2.30 A large population of great crested newts (*Triturus cristatus*) occurs at Fen Pools SAC approximately 7km north-west of the Site and is primary reason for its designation. No record of great crested newt within 2km of the Site was returned.
- 2.31 A total of two water bodies are present in residential gardens within 500m of the Site. Both of these water bodies are screened out of requiring further assessment as there are major barriers⁸ to great crested newt movement between them and the Site.

Field Survey

- 2.32 Table 3 describes three locations which have the potential to support great crested newt at the Site. Deep silt in the shallow pools prevented the use of traditional great crested search techniques; instead habitat suitability index (HSI)⁹ assessments and water samples were taken for great crested newt eDNA analysis on 13 May 2021.
- 2.33 The three pools are described in Table 3 and their locations are shown on Figure 1. TN descriptions and photographs are provided in Appendix D.

⁸ The following constitute major barriers to dispersal and are unlikely to be traversed by great crested newts: rivers and larger brooks; main roads such as A-roads, motorways or any other road with high traffic volume (i.e. high traffic volume during the night when great crested newt are more likely to be dispersing/commuting); and major urban infrastructure including extensive areas of hardstanding and buildings and dense networks of minor roads with little green space.

⁹ Habitat Suitability Index score is an assessment of the potential for a waterbody to support great crested newts. See [Appendix C](#) for more details.

Table 3. Summary of Great Crested Newt survey findings

Feature	Description of Feature and Location ¹⁰	HSI Score	eDNA Result	Relevant Target Notes
P1	This pool is the confluence of two minor watercourses which flows across the Site, which has been recently dredged. It comprises open water with a narrow belt of marginal vegetation that includes reed sweet-grass, bulrush, yellow iris, brooklime (<i>Veronica beccabunga</i>) and soft-rush (<i>Juncus effusus</i>).	0.54 (Below Average)	Not tested (unsuitable breeding habitat – aquatic plants used by great crested newt for egg laying were recently removed)	TN17
P2	This pool is deeply silted, encroached with swamp vegetation and a few small areas of open water that is susceptible to drying out. There is an overflow which connects with a minor watercourse. The swamp vegetation is represented by bulrush, yellow iris and marsh-marigold (<i>Caltha palustris</i>).	0.67 (Average)	Negative ¹¹	TN18
P3	This pool is part of a minor watercourse that comprises a mosaic of deep silt, swamp vegetation and small areas of open water. The swamp vegetation is represented by water mint, bulrush, yellow iris, mare's-tail and common duckweed (<i>Lemna minor</i>). Common frog (<i>Rana temporaria</i>) and smooth newt (<i>Lissotriton vulgaris</i>) are present.	0.72 (Good)	Negative	TN19

Constraints and Recommendations

2.34 Pools P2 and P3 appear to provide suitable breeding habitat for great crested newts. However, great crested newt eDNA was not detected in water samples taken from these pools which indicates that this species is likely to be absent. Furthermore, the grassland surrounding the pools has been subject to regular mowing to maintain a sward height of approximately 50mm, which provides sub-optimal terrestrial habitat for great crested newt. For these reasons, great crested newt is not considered a constraint to the Scheme.

Reptiles

Desk Study

2.35 No record of reptiles within 2km of the Site was returned.

Field Survey

2.36 The grassland at the Site has been subject to regular mowing to maintain a sward height of approximately 50mm. The short grass provides sub-optimal habitat for reptile and there are no features considered suitable to support breeding populations on Site.

Constraints and Recommendations

2.37 Reptiles are not considered to be a constraint to the Scheme.

¹⁰Where features are situated outside of the Site boundary, the distance and direction is given at the closest point of the feature from the Site

¹¹ A negative test result implies that great crested newt presence has not been detected.

Birds

Desk Study

2.38 In total, records of 11 notable¹² bird species within the Study Area were returned, which date back to 2011. These include:

- eight species of principal importance: skylark (*Aluada arvensis*), starling (*Sturnus vulgaris*), song thrush (*Turdus philomelos*), mistle thrush (*Turdus viscivorus*), house sparrow (*Passer domesticus*), dunnock (*Prunella modularis*), bullfinch (*Pyrrhula pyrrhula*) and linnet (*Linaria cannabina*);
- six species on the Birds of Conservation Concern 4 (BoCC4) Red List: skylark, starling, song thrush, mistle thrush, bullfinch and linnet; and,
- five species on the BoCC4 Amber List: mallard (*Anas platyrhynchos*), stock dove (*Columba oenas*), kestrel (*Falco tinnunculus*), and bullfinch.

2.39 All of these species are relatively common (though some are declining) in England.

Field Survey

2.40 During four visits to the Site between 1 April and 13 April 2021, a total of 28 common bird species associated with broadleaved woodland, mature trees and hedgerows were recorded nesting at the Site. This includes five notable species, which comprise a few pairs each of: stock dove, starling, song thrush, mistle thrush and bullfinch. Table 4 summarises the features that provide breeding and foraging habitat for these notable species and assemblages of birds at the Site.

Table 4. Summary of features that support notable birds at the Site

Feature	Description
Mature broadleaved trees with cavities	Nest sites for stock dove and starling
Mature broadleaved trees	Nest sites for mistle thrush
Hedgerows	Nest sites for song thrush and bullfinch
Mosaic of broadleaved woodland, hedgerows and grassland	Foraging habitat and nest sites for a wide range of species

2.41 House sparrow which is also a notable species nests in houses surrounding the Site.

Constraints and Recommendations

2.42 The Scheme will require the removal of some broadleaved semi-natural woodland, hedgerow and amenity grassland. This will result in the displacement of common birds including a few pairs of notable species that nest at the Site to similar habitats within the Study Area. For this reason a detailed breeding bird survey is not required. The displacement of common bird species is not considered a constraint to the Scheme. It is recommended that measures should be implemented to enhance the retained habitat for birds including the provision of nest boxes for notable species.

¹² Notable bird species are taken as those listed: on Annex I of the EC Birds Directive (2009/147/EC); on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); as Species of Principal Importance (SPI) for the Conservation of Biodiversity in England listed in Section 41 of the Natural Environment and Rural Communities Act 2006; as Red or Amber in the Birds of Conservation Concern (BoCC) 4 (Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015). Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108, 708-746); bird species or groups listed under the local BAP.

Badger

Desk Study

- 2.43 Four recent records of badger (*Meles meles*) within the Study Area were returned. The closest of these records is associated with one observed in a residential garden approximately 600m south of the Site boundary.

Field Survey

- 2.44 It is possible that badgers visit the Site but no sign of their presence was recorded.

Constraints and Recommendations

- 2.45 The Site is surrounded by roads and badgers are vulnerable to road traffic injury or fatality, therefore reducing the likelihood of badger being present. Badger is not considered to be a constraint to the Scheme.

Hedgehog

Desk Study

- 2.46 No recent record of hedgehog (*Erinaceus europaeus*) was returned. A hedgehog was recorded in 2004 at Warley, approximately 1.3km east of the Site boundary.

Field Survey

- 2.47 It is possible that hedgehogs visit the Site but no sign of their presence was recorded.

Constraints and Recommendations

- 2.48 The Site is surrounded by roads and hedgehogs are vulnerable to road traffic injury or fatality. Hedgehog is not considered to be a constraint to the Scheme.

Terrestrial Invertebrates

Desk Study

- 2.49 No recent record of protected or otherwise notable terrestrial invertebrates was returned for the Site. A few notable moths and mining bees were recorded from various locations no closer than 1.2km from the Site.

Field Survey

- 2.50 It is likely that a range of common terrestrial invertebrates occur and the Site and particularly species that are typically associated with pedunculate oak.

Constraints and Recommendations

- 2.51 It is recommended that the mature pedunculate oaks are retained and protected as part of the Scheme. It is recommended that measures should be implemented to enhance the retained habitat for terrestrial invertebrates including the provision of boxes for notable species, provision of free-draining banks with southerly aspects to attract ground burrowing insects and flower-rich grassland.

3. Opportunities for Enhancements

- 3.1 The following enhancements could be delivered to increase the biodiversity value of the Scheme in accordance with the National Planning Policy Framework (NPPF), regional and local planning policies outlined in Appendix B. These are high level opportunities and would need to be developed in greater detail once further surveys have been completed and the Scheme proposals, such as detailed areas of habitat loss are confirmed.

Calcareous conglomerate outcrop (Brandhall Golf Course SLINC)

- 3.2 Removal of scrub around the calcareous conglomerate outcrop, including the eradication of wall cononeaster but not causing this species to spread.

Woodland

- 3.3 Management of the woodlands through selective thinning/coppicing to increase structural diversity. Planting of hazel and hawthorn within the woodland belts to enhance structural diversity within the understorey to increase their biodiversity value. Extend the retained woodland belts (that are orientated NE-SW and N-S) to the southern boundary hedgerow to facilitate species dispersal across the Site to the other parts of the River Tame Wildlife Corridor.

Grassland

Strip the amenity grassland and reseed as a wildflower meadow with the introduction of climate resilient native species that are characteristic of the local area.

Watercourses

- 3.4 Removal of culverted sections of watercourse to form open channels. Any watercourse diversions designed with sinuous alignment, soft banks, shelves stocked with plant species characteristic of the local area and large side pools. Removal of swamp vegetation and silt from the pools to create more open water. Increase the biodiversity value of any proposed Sustainable Urban Drainage System.

Bats

- 3.5 Installation of bat boxes of different designs on suitable trees to provide roost sites at the Site. Provision should be made within the Scheme to facilitate bat dispersal to and from the Site and to the River Tame Wildlife Corridor.

Birds

- 3.6 Installation of bird boxes of different designs on trees and buildings to attract a range of species to the Site including house sparrow, house martin (*Delichon urbicum*) and swift (*Apus apus*).

Invertebrates

- 3.7 Creation of roadside wildflower verges for pollinator insects. Create native species-rich hedgerows with standard hawthorn and goat willow to attract a range of pollinating insects. Provision of free-draining banks with southerly aspects to attract ground burrowing insects. Installation of invertebrate boxes on suitable trees to provide places of shelter at the Site. Retaining felled trees on Site to provide habitat for deadwood invertebrates.

4. Conclusion

- 4.1 This PEAR is based on a desk study and four ecological surveys undertaken between 1 April and 13 May 2021, to assess the ecological constraints to the Scheme and to provide advice in respect of Scheme design and site layout.
- 4.2 The following further survey, summarised in Table 5, is recommended to inform the masterplan and planning application.

Table 5. Summary of Recommendations

Feature	Recommendation	Timing
Bats	Bat roost emergence/return surveys to determine species presence and colony size in trees at the Site: <ul style="list-style-type: none"> • three survey visits of trees with high roost potential; and, • two survey visits of trees with moderate potential. 	Survey visits to be undertaken between May and August 2021 within gap of 14 days between visits.
	Bat activity survey to determine key commuting/foraging routes across across the Site.	A survey visit to be undertaken between July and August 2021.
	Bat roost hibernation surveys of trees with high and moderate poential.	A tree climbing survey inspection to be undertaken between December 2021 and February 2022.

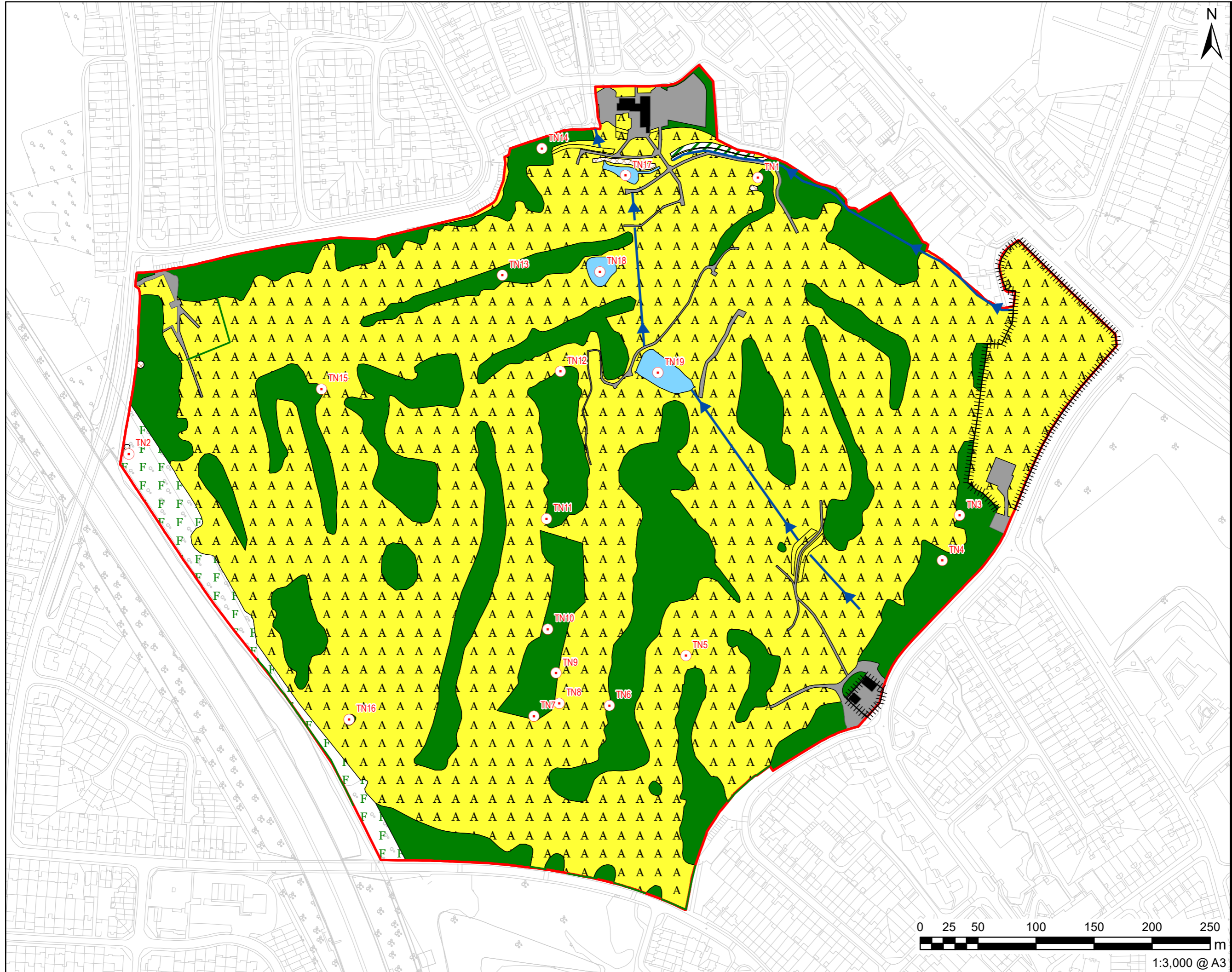
- 4.3 Other enhancements for biodiversity that could be delivered as part of the Scheme include the sympathetic management of retained woodland, grassland and watercourses. Bat, bird and invertebrate boxes could be delivered to further enhance the biodiversity value of the Scheme.

Re-Survey of Site

- 4.4 Due to the mobility of animals and the potential for colonisation of the Site, it is recommended that an updated ecological survey be undertaken prior to the redevelopment of this Site should this not occur by August 2022.

Appendix A Drawings

Figure 1 Phase 1 Habitat Survey Map



LEGEND

- Red Line Boundary
- Target Note
- Phase 1 Habitat Survey**
- Fence
- Intact hedge - species-poor
- ▶ Running water
- Amenity grassland
- Broadleaved woodland - semi-natural
- Broadleaved woodland - plantation
- Broadleaved woodland - recently felled
- Building
- Hardstanding
- Introduced shrub
- Swamp

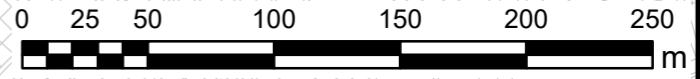
NOTES
© Crown copyright and database rights 2021, Ordnance Survey Licence No 100023119.

ISSUE PURPOSE
FOR INFORMATION

PROJECT NUMBER
60653817

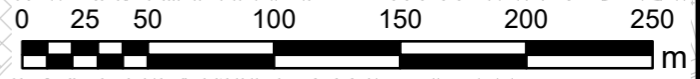
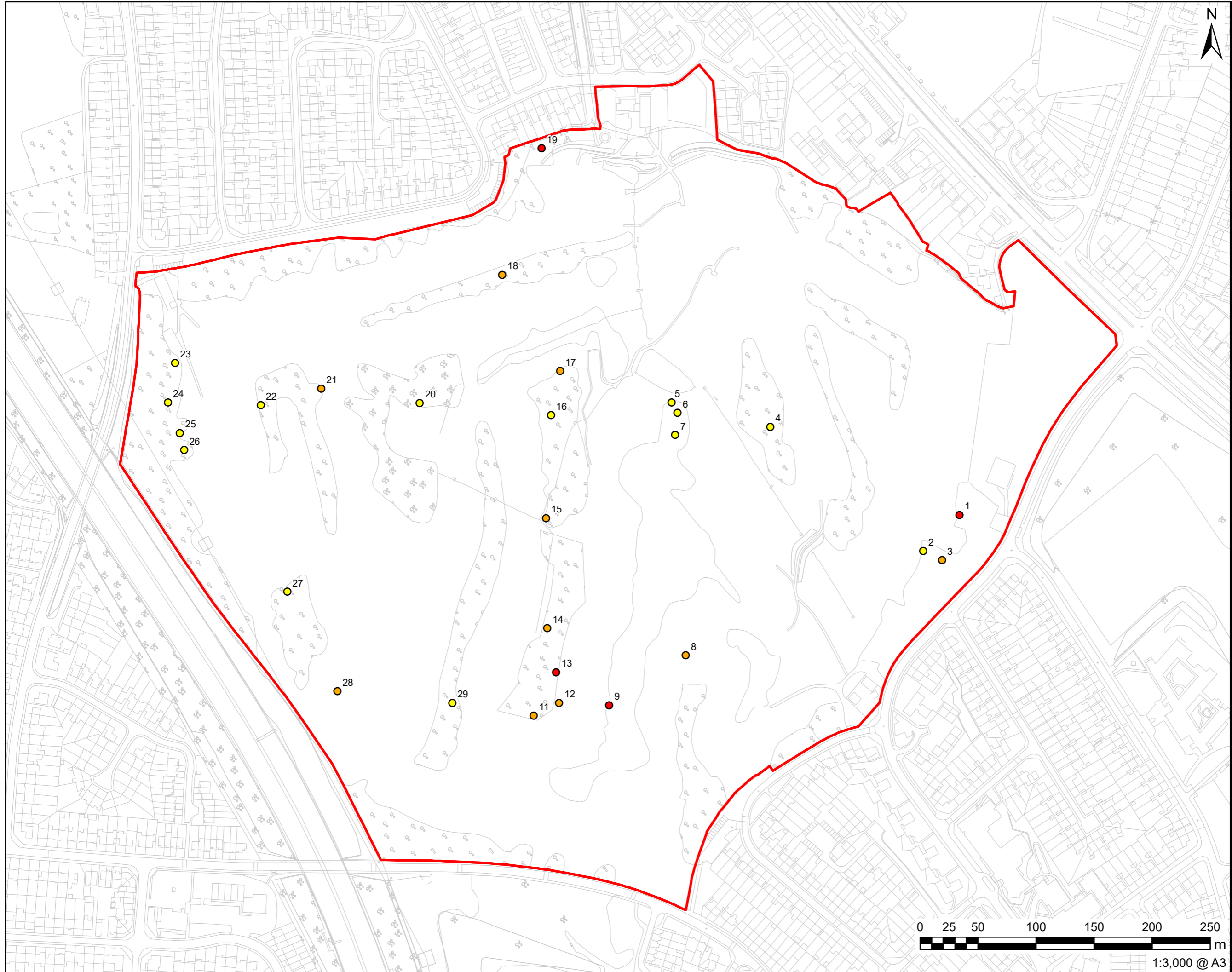
SHEET TITLE
Phase 1 Habitat Survey Map

SHEET NUMBER
Figure 01



1:3,000 @ A3

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and disclaims any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and disclaims any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

Appendix B Relevant Legislation and Planning Policy

Legislation

- 4.5 The UK is no longer a member of the European Union (EU). EU legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation. EU legislation which applied directly or indirectly to the UK before 11.00 p.m. on 31 December 2020 has been retained in UK law as a form of domestic legislation known as 'retained EU legislation'.
- 4.6 The Secretary of State for the Environment, Food and Rural Affairs and Welsh Ministers have made changes to parts of the *Conservation of Habitats and Species Regulations 2017* (referred to as the 2017 Regulations) so that they operate effectively. Most of these changes involve transferring functions from the European Commission to the appropriate authorities in England. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

Designated Sites

Special Areas of Conservation (SAC)

- 4.7 These sites in the UK no longer form part of the EU's Natura 2000 ecological network. The *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019* (referred to as the 2019 Regulations) have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes:
- existing SACs
 - new SACs designated under these Regulations
- 4.8 Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new national site network.
- 4.9 Formal Appropriate Assessment is required to be undertaken by the competent authority before undertaking, or giving consent, permission or other authorisation for any work which are likely to have a significant effect on such a site.

Sites of Special Scientific Interest

- 4.10 Under the *Wildlife and Countryside Act 1981* (as amended), it is an offence to carry out or permit to be carried out any operations likely to damage the Site of Special Scientific Interest (SSSI). These operations are listed in the SSSI notification.
- 4.11 Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate consent under S.28 of the *Wildlife and Countryside Act 1981* (as amended), before undertaking operations likely to damage a SSSI.

Local Nature Reserve

- 4.12 A Local Nature Reserve (LNR) is a statutory designation made under National Parks and Access to the Countryside Act 1949, by principal local authorities (district, borough or unitary councils).
- 4.13 The local authority must control the LNR land - either through ownership, a lease or an agreement with the owner.
- 4.14 LNRs are given protection through policies in a local development plan.

Locally Designated Sites

- 4.15 Local designated sites have 'substantive nature conservation value'. They are defined areas, identified and selected for their nature conservation value, based on important, distinctive and threatened habitats and species with a region.
- 4.16 They are usually selected by the relevant Wildlife Trust, along with representatives of the local authority and other local wildlife conservation groups.
- 4.17 The SINC selection panel, select all sites that meet the assigned criteria, unlike SSSIs, which for some habitats are a representative sample of sites that meet the national standard. Consequently, many sites of SSSI quality are not designated and instead are selected as SINC or lower tier SLINC within Birmingham and the Black Country. Within Birmingham and the Black Country there are also designated Wildlife Corridors which are important linear features that facilitate wildlife dispersal.

Protected Species

Bats and Great Crested Newt

- 4.18 These species, known as European Protected Species, are protected under Regulation 43 of the 2017 Regulations as amended by the 2019 Regulations. This makes it an offence to deliberately capture, injure or kill an animal; deliberately disturb an animal; or damage or destroy a breeding site or resting place used by an animal.
- 4.19 Deliberate capture or killing is taken to include "accepting the possibility" of such capture or killing. Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong.
- 4.20 Where development works are at risk of causing one or more of the offences listed above, a mitigation licence from Natural England can be obtained to facilitate the works that would otherwise be illegal.
- 4.21 These species are also protected under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended). This makes it an offence to intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb an animal in such a place.
- 4.22 Lower levels of disturbance not covered by the *Conservation of Habitats and Species Regulations 2017* remain an offence under the *Wildlife and Countryside Act 1981* although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.

Reptiles

- 4.23 Common species of reptile are protected against intentional killing and injury under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended). There is no requirement for a licence where development works affect common species of reptiles. Instead, Natural England advise¹³ that where reptiles are present, they should be protected from any harm that might arise during the development works through appropriate mitigation.

Nesting Birds

- 4.24 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended), with some species afforded greater protection under Schedule 1 of the *Wildlife and Countryside Act 1981* (as amended). In addition to the protection from killing or taking that all birds receive, Schedule 1 birds and their young must not be disturbed at the nest.
- 4.25 There are no licensing purposes that explicitly cover development activities affecting wild birds.

¹³Reptiles: guidelines for developers, English Nature 2004

Badger

- 4.26 Badgers and their setts are protected under the *Protection of Badgers Act 1992* (as amended). This makes it an offence to wilfully kill, injure or take a badger; or intentionally or recklessly damage, destroy or obstruct access to a badger sett or disturb a badger in its sett.
- 4.27 It is not illegal to carry out disturbance activities near setts that are not occupied, i.e. those that do not show signs of current use.
- 4.28 Where required, licences for development activities involving disturbance or sett interference or closure are issued by Natural England. Licences for activities involving watercourse maintenance, drainage works or flood defences are issued under a separate process.
- 4.29 When assessing the requirement for a licence in respect of development, Natural England¹⁴ state that badgers are relatively tolerant of moderate levels of noise and activity around their setts, and that a low or moderate level of apparent disturbing activity at or near to badger setts does not necessarily disturb the badgers occupying those setts.
- 4.30 Licences are normally not granted from December to June inclusive (the badger breeding season) because dependent cubs may be present within setts.

Species and Habitats of Principal Importance for the Conservation of Biodiversity

- 4.31 Section 40 of the Natural Environment & Rural Communities Act (NERC) 2006 sets out the duty for public authorities to conserve biodiversity in England.
- 4.32 Habitats and species of principal importance for the conservation of biodiversity are identified by the Secretary of State for England, in consultation with Natural England, are referred to in Section 41 of the NERC Act for England. The list, known as the 'England Biodiversity List', of habitats and species can be found on the Natural England web site.
- 4.33 The 'England Biodiversity List' is used as a guide for decision makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006 to have regard to the conservation of biodiversity in England when carrying out their normal functions.

Hedgerows

- 4.34 Under the Hedgerows Regulations 1997, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. In general, permission will be required before removing hedges that are at least 20 metres in length, over 30 years old and contain certain species of plant. The local planning authority will assess the importance of the hedgerow using criteria set out in the regulations.

Non-native Invasive Plant Species

- 4.35 Under the Wildlife and Countryside Act 1981 (as amended), it is an offence to plant or otherwise cause species listed on Schedule 9 to grow in the wild.
- 4.36 Any contaminated soil or plant material is classified as controlled waste and should be disposed of in a suitably licensed landfill site, accompanied by appropriate Waste Transfer documentation, and must comply with Section 34 of the *Environmental Protection Act 1990*.

¹⁴ Interpretation of 'Disturbance' in relation to badgers occupying a sett, Natural England (2009)

Planning Policy

National Planning Policy Framework, 2019

- 4.37 The National Planning Policy Framework (NPPF) sets out the Governments planning policies for England and how these are expected to be applied by Local Authorities within their Local Development Frameworks (LDF). Chapter 15 of the NPPF '*Conserving and enhancing the natural environment*' sets out the requirements to consider biodiversity in planning decisions.

Local Planning Policy

- 4.38 The NPPF is implemented at the local level in this instance by the Black Country Core Strategy – Adopted February 2011¹⁵. Of particular relevance to this assessment is Policy ENV1 Nature Conservation, which relates to safeguarding designated nature conservation sites, important habitats, wildlife dispersal routes, protected and otherwise notable species. Policy ENV1 mentions that all appropriate development should positively contribute to the natural environment by extending designated nature conservation sites, improving wildlife movement and/or restoring or creating habitats of importance.

Local Biodiversity Action Plans

- 4.39 Habitats and species of principal importance in England are listed under the provisions of Section 41 of the NERC Act 2006. These include all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. The Birmingham and the Black Country Local Biodiversity Action Plan (local BAP) 2010 details actions to help maintain or enhance the conservation status of habitats and species to be implemented at the local level.

¹⁵ Black Country Core Strategy (2011), available at: <https://blackcountryplan.dudley.gov.uk/media/11559/core-strategy-12-final.pdf>

Appendix C Methodology

Desk Study

Background Records Search

- 4.40 The preliminary ecological assessment includes a desk study to obtain background records relevant to a Site and the Scheme. The data obtained provides contextual information for the scope of field surveys, to aid the evaluation of field survey results, and to provide supplementary information where complete field survey coverage is not possible.
- 4.41 The Study Area is dependent upon the nature, timing and scale of the Scheme, as well as the location of the Site and the surrounding landscape. These variables all contribute to what is referred to as the Zone of Influence (ZoI) of the Scheme, which is the area over which ecological features may be affected by biophysical changes because of the works and associated activities.
- 4.42 The following ecological data was provided from EcoRecord (the ecological database for Birmingham and the Black Country) on 11 March 2021:
- Records of non-statutory designated sites (SINCs, SLINCs and Wildlife Corridors) within 2km of the Site boundary; and,
 - Records of legally protected and notable species (fauna and flora) within 2km of the Site boundary, including Species of Principal Importance for the Conservation of Biodiversity listed under Section 41 of the Natural Environment & Rural Communities Act 2006 in the England Biodiversity List¹⁶.
- 4.43 The Multi-Agency Geographic Information for the Countryside (MAGIC) website (www.magic.gov.uk) was reviewed for the following information:
- Designated sites of nature conservation importance (statutory sites only) within 2km of the Site. This was extended to 10km for internationally designated sites: Special Protection Areas (SPAs), Wetlands of International Importance (Ramsar sites) and Special Areas of Conservation (SACs); and,
 - Notable habitats within 2km of the Site, these being areas of ancient woodland and 'Habitats of Principal Importance for the Conservation of Biodiversity' included in the England Biodiversity List¹⁷.

Great Crested Newt Pond Search

- 4.44 Ordnance Survey maps and the *Where's the Path* website (<https://wtp2.appspot.com/wheresthepath.htm>) have been used to identify the presence of water bodies within 500m of the Site boundary, in order to help establish if the land within and immediately surrounding the Site could be used by great crested newts. This species can use suitable terrestrial habitat up to 500m from a breeding pond¹⁸, though there is a notable decrease in great crested newt abundance beyond 250m from a breeding pond¹⁹.

Field Survey

- 4.45 The preliminary ecological assessment includes a walkover survey of the Survey Area (all land within the Site and 30m), broadly following the Phase 1 habitat survey methodology as set out in Joint Nature Conservation Committee guidance (JNCC, 2010)²⁰. This survey method records information on habitat

¹⁶ Section 40 of the Natural Environment & Rural Communities Act 2006 requires that The Secretary of State has drawn up, in accordance with Section 41 of the Act and in consultation with Natural England, a list of habitats and species of principal importance for the conservation of biodiversity in England that is known as the [England Biodiversity List](#)

¹⁷ Section 40 of the Natural Environment & Rural Communities (NERC) Act 2006 requires that The Secretary of State has drawn up, in accordance with Section 41 of the Act and in consultation with Natural England, a list of habitats and species of principal importance for the conservation of biodiversity in England that is known as the [England Biodiversity List](#)

¹⁸ Great Crested Newt Mitigation Guidelines (English Nature, 2001).

¹⁹ Natural England. An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt (ENRR576) <http://publications.naturalengland.org.uk/publication/134002>.

²⁰ Joint Nature Conservation Committee (2010) *Handbook for Phase 1 habitat survey - a technique for environmental audit*.

types and is 'extended' to record any evidence of and potential for protected or notable species to be present. Plant names recorded during the survey follow Stace (2019)²¹.

4.46 During the walkover survey, the following protected or notable species are considered:

- **Bats:** the survey involves searching for potential roosting sites for bats within trees and structures (such as buildings, bridges or underground features such as mines) and categorising the potential of those trees or structures to support roosting bats (negligible to high, or confirmed roost), in accordance with Bat Conservation Trust (BCT) guidance (2016)²²;
- **Great crested newt:** the survey involves assessing the potential of habitats within the Survey Area to support great crested newt, following English Nature (2001)²³ and Froglife (2001)²⁴ guidance;
- **Reptiles:** the survey involves assessing the potential of habitats within the Survey Area to support reptiles (typically adder, grass snake, common lizard and slow worm only, though in some locations and habitat types (most notably heathland) may also include smooth snake and sand lizard), following Froglife (1999)²⁵ and JNCC (2003)²⁶ guidance;
- **Birds:** the survey involves assessing the potential of habitats within the Survey Area to support breeding, wintering or migrating birds, either individually notable species or assemblages of both common and rarer species;
- **Badger:** the survey involves searching for signs of badger activity including setts, tracks, snuffle holes and latrines, following the methodology detailed in Scottish Badgers (2018)²⁷ and Harris et al (1989)²⁸;
- **Other notable species:** the survey involves assessing the potential of habitat within the Survey Area to support other notable species, such as hedgehog, polecat or common toad;
- **Notable species of invertebrate:** the survey involves assessing the potential of habitats within the Survey Area to support notable species of invertebrates, both terrestrial and aquatic (including white-clawed crayfish);
- **Protected or notable species of plants:** the survey involves recording protected or notable plant species; and,
- **Non-native invasive plant species:** the survey involves recording evidence of the presence of invasive plants listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) and subject to strict legal control.

4.47 A total of 29 trees at the Site were found to have bat roost potential. Of these 29 trees, four, 10 and 15 respectively have high, moderate and low bat roost potential. The 14 trees with high and moderate bat roost potential were climbed and inspected for signs of bats and their presence, following Collins (2016).

4.48 Two locations at the Site that potentially support suitable breeding habitat for great crested newt were subject to eDNA analysis, following Biggs *et al* (2014)²⁹. This involved taking water samples from both locations and sending them to the ADAS laboratory for analysis.

Limitations and Assumptions

4.49 The aim of a desk study is to help characterise the baseline context of a proposed development and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of a desk study is dependent upon people and organisations

²¹ Stace, C E (2019) *New Flora of the British Isles*, 4th edition. Cambridge University Press.

²² Collins, J.(ed) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edition). The Bat Conversation Trust. London.

²³ English Nature (2001). *The Great Crested Newt Mitigation Guidelines*.

²⁴ Froglife (2001). *The Great Crested Newt Conservation Handbook*.

²⁵ Froglife (1999). *Reptile Survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.

²⁶ Joint Nature Conservation Committee (2003). *Herpetofauna Workers Manual*.

²⁷ Scottish Badgers (2018). *Surveying for Badgers: Good Practice Guidelines*. Version 1.




²⁸ Harris, S. Cresswell, P. and Jefferies, D. (1989). *Surveying Badgers*.




²⁹ Biggs, J. *et al* (2014). *Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA*. Freshwater Habitats Trust, Oxford.




having made and submitted records for the area of interest. As such, a lack of records for a particular habitats or species does not necessarily mean that the habitats or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the proposed development.




- 4.50 An ecological survey represents a 'snapshot' in time of the ecological condition of a Site. The ecological character of a Site can change substantially throughout both the course of a year, and from year to year impacting on the extent and quality of habitats potential to support protected or otherwise notable species.
- 4.51 None of these limitations either singly or in combination is significant enough to affect the baseline referenced in this report.




Appendix D Target Notes and Photographs




Target Note	Description	Photograph(s)
TN1	Calcareous conglomerate outcrop (covered with yellow feather-moss [<i>Homalothecium lutescens</i>] and adjacent wall cotoneaster), which is the feature for SLINC designation.	
TN2	Wall cotoneaster growing inside the boundary fence.	
TN3	Woodpecker hole in black Italian poplar. High potential to support roosting bats.	

<p>TN4</p>	<p>Trunk splits in black Italian poplar. Moderate potential to support roosting bats.</p>	
<p>TN5</p>	<p>Woodpecker hole in pedunculate oak. Moderate potential to support roosting bats.</p>	
<p>TN6</p>	<p>Branch cavity in pedunculate oak. High potential to support roosting bats.</p>	

<p>TN7</p>	<p>Long vertical trunk split in black Italian poplar. Moderate potential to support roosting bats.</p>	
<p>TN8</p>	<p>Basal trunk cavity in pedunculate oak. Moderate potential to support roosting bats.</p>	
<p>TN9</p>	<p>Woodpecker hole in pedunculate oak. High potential to support roosting bats.</p>	

<p>TN10</p>	<p>Callus role cavity in black Italian poplar. Moderate potential to support roosting bats.</p>	
<p>TN11</p>	<p>Woodpecker hole in goat willow. Moderate potential to support roosting bats.</p>	
<p>TN12</p>	<p>Trunk cavity in black Italian poplar. Moderate potential to support roosting bats.</p>	

TN13	Branch cavity in pedunculate oak. Moderate potential to support roosting bats.	
TN14	Woodpecker hole in pedunculate oak. High potential to support roosting bats.	
TN15	Branch cavity in sycamore. Moderate potential to support roosting bats.	

TN16	Basal trunk cavity in pedunculate oak. Moderate potential to support roosting bats.	
TN17	This pool is the confluence of two minor watercourses which flows across the Site, which has been recently dredged. It comprises open water with a narrow belt of marginal vegetation that includes reed sweet-grass, bulrush, yellow iris, brooklime and soft-rush.	
TN18	This pool is deeply silted, encroached with swamp vegetation and a few small areas of open water that is susceptible to drying out. There is an overflow which connects with a minor watercourse. The swamp vegetation is represented by bulrush, yellow iris and marsh-marigold.	
TN19	This pool is part of a minor watercourse that comprises a mosaic of deep silt, swamp vegetation and small areas of open water. The swamp vegetation is represented by water mint, bulrush, yellow iris, mare's-tail and common duckweed.	