

High Street, Hanging Heaton

**Ecological Impact Assessment & Biodiversity Net Gain
Assessment**

Vistry Partnerships Yorkshire

August 2021





Envance

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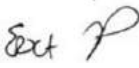
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1. Summary

- 1.1.1 This Ecological Impact and Biodiversity Net Gain Assessment Report has been produced to provide the client with an indication of the potential ecological impacts associated with the proposed development of the site and the potential change in biodiversity value. This assessment has been produced in collaboration with the Preliminary Ecological Assessment and Bat Activity Survey Reports produce by Brooks Ecological (2020) and an updated field survey, habitat condition assessment and bat activity surveys.
- 1.1.2 The site is comprised of modified grassland formally used as grazing pasture, with species-poor native and ornamental hedgerows, and broadleaved woodland. The majority of habitats present are common and widespread in the wider area and are considered to be of ecological value at site level only.
- 1.1.3 The broadleaved woodland along the eastern boundary does however, form part of the Kirklees Wildlife Habitat Network. Land-take of a small section of this habitat is anticipated to be required to facilitate access to the site and it is recommended that mitigation measures are implemented in order reduced the impact of the functionality of the habitat network.
- 1.1.4 No other direct or indirect impacts are anticipated to any statutory and non-statutory designated sites.
- 1.1.5 The overall baseline biodiversity value of the site was calculated as 3.69 Habitat Units (HU) and 0.76 Hedgerow Units (HeU). Post-development values were calculated as 4.24 HU and 1.00 HeU, representing a biodiversity net gain of 14.88% and 30.36% respectively.
- 1.1.6 Four current ecological constraints have been identified for the site:
- Bats – The site is not considered to represent an important area for foraging or roosting bats, however low numbers of common bat species bats have been observed utilizing the sites vegetated boundaries for commuting purposes only. It is recommended that a lighting scheme is designed both during construction and post-development, that aims to avoid any unnecessary light spill and keep illumination levels to a minimum.
 - Birds - It is possible that common and widespread bird species may nest in the hedgerows and woodland present within the site. Any clearance of vegetation that is due to be undertaken during the bird breeding season (1st March to 31st August inclusive) should be subject to a nesting bird check by a suitably qualified ecologist no more than 48 hours prior to the commencement of works.
 - European hedgehog - It is possible that individual hedgehogs may be encountered within the site. It is therefore recommended appropriate mitigation measures and biological enhancements are incorporated to prevent any unnecessary impacts to this species.
 - Invasive Non-Native Species – Montbretia (listed on Schedule 9 of the Wildlife and Countryside Act as amended) was identified within the site and is anticipated to be impacted under current development plans. It is recommended that appropriate measures are implemented to avoid the spread of this species.
- 1.1.7 No other ecological constraints were identified. Assessment methodologies, results and subsequent recommendations and/or mitigation measures are provided within this report, including any opportunities for ecological enhancements, where appropriate.



2. Introduction

- 2.1.1 Envance UK was commissioned by Vistry Partnerships Yorkshire to undertake an ecological impact assessment (EcIA) and biodiversity net gain (BNG) assessment for High Street, Hanging Heaton (central British National Grid Reference (BNGR): SE 26064 23217; hereafter referred to as the 'site'). This assessment has been undertaken in relation to a planning application for the site, which will involve the erection of 55 no. residential dwellings with associated private gardens, parking, access roads and surrounding landscaping.
- 2.1.2 The purpose of this report is to review the existing Preliminary Ecological Assessment undertaken by Brooks Ecological in October 2020(a), provide an updated UK Habitat Classification (UKHab) survey and review of the site's potential to support notable and protected species, listed within both UK and European nature conservation legislation, namely the Wildlife & Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). Any impacts upon these habitats or species that may result from the proposed development were then assessed.
- 2.1.3 In addition to this review, a biodiversity net gain assessment has been undertaken for the proposed development. Biodiversity accounting metrics were employed to assess the baseline biodiversity value of the site compared to the expected value following the development of the site based on the habitat areas within current iteration of the landscaping plan (Drawing No: 'MR20-139/101 & MR20-139/102'; 'Outline Landscape Proposals: North & South'; Figure 1a & 1b). Changes to the habitat types and management set out within this plan have been put forward in order for the site to maximise its biodiversity value. These changes have been incorporated into the final calculations and will be reflected in the final format of the landscaping plan.
- 2.1.4 As part of this assessment, an updated bat activity survey was also undertaken in order to supplement the information provided by a previous survey undertaken by Brooks Ecological in 2020(b). Surveys were all undertaken in line with good practise guidelines (Collins 2016), consisting of a walked transect survey and deployment of a static acoustic monitoring device in order to establish the use of the site by foraging and/or commuting bats.
- 2.1.5 This report documents the findings of the review and evaluates the likely existing ecological interests of the site in line with CIEEM (2018) Guidelines for Ecological Impact Assessment and with reference to BSI British Standards Publication BS 42020:2013 Biodiversity - Code of practice for planning and development. Methodologies employed are described, including site surveys, evaluation and with recommendations for any further survey work and/or mitigation measures included, where appropriate.



3. Methodology

Desk Study

- 3.1.1 Desk study was undertaken to inform the requirements for survey and obtain additional ecological information outside the scope of field survey. The following sources were consulted to obtain relevant ecological information from within 2 km of the study area:
- Multi Agency Geographic Information Centre (MAGIC) website (www.magic.gov.uk);
 - Biological records from West Yorkshire Ecology Service (WYES) - referenced within the previous PEA report (Brooks Ecological 2020a)
 - Survey results from bat activity surveys undertaken within the site (Brooks Ecological 2020b)
- 3.1.2 The following information was sought and considered:
- records of notable protected and priority species;
 - records of priority habitats;
 - details of any statutory sites of ecological interest e.g. Sites of Special Scientific Interest (SSSI), Special Protection Area (SPA) etc., and
 - details of any non-statutory sites of ecological interest e.g. Sites of Importance for Nature Conservation (SINC), Local Wildlife Sites (LWS) etc.
- 3.1.3 Only receptors considered to be within the zone of influence of the proposed scheme are presented within this report (highlighted within Figure 2). Full records can be viewed on request.

Field Survey

- 3.1.4 The updated ecological field survey was undertaken by Paul Wolstenholme ACIEEM on 4th June 2021, using UKHab survey methodology (UHCWG, 2018). The habitats and vegetation types present were recorded, together with an indication of their relative abundance. This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all species occurring across the site.
- 3.1.5 UKHab is a recently developed habitat classification system designed to support the evaluation of habitats for ecological impact assessment and net gain analysis. It has been designed to integrate with other UK classification systems such as Phase 1 habitat methodology (JNCC, 2016) and is becoming widely accepted as the new standard for habitat surveying within the UK.
- 3.1.6 Plant species recorded were classified according to the subjective method of DAFOR abundance ratings. The standardised terms are as follows:
- D Dominant
 - A Abundant
 - F Frequent
 - O Occasional
 - R Rare
- 3.1.7 The prefix 'L' is may also be applied within a given DAFOR rating. This refers to incidences where abundances of species are restricted to localised areas with the broad habitat type.



- 3.1.8 Notable, rare or scarce plant species were highlighted if present. Evidence of protected species or species of nature conservation importance was recorded where present at the time of survey. The information is presented using target notes (TN), locations of which are shown on Figure 3.
- 3.1.9 Invasive plant or animal species listed on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) were recorded as seen.

Protected and Key Species Survey

- 3.1.10 All signs of protected species or groups encountered during the survey visit were recorded. This included observations of tracks or other signs of species such as badger, which may be visible at the time of survey. The structure and quality of the habitats present were assessed for their suitability to support animal groups, paying particular attention to detecting signs of occupation by, or suitability for, protected species. In addition, a note was made of any animals or flora of conservation interest not protected by UK or European legislation.

Bat Activity Survey

- 3.1.11 Bat activity surveys were undertaken by both Brooks Ecological in 2020(b), with an update survey carried out by Envance in 2021. The objective of both surveys was to collect up to date information on the site's use by local bat populations, so that an accurate assessment of the potential impacts of development could be made. A transect and remote monitoring survey was carried out to collect the following data, in line with Bat Conservation Trust Survey Guidelines (Collins 2016):
- The assemblage of bat species using the site;
 - The relative frequency with which the site is used by different species;
 - The nature of activity for different bat species, for example foraging, commuting and roosting.
- 3.1.12 A walked transect was undertaken in both October 2020 and September 2021. Survey conditions are summarised in Table 1.

Table 1: Bat Activity Transect Survey Conditions

Date	Surveyors	Equipment	Weather	Timings
26.10.2020	Katie Wright ACiEEM (Brooks Ecological)	Heterodyne detector & Anabat Express (Titley Scientific)	Start: 10°C, 80% cloud, light air (BF 1), heavy rain End: 8°C, 80% cloud, light air (BF 1), dry	Start: 16:44 Sunset: 16:44 End: 18:44
22.09.2021	Paul Wolstenholme ACiEEM & Fraser Allen (Envance)	Echo Meter Touch Pro 2 (Wildlife Acoustics)	Start: 17.5°C, 30% cloud, light breeze (BF 3), dry End: 16°C, 30% cloud, light wind (BF 2), dry	Start: 19:06 Sunset: 19:06 End: 21:06

- 1.1.1 The transect route from both surveys is outlined in Figure 4 and was designed to cover all foraging areas of the site. Ten 'listening points' were designated at regular intervals along the route (Envance survey 2021 only). As per good practise guidelines (Collins, 2016), each survey began at sunset and the transect route was walked continuously for a minimum of 2 hours after which all bats were thought to have emerged. During the surveys, surveyors were equipped with professional bat detectors with



recording functionality (detailed in Table 1). For each bat pass observed, the species, location, behaviour and flight path were all recorded. Additionally, all sound files were recorded for further analysis within Kaleidoscope Pro Sound Analysis software, if required.

- 3.1.13 To supplement data collected during each walked transect, a static monitoring device were deployed in a strategic location within the site (Figure 4) and left to record for a minimum of 5 nights. Each detector was programmed to begin recording bat activity 30 minutes before sunset and then throughout the night until 30 minutes after sunrise. Data collected during the period of remote monitoring has been run through Kaleidoscope Pro Sound Analysis software, which can identify bat calls down to species level (except for *Myotis*). Identification is generally correct when using this software, however, results are double checked to ensure accurate data analysis. Table 2 details the dates, timings, location and equipment used during each static monitoring period.

Table 2. Static Monitoring Periods

Monitoring Period	Equipment	Location (BNGR)	Sunset/Sunrise Times
26.10.2020 – 01.11.2020	Song Meter SM4BAT FS (Wildlife Acoustic)	SE 26061 23241	16:44-16:34/06:57-07:06
17.09.2021 – 22.09.2021	Song Meter SM2BAT FS (Wildlife Acoustic)	SE 26092 23223	19:17-19:07/06:45-06:52

- 3.1.14 Every effort is made to split up *Myotis* calls down to species level. This is done by manually analysing and looking at parameters such as inter-pulse interval, call duration, slope and maximum / minimum / peak call frequency. However, this can often be difficult when registrations are short in duration, faint or distorted by cluttered environments.

Limitations

- 3.1.15 This report serves to indicate the value of the site in nature conservation terms based upon the survey data gathered. As with any survey of this kind, the information collected defines the habitat types and quality and is not intended to be a record of every species present. The update survey was however undertaken within the botanical survey season, and it is considered that a robust characterisation of the habitats present has been made.
- 3.1.16 Species specific groups, such as the local badger group, were not contacted for detailed records either within this assessment or the previous appraisal (Brooks Ecological 2020). However, the combination of data obtained is considered sufficient to achieve the survey objectives and accurately map potential habitat for protected species and help recommend and target further detailed studies.
- 3.1.17 The initial bat activity surveys undertaken by Brooks Ecological (2020) were undertaken in October just outside the main activity season. However, with recent climate shifts bat have been regularly observed to be active during this period over the last few years. Despite this, an updated activity survey was undertaken by Envance within a more optimal period for bat activity (September 2021) in order to supplement the previous survey and provide a robust assessment of bat activity within the site.
- 3.1.18 Static bat monitoring surveys can only reliably provide information on what species of bat are regularly making use of a site. More detailed information on bat activity, such as frequency of bats, nature of activity (foraging, commuting, flight path), etc. can only be gleaned through walked transects.
- 3.1.19 The frequency of calls recorded can, to some extent, suggest whether activity on site is low, moderate or high, by comparing data collected with that of similar sites that have been surveyed.
- 3.1.20 A single registration can account for up to 15 seconds of continuous bat call. Large batches of registrations can be interpreted in several different ways, i.e. a single bat foraging continuously for



only an hour can result in many hundreds of registrations being logged; similarly, many hundreds of bats commuting quickly past the detector can result in the same number of registrations.

Assessment methodology

Biodiversity Value

3.1.21 The importance of ecological features was determined based on the guidance given in 'Guidelines on Ecological Impact Assessment' (CIEEM, 2018). Individual ecological receptors (habitats and species that could be affected by the proposed development) were assigned levels of importance for nature conservation in one of the following categories:

- International
- UK
- National
- County
- District
- Local, or
- At site level only

3.1.22 For a given receptor determination of value includes consideration of the size, conservation status and quality of the species or feature.

Valuation of Habitats

3.1.23 Some sites are automatically assigned a nature conservation value through designation and the reason for designation is taken into account. Designated sites are considered at the following levels:

- International – Special Areas of Conservation (SAC), Special Protected Areas (SPA) and Ramsar Sites. World Heritage Sites also are considered to be of international value at the site level, but not necessarily in terms of their ecological value.
- National – Sites of Special Scientific Interest (SSSI) in England, Scotland or Wales and Areas of Special Scientific Interest (ASSI) in Northern Ireland
- County or District – sites designated by Local Authorities or County Wildlife Trusts and others

3.1.24 Habitats that are not subject to specific nature conservation designations have been valued against published selection criteria where possible, including the following:

- Habitats Directive, 1992;
- Guidelines for the selection of biological SSSI, and
- Species and habitats included in the Section 41 list (list of species and habitats of principal importance in England, as required under Section 41 of the Natural Environment and Rural Communities [NERC] Act, 2006).

3.1.25 In determining values of habitats consideration has also been given to national and local Habitat Action Plans and the appropriate Ancient Woodland Inventory (AWI) in conjunction with critical appraisal of the size, status and quality of the habitat affected.



Species

- 3.1.26 In ascribing values to populations of species consideration has been given to the legal status of species, as well as their size and status on the site and within the geographic area. Certain species receive protection under various pieces of legislation and this has been taken into account when determining value. Legislation considered includes:
- The Conservation of Habitats & Species Regulations, 2017 (as amended);
 - The Wildlife and Countryside Act, 1981 (as amended);
 - The NERC Act, 2006, and
- 3.1.27 The rarity of the species in the context of status, i.e. whether populations of a species are declining either nationally or at a more local level has also been considered.
- 3.1.28 The presence of invasive alien species or injurious weeds is considered to represent an ecological disbenefit.

Biodiversity Net Gain Assessment

Baseline

- 3.1.29 The Biodiversity Net Gain Assessment used the current metric tool, the 'Biodiversity Metric 2.0 Calculation Tool Beta' (BM2.0) distributed by Natural England, (2019b). Habitat measurements have been taken using digital mapping software (QGIS Geographic Information System version 3.14).
- 3.1.30 The condition of each habitat type was assessed and categorised as either good, fairly good, moderate, fairly poor or poor. The assessment was made using the criteria within 'BM2.0 Technical Supplement' (Natural England, 2019b), this provided specific assessment criteria for each broad habitat type (1- 12 specific criteria (C1 – 12) are provided for each defined broad habitat and linear features (including function group criteria for hedgerows (A, B, C and D)).
- 3.1.31 Using the BM2.0, habitat values are calculated based on whether they occur commonly or whether they are rare, their area (ha) (or length (km) for linear features such as hedgerows), condition, connectivity to other habitats, and importance within the local area, usually identified from local relevant planning policies or documents. This gives a pre-development value in Habitat Units (HU), Hedgerow Units (HeU) and/or River Units (RU).

Measuring Change in Biodiversity

- 3.1.32 The current development plan (Figure 1a & 1b; including suggested changes) and baseline habitats were referred to in order to calculate the area, type and condition of each predicted habitat once the scheme is implemented.
- 3.1.33 BM2.0 was used to calculate the likely net change in biodiversity value of the application site by comparing the existing baseline against the predicted post-management units which would be provided by implementation of the proposed development.
- 3.1.34 Net change in biodiversity value can be calculated by subtracting the forecasted future biodiversity value of the site, post development, from its current biodiversity value ('baseline')



4. Policy and Legislation

- 4.1.1 This appraisal has been undertaken with consideration of relevant national and local policies and legislation

Policy

Kirklees Local Plan

- 4.1.2 The Kirklees Local Plan was adopted in February 2019. The Local Plan covers the administrative area of Kirklees Council, excluding a section within the Peak District National Park. The Plan covers the period 2013 – 2031. Policies pertaining to biodiversity include:
- 4.1.3 Policy LP30: Biodiversity & Geodiversity - 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.
- 4.1.4 Policy LP31: Strategic Green Infrastructure Network - Within the Strategic Green Infrastructure Network identified on the Policies Map, priority will be given to safeguarding and enhancing green infrastructure networks, green infrastructure assets and the range of functions they provide.
- 4.1.5 Policy LP33: Trees - The Council will not grant planning permission for developments which directly or indirectly threaten trees or woodlands of significant amenity.

National Planning Policy Framework

- 4.1.6 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. The NPPF creates a presumption in favour of granting planning permission for sustainable developments, unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies within the framework as a whole or if specifically restricted within the NPPF.
- 4.1.7 Section 15 of the NPPF deals with Conserving and enhancing the natural environment.
- 4.1.8 Paragraph 174 states that "*Planning policies and decisions should contribute to and enhance the natural and local environment by:*
- *protecting and enhancing valued landscapes, geological conservation interests and soils;*
 - *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services;*
 - *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;*
 - *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."*



4.1.9 Paragraph 180 states that “*When determining planning applications, local planning authorities should apply the following principles:*

- *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted.*
- *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁶³ and a suitable compensation strategy exists; and*
- *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*

Legislation

EC Directive 79/409 on the Conservation of Wild Birds (The Birds Directive) 1979

4.1.10 The Birds Directive aims to protect all bird species and their habitats within the member states. In particular, it requires special protection for a range of species (listed in Annex I of the Directive) and requires member states to establish SPAs for the protection of internationally important bird habitats. The Birds Directive is implemented in the UK by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Species and Habitats Regulations 2017.

EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora 1992

4.1.11 The EU Habitats Directive aims to provide protection for a range of natural and semi-natural habitats and species. Its Annexes identify a number of priority habitats and species requiring special protection. Member states are required to identify sites within their territory for designation as SACs for the protection of these habitats and species. The Habitats Directive is implemented in the UK by Conservation of Habitats and Species Regulations 2017.

Wildlife and Countryside Act 1981 (as amended)

4.1.12 The Wildlife and Countryside Act 1981 allows for the designation of National Nature Reserves (NNRs) and Sites of Special Scientific Interest (SSSIs), to protect areas containing habitats and species of national or international importance. All SPAs and SACs identified under the EC Directives are also SSSIs.

4.1.13 The 1981 Act also provides for the protection of certain species. These include a number of specially protected birds (listed in Schedule 1). Other animals are listed in Schedule 5 and a number of plant species under Schedule 8.

The Conservation of Habitats and Species Regulations 2017 (as amended)

4.1.14 The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations) provide domestic implementation of the EU Habitats Directive 1992. Under the Regulations, species listed in



Annex II of the Directive are given strict protection in the UK as European protected species and it is an offence intentionally or recklessly to disturb or to harm a European protected species.

- 4.1.15 Projects which are likely to affect European protected species are subject to particular assessment criteria under the Habitats Directive and the Habitats Regulations. A mechanism for implementing a derogation of the species protection measures of the Directive – by a system of licensing – is incorporated into the Regulations. Under Part 5 of the Regulations a licence may be granted for a project affecting a European protected species for specific purposes.
- 4.1.16 Natural England is the licensing authority for derogation licenses. A derogation licence may only be granted, provided:
- that there is no satisfactory alternative, and
 - the action authorised will not be detrimental to the maintenance of the population of a European protected species at a favourable conservation status in its natural range.
- 4.1.17 All public authorities are required to have regard to the provisions of the Habitats Directive in the exercise of their functions under Regulation 9 of the Habitats Regulations. Guidance on the application of the Habitats Regulations is set out in the Joint ODPM and Department for the Environment, Food and Rural Affairs (DEFRA) circular 06/2005 & 01/2005.

Natural Environment and Rural Communities Act 2006

- 4.1.18 The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act 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.
- 4.1.19 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 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Protection of Badgers Act 1992

- 4.1.20 Under the Protection of Badgers Act 1992 all badgers and their setts are protected from disturbance. The Act also includes provisions to allow NE to grant licences permitting interference with a badger sett in the course of development. Such a licence will normally incorporate conditions to ensure that undue disturbance and suffering to badgers is avoided in the course of the development works.

Hedgerow Regulations 1997

- 4.1.21 Under the Hedgerow Regulations 1997, provision is made for the notification of “important” hedgerows. To qualify for notification, hedgerows must fulfil a range of criteria relating to their historical, landscape or wildlife character. In accordance with the Regulations, the intention to remove any hedgerow should be notified to the LPA via a hedgerow removal notice. The planning authority may issue a Hedgerow Retention Notice to prevent the loss of an “important” hedgerow. Where permission is granted to remove an “important” hedgerow, the LPA may impose conditions to mitigate the loss.



5. Baseline Conditions

- 5.1.1 The existing conditions at the site are set out below. Findings of desk study are incorporated within the report as appropriate.

Site Description

- 5.1.2 The application site (the site) is approx. 1.79 ha and is located between High Street and Challenge Way in Hanging Heaton, Dewsbury. Habitats present are comprised of former grass pasture fields, species-poor native and ornamental hedgerows with an section of broadleaved woodland along the eastern boundary.
- 5.1.3 In the immediate wider area, the site is bordered by residential housing to the east, and a woodland screening corridor along the western boundary, adjacent to Challenger Way. The residential and urban development of Dewsbury and associated satellite villages is present to the south and west of the site, with agricultural land largely dominating areas to the north and east.

Protected Sites

Statutory Designated Sites

- 5.1.4 No statutory sites were identified within 2 km of the application site, with the closest such designation pertaining to Denby Grange Colliery Ponds, 7.5 km to the south. This site is designated as a Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC) as it supports significant populations of great crested newt *Triturus cristatus* (GCN).

Non-Statutory Designated Sites

- 5.1.5 Four non-statutory local wildlife sites (LWS) have been identified within 2 km of the application site. These sites are of local importance. Table 3 details the identified sites with location of sites in relation to the application site highlighted within Figure 2.

5.1.6 **Table 3. Non-Statutory Sites within 2 km of the Application Site**

Name	Reason for designation	Distance from site
Dogloitch Wood	Ancient Broadleaved Woodland	1.6 km E
Dunn Wood	Ancient Broadleaved Woodland	1.3 km NE
Scargill Wood	Ancient Broadleaved Woodland	1.5 km NE
Soothill Wood	Ancient Broadleaved Woodland	1.3 km NNE

Habitats

- 5.1.7 No priority habitats are present within 50m of the application site, with the closest such area represented by broadleaved woodland, approx. 815m north. Other areas of priority habitat broadleaved woodland are additionally present in the wider area as part of the highlighted wildlife sites, as well as forming railway cuttings, sections of large woodland areas and isolated woodland pockets. No other priority habitat types were identified within 2km of the application sites. Locations of each priority habitat areas are highlighted in Figure 2.
- 5.1.8 The woodland corridor that runs immediately adjacent to the eastern boundary of the site is included as part of the Kirklees Wildlife Habitat Network. As such this area is considered to have local importance and forms part of the local councils plans to meet the requirements of the National Planning Policy Framework for 'conserving and enhancing the national environment'.



- 5.1.9 Six watercourses have been identified within 2 km of the site, designated as 'Main Rivers' managed by the Environment Agency (EA). The closest such catchment is Greenhill Beck, located approximately 270m north. This watercourse, along with Batley, Batley Carr and Dewsbury Beck, is highly urbanised running through the developed areas of Hanging Heaton and Bently Carr. Hey Beck to the east appears to be a more ecologically valuable riparian corridor, however, is located a significant distance from the site (1.4 km at closest point). Locations of all identified watercourses are highlighted within Figure 2.
- 5.1.10 Site habitats are described in order of dominance below, with geo-location and extent of each habitat type are outlined in Figure 3. Where appropriate, the associated Biodiversity Metric (2.0) habitat classification is provided, with the habitat area and full condition assessment criteria provided in Appendix 2.

Grassland

g4 – modified grassland (BM 2.0 Habitat: Grassland – Modified grassland)

- 5.1.11 The majority of the application site is dominated by modified grassland formally purposed as grazing pasture (g4 in Figure 3; Appendix 1: Photograph 1), since overgrown due to current limited management. This habitat is dominated by fast-growing grass species typical of this habitat including: perennial rye grass *Lolium perenne* (F); cock's-foot *Dactylis glomerata* (A); Yorkshire-fog *Holcus lanatus* (O); crested dog's-tail *Cynosurus cristatus* (O); & false oat-grass *Arrhenatherum elatius* (O); with meadow foxtail *Alopecurus pratensis* (A); rough meadow-grass *Poa trivialis* (F); sweet vernal-grass *Anthoxanthum odoratum* (R); & common bent, *Agrostis capillaris* (R). A poor diversity of flowering herb species was also present including: meadow buttercup *Ranunculus acris* (F); broad-leaved dock *Rumex obtusifolius* (O); dandelion *Taraxacum officinale* agg. (R); common sorrel *Rumex acetosa* (R); common vetch *Vicia sativa* subsp. *Segetalis* (R); & common ragwort *Jacobaea vulgaris* (R). Ruderal vegetation is also present with cow parsley *Anthriscus sylvestris* (F); common nettle *Urtica dioica* (O); & creeping thistle *Cirsium arvense* (R). A single mature hawthorn shrub (10 in Figure 3) is additionally located within the central western area of this habitat.
- 5.1.12 This habitat is dominated by a poor diversity of agricultural grasses, typical of fertile soils with high nutrient levels, as a result this habitat has been assessed to be a grassland habitat in **poor** condition.
- g4 – modified grassland; secondary codes: (16) tall herb; (17) ruderal/ephemeral (BM 2.0 Habitat: Grassland – Modified grassland)
- 5.1.13 On the margin of the northern, western and southern boundary of the application site, areas of modified grassland become dominated by tall ruderal vegetation (g4 16 17 in Figure 3; Appendix 1: Photograph 2 & 3) running along residential garden fencing (u1e 69 in Figure 3). Species include: cleavers *Galium aparine* (A); common nettle (A); cow parsley (A); creeping thistle (A); broadleaved dock (O); great willowherb *Epilobium hirsutum* (O); with bramble *Rubus fruticosus* agg. (O); creeping buttercup, *Ranunculus repens* (O); meadow buttercup (O); common sorrel (O) spear thistle *Cirsium vulgare* (R); & hedge bindweed *Calystegia sepium* (R). Scattered scrub and trees are also present (10 & 11 in Figure 3) including: remnant hedgerow shrubs of hawthorn *Crataegus monogyna* (O); California lilac *Ceanothus* sp. (R) & elder *Sambucus nigra* (R); with young sycamore *Acer pseudoplatanus* (R) & ash, *Fraxinus excelsior* trees along the residential garden boundaries within the west of the site. Occasional incidences of montbretia *Crocasmia x crocosmilflora* are also present along the south-west boundary of the site (TN1 in Figure 3; Appendix 1: Photograph 4).
- 5.1.14 This habitat is dominated by undesirable ruderal species and grasses typical of fertile soils with high nutrient loading, as such this habitat has been assessed to be in **poor** condition.



Woodland

w1g – other woodland: broadleaved (BM 2.0 Habitat: Woodland and Forest – Other Woodland; Broadleaved)

- 5.1.15 Along the eastern boundary a woodland corridor is present that forms the entire boundary extent (w1g in Figure 3; Appendix 1: Photograph 5), including a small section of the application site. This corridor supports a mix of deciduous broadleaved trees including: pedunculate oak *Quercus robur* (F); & cherry *Prunus* sp.; hazel *Corylus avellana* (F); birch *Betula* sp. (F); Norway maple *Acer platanoides* (O); rowan *Sorbus aucuparia* (O); ash *Fraxinus excelsior* (O); field maple *Acer campestre* (O); hawthorn (O); osier willow *Salix viminalis* (R); apple *Malus* sp. (R); and alder *Alnus glutinosa* (R); The understorey is dominated by cow parsley (A) & common nettle (A), with a low ground layer of ivy *Hedera helix* (F) and occasional bramble. A stock fence is also present along the boundary of this habitat (u1e 69 in Figure 3)
- 5.1.16 With a diverse range of age and structure, this habitat is considered to be a woodland in **moderate** condition. In addition to this, this habitat forms part of the Kirklees Wildlife Habitat Network and as such, it is considered to have high strategic significance in the local area.

Heathland and Scrub

h2a – hedgerow (priority habitat) (BM 2.0 Habitat: Native Hedgerow)

- 5.1.17 Within the central area of the site, two defunct native hedgerows are present (H1 & H2 in Figure 3; Appendix 1: Photograph 6 & 7). Both are of varying height with large canopy gaps (>5m) and are largely comprised of hawthorn (D), with occasional elder and bramble. Along the northern boundary an more intact, mature hedgerow (H3 in Figure 3; Appendix 1: Photograph 8) is present of similar composition at approximately 4m high.
- 5.1.18 Due to large canopy gaps and a poor diversity of wooded species, the central hedgerows (H1 & H2) are considered to be in **poor** condition. H3 however, is of a more mature stature and as such is considered to be in **moderate** condition.

h2a – other hedgerows; secondary code (48) non-native (BM 2.0 Habitat: Hedge Ornamental Non-Native)

- 5.1.19 On the southern boundary of the site, an ornamental planted hedgerow is present as screening for the adjacent petrol station (h2a; 48 in in Figure 3; Appendix 1: Photograph 9). This habitat is comprised of largely non-native species including: Leyland cypress *Cupressus x leylandii* and snowberry *Symphoricarpos* sp., with occasional native elder shrubs.
- 5.1.20 As a non-native habitat, a condition assessment is not appropriate as this habitat type is considered to have a negligible biodiversity value.

Baseline Biodiversity Value

- 1.1.2 Habitat types and their relative conditions are summarised below in Tables 4 & 5. Within the application site, area-based habitats generated: 3.69 HU; and hedgerows: 0.76 HeU.

Table 4: Baseline Area-based Habitats, Condition and Unit Scores

Habitat Type	Condition	Strategic Significance	Area (ha)	Habitat Units (HU)
Grassland - Modified grassland	Poor	Low	1.77	3.54
Woodland and forest - Other woodland; broadleaved	Moderate	High	0.016	0.15
Total Habitat Units				3.69



Table 5: Baseline Hedgerow Habitats, Condition, and Hedgerow Unit Scores

Habitat Type	Condition	Strategic Significance	Length (km)	Hedgerow Units (HeU)
Native hedgerow	Poor	Low	0.114	0.228
Native hedgerow	Moderate	Low	0.134	0.536
Hedge Ornamental Non-Native	N/A	Low	0.041	0
Total Hedgerow Units				0.76

Species

Amphibians

- 5.1.21 Brooks Ecological (2020a) reported no records for any amphibian species from within 2 km of the Site. In addition to this, no ponds have been identified within 500m and no licence returns or EPSL's pertaining to great crested newt *Triturus cristatus* (GCN) were identified within the search radius
- 5.1.22 The site does offer some suitable habitat for foraging/sheltering in the form of tall sward grassland, and hedgerow understoreys. However, the habitat is limited in extent and has very limited ecological connectivity to suitable habitat in the wider area. As such, it is highly unlikely that individual amphibians, including GCN, would be present within the site at any time and are not considered to be a receptor for the proposed development.

Bats

- 5.1.23 Brooks Ecological (2020a) reported 29 records pertaining to bat species within 2 km of the site. Species include: common pipistrelle *Pipistrellus pipistrellus*; soprano pipistrelle *Pipistrellus pygmaeus*; noctule *Nyctalus noctule*; brown long-eared bat *Plecotus auratus*; and whiskered bat *Myotis mystacinus*.
- 5.1.24 All trees present within the application site boundary were assessed for the potential to support roosting bats from ground level. No damage/decay potential roosting features (PRF's) were observed on any of the trees present and as such, all trees are considered to have negligible potential to support bat roosting.

Transect Surveys

- 5.1.25 No bats were recorded during the transect undertaken by Brooks Ecological (October 2020), with only low levels of a single species, common pipistrelle, observed during the most recent survey. Bats appeared within the site at approx. 30 minutes after sunset and were observed commuting along the hedgerow on the northern boundary (H3 in Figure 3), along the hedgerow in the centre of the site (H1 in Figure 3) and around the southern and north-western boundary of the site. Levels of activity significantly dropped at approx. 1 hour after sunset, with only occasional passes recorded along the north west boundary of the site where bats were observed foraging around the street lights present. Activity 'hotspots' are highlighted in Figure 4 with full survey results provided in Appendix 4: Table A5.

Static Monitoring Surveys

- 5.1.26 A total of 24 and 118 individual bat pass were recorded during surveys undertaken in October 2020 and September 2021, respectively. Two species were recorded during the survey period: common pipistrelle and Noctule. Common pipistrelle social calls were also recorded during the most recent survey effort. Figure 5 illustrates the peak daily bat pass frequency of each species over each monitoring period. Full detailed results are provided in Appendix 3: Table A6.
- 5.1.27 The assemblage was mostly dominated by common pipistrelle during the monitoring periods (87% of recordings) with noctule only recorded during the most recent survey period. Figure 6 illustrates the peak activity timings during the most recent survey period (data on timings was not available for the



previous survey), which highlights an initial peak in common pipistrelle activity after sunset before significantly dropping overnight followed by a second much smaller peak before sunrise. Only occasional passes of noctule were recorded overnight first appearing approx. 1 hour after sunset. Peak activity for this species was recorded at sunrise, this was however one recorded during one morning over the survey period.

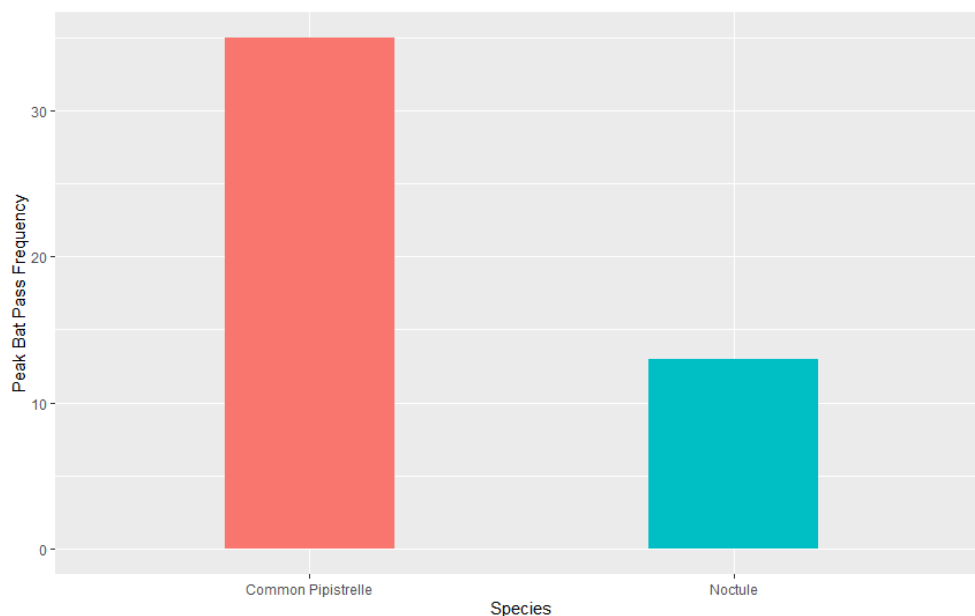


Figure 5. Peak Daily Bat Pass Frequency per Species

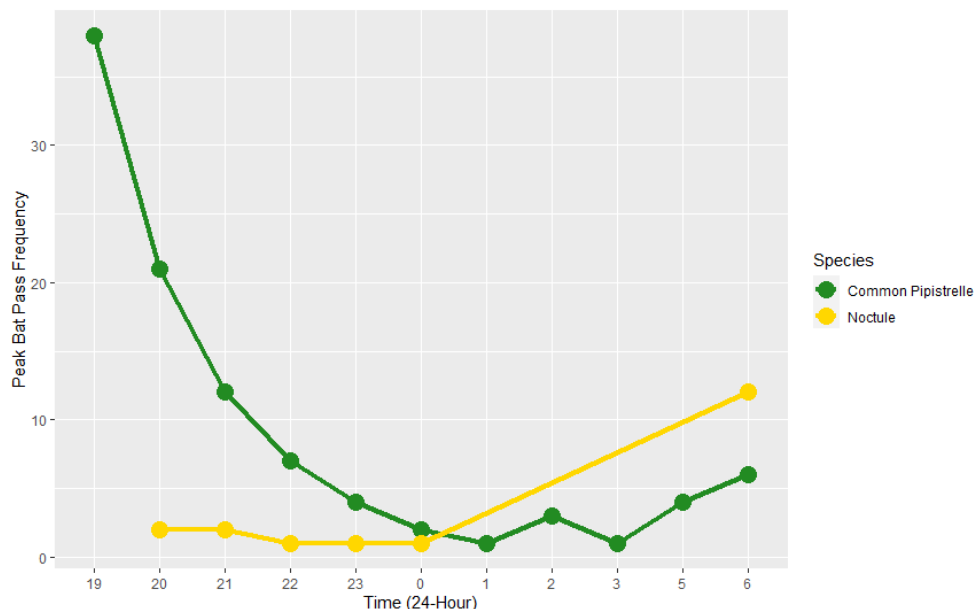


Figure 4. Daily Activity Timings for each Species

5.1.28 The survey results indicate that the site only supports low levels of individual bats, utilising the site for commuting purposes only. No suitable structures or potential features within trees are present to support bat roosting, however survey timings for common pipistrelle are consistent with reported roost emergence times (approx. sunset-1 hour after) indicating that a low number of this species may be roosting in the local area and utilising habitat features within the site to commute to more valuable foraging areas. Noctules typically emerge earlier (15 minutes before sunset – 30 minutes after),



commuting long distances at high altitude over a wide range of different habitat types. As such, it is unlikely that this species would be roosting in the local area, only occasionally passing over the site on commute to more valuable foraging habitat.

- 5.1.29 It is considered highly unlikely that roosting bats would be present within the site, however survey indicate the presence of low numbers of commuting bats and as such, commuting bats should be considered as a receptor for the proposed development

Birds

- 5.1.30 Brooks Ecological (2020a) reported no significant bird records from within 2 km of the site.
- 5.1.31 With the exception of the woodland corridor along the eastern boundary, the site habitats are considered to be sub-optimal for birds and it is unlikely offer significant value to local bird populations. However, the woodland area and mature hedgerows may offer foraging and potentially, nesting opportunities for more common passerine species such as: blackbird *Turdus merula*; robin *Erithacus rubecula*; and wood pigeon *Columba palumbus*, all of which were observed during the site visit.
- 5.1.32 The habitats present on site are common and widespread in the wider area and it is considered unlikely that birds would be present in any significant numbers and the site is considered to be of value at site level only. However, the site does currently offer opportunities for nesting birds and as such, bird nesting should be considered as a receptor for the proposed development.

Reptiles

- 5.1.33 Brooks Ecological (2020a) reported no recent records for reptiles within 2 km of the site. Suitable habitat is currently present within the site, with tall sward grasses/herbs and woodland areas suitable for foraging/sheltering. However, the habitats present are immediately surrounded by residential development and agricultural land, which severely limits any potential ecological connectivity to the site. With this, and the absence of biological records in the local area, it is considered highly unlikely that any individual reptiles would be present within the site at any time. The site is not considered to be value to reptiles.

Terrestrial Mammals

- 5.1.34 Brooks Ecological (2020a) reported 16 records on water vole *Arvicola amphibius*; from within 2km of the site, the closest of which is located approximately 1.5km away. No other records of any other terrestrial mammals have been reported.
- 5.1.35 No suitable watercourses are present within and surrounding the site, with the closest potential habitat suitable for water vole located approx. 270m north. As such, it is considered highly unlikely that individual water vole would be present within the site at any time.
- 5.1.36 The grassland within the site does however offer some foraging potential for badger *Meles meles*. No confirmed field signs for this species were observed during the site visit, with a number of mammal tracks observed (TN2 in Figure 3; Appendix 1: Photograph 10) assessed to be of either fox *Vulpes vulpes*; or deer *Cervidae* origin. In addition, no suitable sett creation habitat is present within the site and as such, it is considered unlikely that badger would be present in any significant numbers.
- 5.1.37 Suitable foraging and sheltering opportunities are however present within the site for European hedgehog *Erinaceus europaeus*, including the potential for winter hibernation nesting in the areas of bramble scrub and woodland understorey vegetation. It is assumed that individual hedgehogs may use the site for time to time and the site is considered to be of value at site level only.



Invasive Non-Native Species

- 5.1.38 Montbretia were identified within the site (TN1 in Figure 3; Appendix 1: Photograph 4). This species is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and is considered to be an invasive non-native species (INNS) with the potential to have negative implications on native biodiversity. As such, the presence of INNS should be considered within development plans.
- 5.1.39 No other INNS were recorded within the site during both the most recent visit and the previous survey (Brooks Ecological 2020a).



6. Impact Assessment

- 6.1.1 It is understood that the proposed development (Figure 1) will involve the erection of approximately 50 residential dwellings, with associated vegetated gardens, access roads/pathways, and associated landscaping. It is assumed that the majority of habitats within the application site will be lost as a result of the development, with the exception of sections of hedgerows H3 and H1, as well as the ornamental hedgerow along the southern boundary.

Protected Sites

- 6.1.2 The application site falls within the Denby Grange Colliery Ponds SSSI impact zone; however, the application site is not considered to be suitably connected or provide significant habitat for any qualifying species. As such, no direct or indirect impacts to the designated site are anticipated. In addition, as a residential development of less than 10 ha, it does not require the Local Planning Authority (LPA) to consult with Natural England in relation to any potential impacts.
- 6.1.3 All other designated sites and priority habitat areas are considered to be a significant distance from the site and as such, no direct and/or indirect impacts are anticipated as a result of the proposed development.

Habitats

Grassland - Modified Grassland

- 6.1.4 This habitat is common and widespread in the wider area and with a relatively poor botanical diversity, it is considered to have a low value at site level only. As such, its loss is unlikely to represent a significant impact on local biodiversity.

Woodland and Forest – Other Woodland; Broadleaved

- 6.1.5 This habitat is comprised of common and widespread species, with similar examples present in immediate wider area. In addition, the habitat is immediately adjacent to a busy local road and as such, is unlikely to represent a feature of high value for local biodiversity, as such the loss of habitat is of significance at site level only.
- 6.1.6 Loss of broadleaved woodland as a result of the proposed development has the potential to directly impact on the adjacent area of the Kirklees Wildlife Habitat Network. A very relatively small area of this network is anticipated to be lost, and in addition, the section affected is considered to represent an ecological 'dead end' in terms of connectivity. With this, and the significant traffic of Challenge Way immediately adjacent, the loss of this area is unlikely to have a significant impact of the functionality of the Kirklees Wildlife Network.

Heathland and Scrub - Native Hedgerow

- 6.1.7 All hedgerows present are species-poor and do not meet the criteria for an 'important hedgerow' under the Hedgerow Regulations 1997. In addition, habitat of this type is common and widespread in the semi-rural setting of the site and are considered to have value for biodiversity at site level only. The hedgerows due to be lost are considered highly defunct and lack any current functionality as hedgerow. As such, their loss is considered unlikely to have a significant impact of local biodiversity.

Scattered Scrub and Trees

- 6.1.8 All scattered scrub and trees present are common and widespread within the wider area and are considered to be of insignificant stature. As such, they are considered to have value at site level only and their loss is unlikely to represent a significant impact on local biodiversity.



Biodiversity Net Gain

6.1.9 Post-development, the site will comprise residential buildings, hard-standing for access roads and path ways with amenity grassland and native shrubs of the vegetated gardens and surrounding landscaping. Existing grassland areas will be retained and enhanced where possible and additional wildflower and tree planting will also be incorporated into the landscaping plan along with an area of public open space. Hedgerows will be retained along the northern (H3) and central (H1) boundary. Post development habitats are illustrated within Figure 7. Newly created habitats (including changes from the current landscaping plan (Figure 1a & b), not present during the baseline habitat survey are detailed below:

- **Urban - Developed land; sealed surface:** including buildings and hard-standing access roads and pathways.
- **Urban – Amenity Grassland:** low maintenance turf that forms residential gardens and areas of public open space. Soil to be rotovated and planted with a bespoke grass mix to resemble higher value grass and wildflower species composition (non-ryegrass species mix e.g. Prize grass mix from Phoenix Amenity).
- **Heathland and shrub - Mixed scrub:** to replace ornamental shrub planting on landscaping plan - native mixed shrub planting with management through pruning as required.
- **Urban – Woodland:** native tree (whip) planting to form dense woodland buffer. Pruning management undertake when required.
- **Urban - Street Tree:** mix of regular and heavy standards to be planted within the development. Pruning management when required.
- **Grassland – Other Neutral Grassland:** existing grassland will be retained where possible (in-lieu of complete clearance and re-planting) and enhanced through wildflower planting within areas of public open space. To be managed as hay meadows (low intensity mowing schedule).
- **Native Hedgerow with Trees:** mixed species hedgerow with tree (whip) planting. Low intensity management schedule

6.1.10 A 30-year management plan will be required for the development, which will set-out appropriate management methods and schedules for each of the habitat types included as part of the landscaping plan, as well as a regular monitoring schedule. For post-development biodiversity calculations, target condition is set based on the anticipated condition of each habitat following the implementation of this management plan.

6.1.11 Post-development biodiversity values are summarised in Appendix 4: Tables A7 & A8. Post-development, area-based habitats generated: 4.24 HU; and hedgerows: 1.00 HeU. Representing a biodiversity net gain of 14.88% for area-based habitats and 30.86% for hedgerows.

Species

Bats

6.1.12 Bat activity surveys highlighted the presence of low numbers of common bat species utilising the site for commuting purposes only. Significant commuting elements within the site (i.e the hedgerow along the northern boundary (H3 in Figure 1) and the woodland corridor along the western boundary (w1g in Figure 1) will largely be retained, with the exception of a small section of woodland to facilitate access to the site. The species present however will regularly cross gaps on up to 150m and beyond (Verboom & Huitema, 1997; Hutterer, 2005) and therefore the gap created will not represent a



significant dispersal barrier for these species.

- 6.1.13 With the retention of connectivity within the site retained, it is considered unlikely that the proposed development would have any significant negative impacts on local bat populations. However, low numbers of individuals bats utilise the site and may be affected by increased night-time illumination levels that are anticipated. As such, bats should be considered within both construction and post-development lighting schemes. Potential impacts are significant at the site level only.

Birds

- 6.1.14 It is considered that birds are unlikely to be present in any significant numbers within the site and any habitat loss is unlikely to have a significant impact of local bird populations. However, there is a reasonable likelihood that common bird species will nest within the site and appropriate mitigation should be implemented to prevent any disturbance during the bird nesting season (March to August, inclusive). Potential impacts are significant at the site level only.

Terrestrial mammals

- 6.1.15 Suitable foraging and sheltering habitats have been identified within the site for European hedgehog and as such, there is considered to be a risk of impacting individual animals as a result of any proposed development. It is therefore recommended that mitigation measures are implemented during the construction phase and that landscaping plans includes the incorporation of suitable habitat features. Potential impacts are significant at the site level only.

Invasive Non-Native Species

- 6.1.16 The montbretia identified within the site is likely to require removal to facilitate the proposed development. As such, an appropriate management plan for this species should be developed and implemented in order to prevent any unnecessary spread of this species.

7. Mitigation

Habitats

- 7.1.1 No significant impacts are predicted; however, site level mitigation is recommended. Land take of woodland habitats to create the new access road shall be minimised limiting any canopy gaps as far as is possible to maintain the function of Kirklees Wildlife Network along the western boundary of the site. Management of this area should also encourage the re-establishment of the upper canopy, re-connecting the habitat for arboreal species. Addition mitigation measures could include low level lighting and traffic calming measures to allow movement of wildlife.

Biodiversity Net Gain

- 7.1.2 Current development plans for the site will result in a net gain in biodiversity for hedgerow habitats of 30.86%, but with a net gain of biodiversity value for area-based habitats of 14.88%.
- 7.1.3 A landscape environmental management plan will be required for all habitats to be created and/or enhanced (both within and outside of the development site). This will outline the appropriate management methods and timings to be implemented over a minimum 30-year period. A monitoring schedule of the site habitats should also be included within this plan, with visits undertaken every 5-years to ensure that the site achieves the target biodiversity value.



Species

Bats

- 7.1.4 All species of bat occurring within the UK are included in Schedule 2 of the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019 and are protected from deliberate capture, injury or killing, from deliberate disturbance and from deliberate damage or destruction of a breeding site or resting place (roost).
- 7.1.5 All UK bats are also included on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). However, their protection is limited to certain offences. Under the 1981 Act (as amended) it is an offence to intentionally or recklessly disturb bats while they are occupying a structure or place used for shelter or protection, or to obstruct access to any such place.
- 7.1.6 Landscaping plans are to include the development of a dense woodland buffer across the northern boundary of the site, with enhancement of the existing grassland to a higher-value type which is expected to support a more diverse range of flowering plants that will extend along the northern and western boundary of the site. This will act to retain and improve the current connectivity of the site and is predicted to result in a more concentrated prey source which will only have positive benefits for local bat populations.
- 7.1.7 Bats and their prey are however particularly sensitive to light and therefore it is recommended that artificial lighting schemes should endeavour to minimise levels to those currently present within the surrounding area (both during and post development works). In addition to this, lights that emit minimal ultra-violet light and avoid insect-attracting white and blue wavelengths of light should be used. Further information on lighting design can be provided within the guidance note prepared by the BCT (BCT, 2018).

Birds

- 7.1.8 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) against destruction of the nest during the bird nesting season, which falls between March 1st and August 31st, inclusive. It is therefore recommended that to minimise any impacts to nesting birds, any removal of suitable nesting habitat should be undertaken outside of the bird nesting season.
- 7.1.9 However, should it be essential for vegetation clearance to be undertaken during the nesting bird season, any suitable vegetation (hedgerows, trees and scrub) due to be impacted should first be checked for active nests by an ecologist a maximum of 48h before the work begins. If an active nest were to be discovered, an exclusion zone around the nest would need to be established and adhered to until the chicks fledged (to be monitored and confirmed by an ecologist)

Terrestrial mammals

- 7.1.10 Hedgehogs are protected under the Wildlife and Countryside Act 1981 (as amended) and are listed as a priority species under the UK Post-2010 Biodiversity Framework. They are also listed as 'vulnerable to extinction' within the ICUN red list for British mammals.
- 7.1.11 As there is a risk of encountering hedgehogs within the site, it is recommended that an environmental management plan (EMP) is developed which includes reasonable avoidance measures (RAM's) pertaining to hedgehog. This will detail good working practices to be implemented during the construction phase to prevent any significant impacts to individual hedgehogs, should they be present.
- 7.1.12 It is additionally recommended that landscaping and development plans include the incorporation of connecting features such as hedgerows to create 'hedgehog highways' to allow individual animals to move freely through the site.



Invasive Non-Native Species

- 7.1.13 A number of species of plants that do not naturally occur in the U.K. have become established in the wild and are considered to represent a threat to the natural fauna and flora. They may also cause damage to structures, be harmful to health, or otherwise be a nuisance. Schedule 9 of the Wildlife & Countryside Act 1981 (as amended) provides a list of such invasive non-native plants. It is an offense to release any plant species listed on Schedule 9 into the wild, or otherwise cause their spread.
- 7.1.14 Montbretia has been identified as present along the site boundary (TN1 in Figure 3), which is anticipated to require clearance as part of development plans. Montbretia is typically a garden escapee that can spread very fast, outcompeting native flora. As such it is recommended that good practice measures are included within the EMP which should detail:
- A 'tool-box' talk to be delivered to all contractors on site to provide awareness of the presence of Montbretia and how to identify this species;
 - Appropriate bio-security measures to minimise the risk of accidental spread.
 - Appropriate methods of removal and disposal;
 - On-going management plan to control each species both during and post development.

8. Conclusion

- 8.1.1 The majority of the site habitats are considered to be of low ecological value and the proposed development is unlikely to have any significant ecological impacts. With the incorporation of the suggested changes into the current landscaping plan, the site is expected to achieve a net gain in biodiversity. This will have an overall positive benefit for local wildlife and help provide and maintain ecological connectivity for the wider area.
- 8.1.2 The woodland to the eastern boundary forms part of the Kirklees Wildlife Habitat Network. Although this section does not connect into the wider network and its value as a connective corridor is therefore limited, special consideration should be given to retaining as much existing woodland as is practical, whilst accommodating the new access. Additional measures, such as reduced lighting levels and traffic calming measures at the entrance should be considered to reduce the likelihood of encounters with local wildlife that may be use the corridor from time to time.
- 8.1.3 The development also has potential to result in temporary impacts to species that may be present in the surrounding area. As a matter of good practice, it is recommended that an ecological management enhancement plan is prepared to ensure that the development is able to deliver biodiversity gains for species in the local. The plan is likely to include measures that will result in an increase in the ecological carrying capacity of the site, such as the provisions of artificial refugia for reptiles, invertebrates and hedgehogs, hedgehog friendly fencing, traffic calming measures and potential crossing points, artificial bird and bat boxes.



9. References

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Figure 1a. Landscaping Plan - North



KEY:

HARD LANDSCAPE SCHEDULE

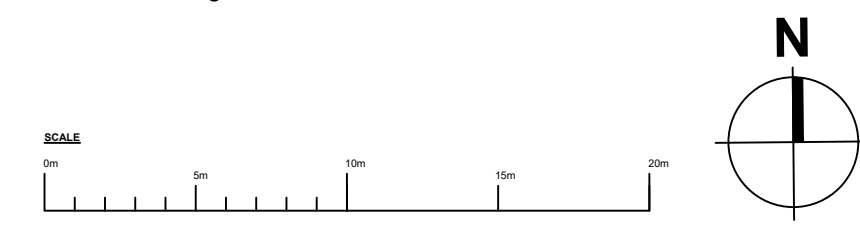
- PROPOSED BUILDINGS:
Proposed buildings. See Corstorphine + Wright Architects drawings for details.
- HARDSTANDING AREAS & LEVELS:
Proposed hardstanding areas including car parking, footpaths, patios and levels.
See Corstorphine + Wright Architects drawings for details.
- PROPOSED BOUNDARY TREATMENTS:
Proposed boundary treatments including walls, gates and fencing.
See Corstorphine + Wright Architects drawings for details.

SOFT LANDSCAPE SCHEDULE

- PROPOSED NATIVE, EXTRA HEAVY STANDARD TREE PLANTING:
Native Extra Heavy Standard (EHS) trees to improve bio-diversity, structure and interest through fruit, blossom and autumn colour. Planted to strengthen the boundaries, soften views in and out of the site and provide instant structure to street scene. Examples species to use: Betula pendula, Quercus rober, Sorbus aucuparia, Prunus Avium
- PROPOSED NATIVE STANDARD (SELECTED) TREES:
Native Standard (Selected) Trees to improve to improve the aesthetic quality of the site, soften the boundaries and provide screening between plots. Planted to the boundaries and to the internal areas of the site. The introduction of native trees will increase the ecological value and bio-diversity of the site. Examples species to use: Alnus glutinosa, Crataegus monogyna, Prunus avium, Sorbus aria.
- PROPOSED ORNAMENTAL SINGLE SPECIES HEDGE:
Single species ornamental hedges to improve bio-diversity, add instant structure to the street scene and delineate private and public spaces within the internal areas of the site. Species will be low growing and native to provide contrasting textures.
- PROPOSED MIXED NATIVE HEDGEROW / WHIP PLANTING:
Mixed native hedge/boundary whip planting to improve bio-diversity, create a dense buffer while creating new habitats for wildlife and softening boundaries. Mixed native hedge to soften boundaries and reduce views in and out of the site, improve bio-diversity and soften the site into the fabric of the wider landscape, planting to include evergreens.
- PROPOSED NATIVE WHIP PLANTING:
Native whip planting to create a dense woodland buffer to soften/screen boundaries while improving bio-diversity and habitat creation. To includes evergreens and native species and to support the existing vegetation to increase the ecological value of the site.
- PROPOSED ORNAMENTAL SHRUB PLANTING:
Low maintenance, low growing shrub planting to provide all year interest, colour and structure while improving bio-diversity. Species selected for their habitat creation, aesthetic quality and sensory attributes including smell, colour and texture. To include natives, evergreens, perennials and ornamental grasses. More ornamental species to the center of the site including private spaces and the street scene. Native larger species used to soften borders and boundaries. Examples species to use: lavandula angustifolia 'twickel purple', Nepeta six hills giant, Prunus Otton Lyken, Calamagrostis 'Karl Foerster'.
- PROPOSED HERITAGE GRASS AND WILDFLOWER SEED MIX:
Low maintenance grass and wildflower seed mix to support existing retained grasslands and woodland at the boundaries, create semi-natural public open spaces and improve habitat creation. Emorsgate Seeds EM3 Seed mix ideal for country parks, nature reserves and public open spaces to soften edges and assist in integrating the proposals into the wider landscape.
- PROPOSED WETLAND MEADOW MIX:
Proposed EM8 Seed Mix for wetlands to be installed to attenuation Area to support existing retained grasslands.
- LOW MAINTENANCE TURF:
Hard wearing, slow growing, drought tolerant, low maintenance turf to plots front gardens and public open spaces.
- PLOTS REAR GARDENS:
Proposed plots rear gardens to be rotovated.
- EXISTING TREES AND VEGETATION TO BE RETAINED:
Existing trees and vegetation to be retained. See Envance Ecological Impact Assessment and Biodiversity Net Gain Assessment.

PLANTING & DRAWING NOTES:

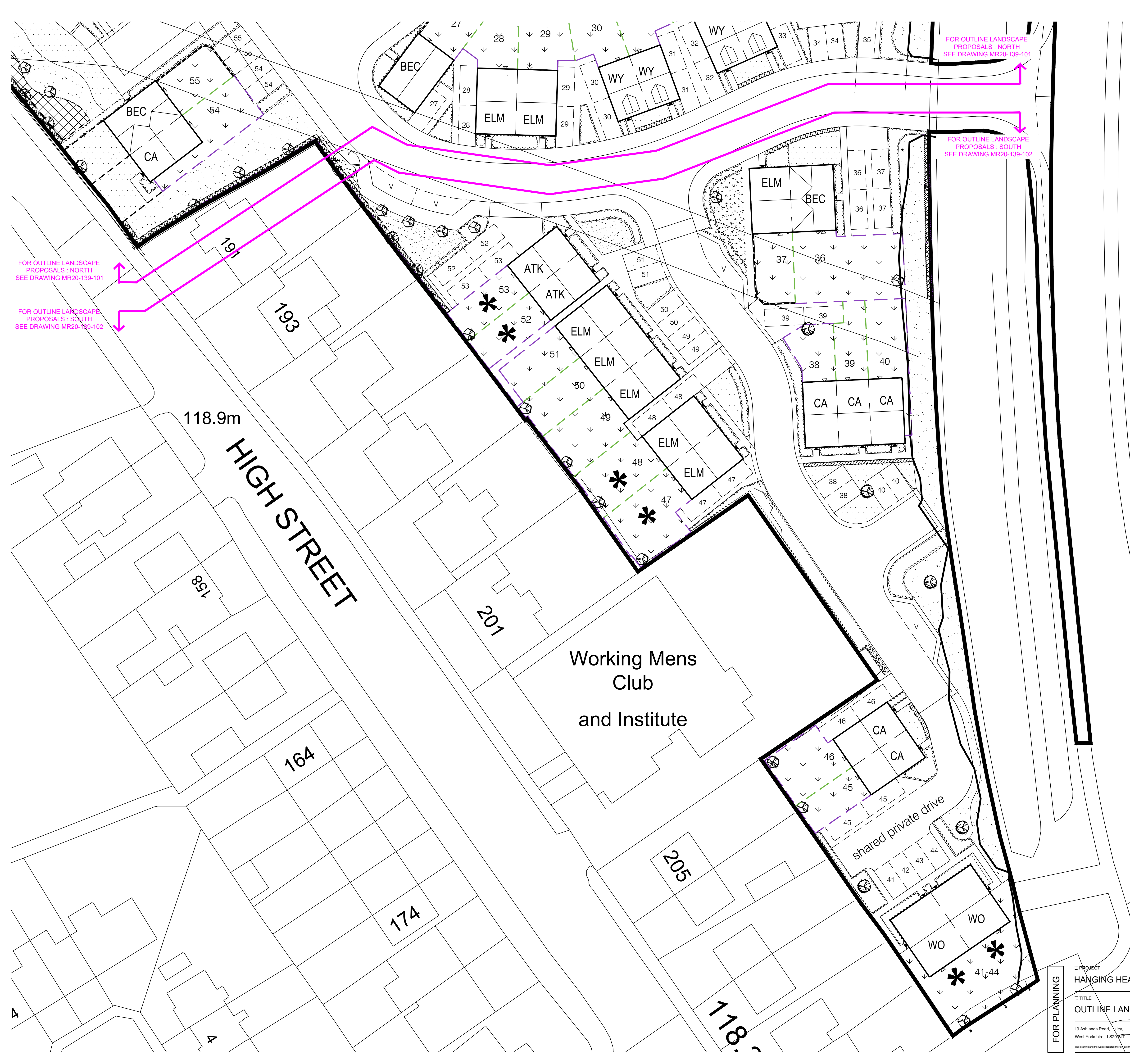
- See Corstorphine + Wright Architects drawings for further details.
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- All proposed tree positions to be confirmed and in accordance with local authority requirements, Trees in relation to design, LABC and NHBC.



FOR PLANNING	PROJECT HANGING HEATON, DEWSBURY	SCALE 1 / 250 @A1	DATE 29 / 07 / 2021
	TITLE OUTLINE LANDSCAPE PROPOSALS: NORTH	DRAWN BY MB	REVIEWED TL
	19 Ashlands Road, Ilkley, West Yorkshire, LS29 8JT www.telandscape.co.uk info@telandscape.co.uk	phone : 01943 510674 mobile : 07855 770428	DRAWING NO MR20-139/101
			REVISION /

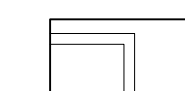
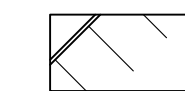
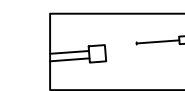


Figure 1b. Landscaping Plan - South

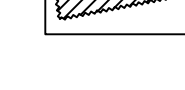
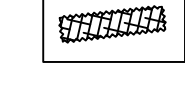
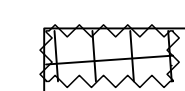
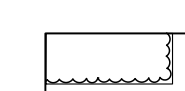
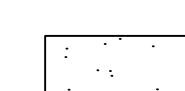
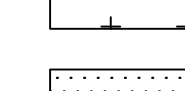


KEY:

HARD LANDSCAPE SCHEDULE

-  PROPOSED BUILDINGS:
Proposed buildings. See Corstorphine + Wright Architects drawings for details.
-  HARDSTANDING AREAS & LEVELS:
Proposed hardstanding areas including car parking, footpaths, patios and levels.
See Corstorphine + Wright Architects drawings for details.
-  PROPOSED BOUNDARY TREATMENTS:
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SOFT LANDSCAPE SCHEDULE

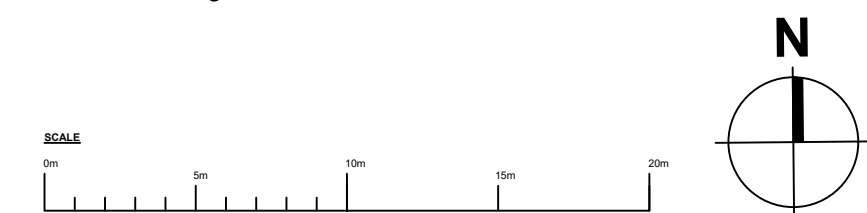
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FOR PLANNING

PROJECT HANGING HEATON, DEWSBURY	SCALE 1 / 250 @A1	DATE 29 / 07 / 2021
TITLE OUTLINE LANDSCAPE PROPOSALS: SOUTH	DRAWN BY MB	REVIEWED TL
19 Ashlands Road, Ripley, West Yorkshire, LS29 6JT www.telandscape.co.uk info@telandscape.co.uk	phone : 01943 510674 mobile : 07855 770428	DRAWING NO MR20-139/102
		REVISION /

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Figure 2. Site Overview



Legend

- Site Boundary
- 50m Buffer
- 250m Buffer
- 500m Buffer
- 1km Buffer
- 2km Buffer
- Local Wildlife Site
- Kirkless Wildlife Habitat Network
- Priority Habitats
 - Deciduous woodland
 - No main habitat but additional habitats present
 - Ancient Woodland
- Major Watercourse

0 0.5 1 km

High Street, Hanging Heaton

Figure 2: Site Overview

Date	June 2021
Scale	1:15000@A3
Drawing Ref:	0059/F2



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enquiries@envanceuk.com

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Figure 3. UKHab Classification Map

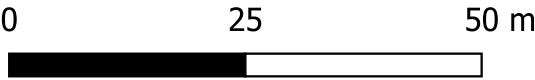
The table below lists the target notes from Figure 3.

Target Note ID	Description
TN1	Montbretia along site boundary
TN2	Mammal track



Legend

- Site Boundary
- g4; 16, 17 -modified grassland with tall ruderal vegetation
- g4 - modified grassland
- w1g - other woodland-broadleaved
- h2a - hedgerow (priority habitat)
- h2b 48 - other hedgerow - non-native
- u1e 69 - built linear feature Fence
- Target Notes



High Street, Hanging Heaton

Figure 3: UKHab Map

Date	June 2021
Scale	1:800@A3
Drawing Ref:	0059/F3



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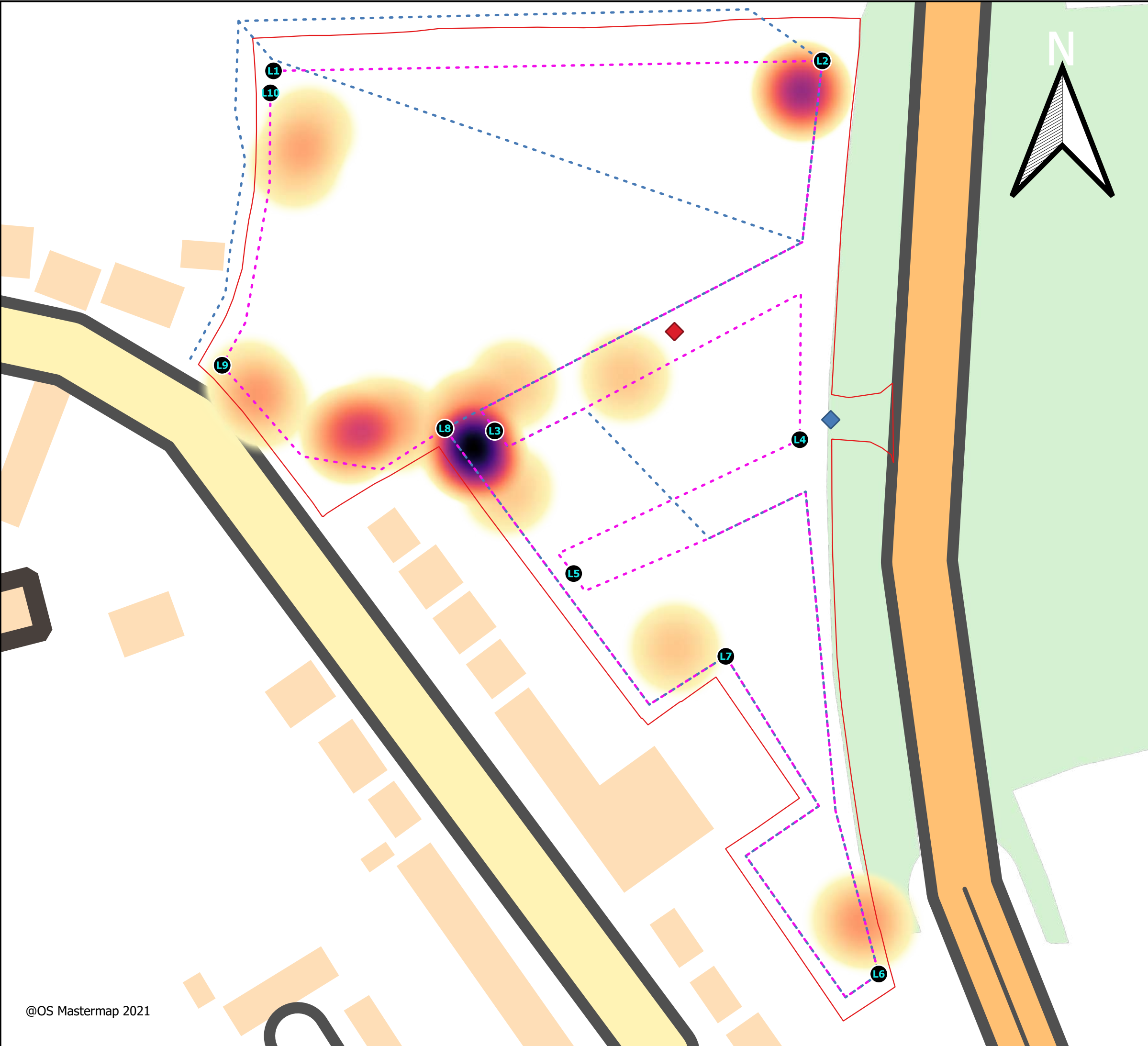
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Figure 4. Bat Activity Transect Map

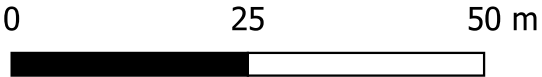


Legend

- Site Boundary
- Transect Route - October 2020
- Transect Route - September 2021
- Listening Points - September 2021
- Static Monitoring Device - October 2020
- Static Monitoring Device - September 2021

Bat Activity

- High
- Low



High Street, Hanging Heaton

Figure 4: Bat Activity Transect Map

Date	Spetember 2021
Scale	1:800@A3
Drawing Ref:	0059/F4



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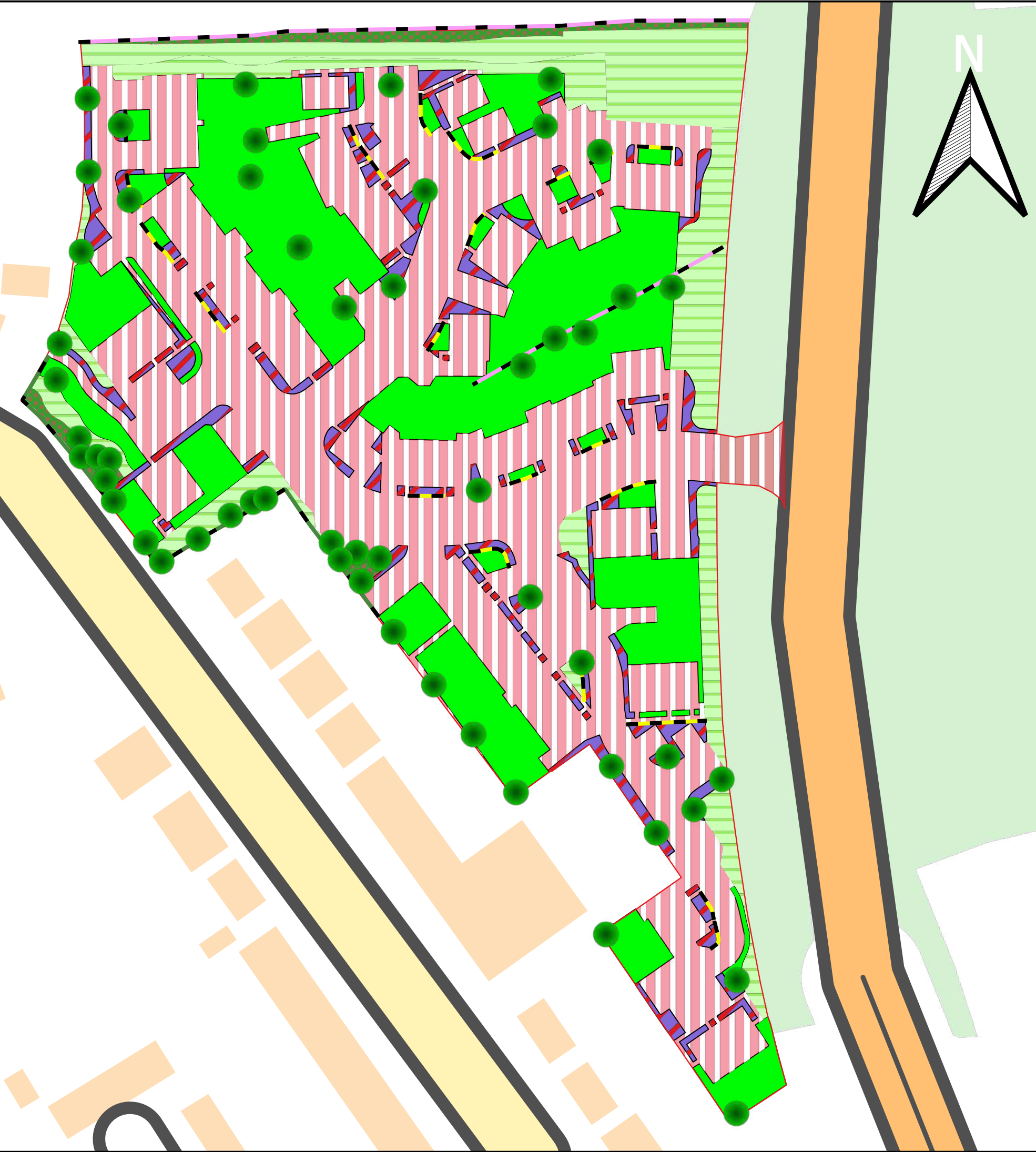
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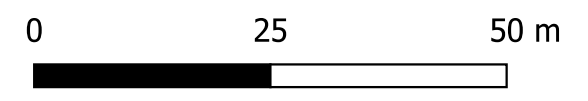


Figure 7. Post-Development Habitat Map



Legend

- Site Boundary
- Urban - Developed land; sealed surface
- Urban - Amenity grassland
- Grassland -Other neutral grassland
- Heathland and shrub - Mixed scrub
- Urban - Woodland
- Native Hedgerow with trees
- Hedge Ornamental Non Native
- Native Hedgerow
- Urban - Street Tree



High Street, Hanging Heaton

Figure 7: Post-Development Habitats

Date	September 2021
Scale	1:800@A3
Drawing Ref:	0059/F4



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Appendix 1. Site Photos



- Legend**
- Photo 1. Modified Grassland**
- Photo 2. Modified Grassland with Tall Ruderal & Scattered Scrub, North Western Site Boundary**
- Photo 3. Modified Grassland with Tall Ruderal & Scattered Scrub, Western Site Boundary**
- Photo 4. TN1: Montbretia along South-West Site Boundary**
- Photo 5. Woodland Corridor, Eastern Boundary of Site**
- Photo 6. H1: Defunct hedgerow, Site Central**



High Street, Hanging Heaton

Appendix 1: Site Photos



SUCCESS THROUGH SUSTAINABILITY

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Legend

Photo 7. H2: Defunct Hedgerow, Site Central

**Photo 8. H3: Semi-Intact
Hedgerow, Northern Site
Boundary**

**Photo 9. Non-native Ornamental
Hedgerow, Southern Site
Boundary**

Photo 11. TN2: Mammal Track, North of Site

High Street, Hanging Heaton

Appendix 1: Site Photos



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Appendix 2. Biodiversity Metric 2.0 Condition Assessment Criteria

Grassland

g4 – modified grassland

Table A1. Condition assessment of modified grassland within the application site

Criteria	Description	Pass/Fail
1	Clearly and easily recognizable as a good example of this type of habitat	Fail
2	Appearance and composition very closely match the characteristics for the specific Priority Habitat	Fail
3	Wildflowers, sedges and indicator species for the specific Priority grassland habitat are very clearly and easily visible throughout the sward and occur at high densities in high frequency.	Fail
4	Undesirable species and physical damage is below 5% cover.	Pass
5	Cover of bare ground greater than 10%	Fail
6	Cover of bracken less than 20% & cover of scrub and bramble less than 5%.	Pass
Final Assessment		Condition
Majority of criteria failed		Poor

g4 – modified grassland; secondary codes: (10) scattered scrub; (16) tall herb; (17) ruderal ephemeral

Table A2. Condition assessment of neutral grassland (other) within the application site

Criteria	Description	Pass/Fail
1	Clearly and easily recognizable as a good example of this type of habitat	Fail
2	Appearance and composition very closely matches the characteristics for the specific Priority Habitat	Fail
3	Wildflowers, sedges and indicator species for the specific Priority grassland habitat are very clearly and easily visible throughout the sward and occur at high densities in high frequency.	Fail
4	Undesirable species and physical damage is below 5% cover.	Fail
5	Cover of bare ground greater than 10%	Fail
6	Cover of bracken less than 20% & cover of scrub and bramble less than 5%.	Fail
Final Assessment		Condition
All criteria failed		Poor

Woodland

w1g – other woodland: broadleaved

Table A3. Condition assessment of broadleaved woodland (other) within the application site

Criteria	Description	Pass/Fail
1	This should be an area of trees with complete canopy cover.	Pass
2	Native species are dominant. Non-native and invasive species account for less than 10% of the vegetation cover.	Pass
3	A diverse age and height structure of the trees.	Pass
4	Free from damage [Bark stripping; Browse line; Damage shoot tips] (in the last five years) from stock or wild mammals with less than 20% of vegetation being browsed.	Pass
5	There should be evidence of successful (i.e. not browsed off before it gets well established) tree regeneration such as seedlings, saplings and young trees.	Pass
6	Standing and fallen dead wood of over 20 cm diameter are present including fallen large dead branches/stems and stumps.	Fail
7	Wetland habitat if they exist within the wood has little sign of drainage or channel	Fail



	straightening.	
8	The area is protected from damage by agricultural and other adjacent operations.	Pass
9	There should be no evidence of inappropriate management (e.g. deep ruts, animal poaching or compaction).	Pass
10	Invasive non-native plants are below 5%.	Pass
11	No signs of significant nutrient enrichment present.	Fail
Final Assessment		Condition
Majority of criteria Pass; Fails on 3 criteria		Moderate

Heathland and Scrub

h2a – hedgerow (priority habitat)

Table A4. Condition assessment of hedgerows (priority habitat) within the application site

Criteria		Description	Pass/Fail		
			H1	H2	H3
A1	Height	>1.5m average along length	Fail	Fail	Pass
A2	Width	>1.5m average along length	Fail	Fail	Pass
B1	Gap – hedge base	Gap between ground and base of canopy <0.5m for >90% length	Fail	Fail	Pass
B2	Gap – hedge canopy continuity	Gaps make up <10% of total length and no canopy gaps >5m	Fail	Fail	Fail
C1	Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length & present on one side of hedge at least	Fail	Fail	Fail
C2	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of area of undisturbed ground	Fail	Fail	Fail
D1	Invasive and neophyte species	>90% of hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Pass	Pass	Pass
D2	Current damage	>90% of hedgerow or undisturbed ground is free of damage caused by human activities	Fail	Fail	Fail
Final Assessment			Condition		
H1 & H2: Majority of criteria failed; H3: Passes on 50% criteria			Poor	Poor	Moderate



Appendix 3: Bat Survey Results

Table A5. Bat Activity Transect Results (Envance 2021)

Listening Point/Walk	Species/Passes			
	P.pip	P.pyg	N.noc	Myotis sp
L1	0	0	0	0
W1	0	0	0	0
L2	0	0	0	0
W2	3	0	0	0
L3	4	0	0	0
W3	0	0	0	0
L4	0	0	0	0
W4	0	0	0	0
L5	0	0	0	0
W5	0	0	0	0
L6	2	0	0	0
W6	0	0	0	0
L7	0	0	0	0
W7	1	0	0	0
L8	12	0	0	0
W8	4	0	0	0
L9	0	0	0	0
W9	2	0	0	0
L10	10	0	0	0
W10	0	0	0	0

L = Listening Point, W = Walking Route; P.pip = Common Pipistrelle, P.pyg = Soprano Pipistrelle; N.noc = Noctule, Myotis sp = Unidentified Myotis species

Table A6. Static Monitoring Data

Species	Peak Count	Activity Minimum start	Activity Maximum Finish
Common Pipistrelle	35	19:32	06:28
Noctule	13	20:37	06:31



Appendix 4. Post-Development Changes in Biodiversity Value

Table A7. Post-Development Area-Based Habitat Gains/Losses

Habitat Type	Impact/Action	Target Condition	Strategic Significance	Time-to Target (Years)	Area (ha)	Habitat Units (HU)	Habitat Management
Urban - Developed land; sealed surface	Creation	N/A	Low	N/A	0.92	0	Buildings, access roads and pedestrian walkways – Management by general maintenance
Urban - Amenity grassland	Creation	Moderate	Low	3	0.45	1.62	Low maintenance turf – management by regular mowing regime. Bespoke grass mix to be used to resemble higher value grassland species composition (non-ryegrass mix).
Grassland – Other Neutral Grassland	Enhancement	Moderate	Low	10	0.25	1.55	Areas of existing grassland to be retained and enhanced into higher value habitat. Management by low intensity mowing schedule and supplementary wildflower planting.
Heathland and Scrub – mixed scrub	Creation	Moderate	Low	3	0.13	0.93	Native shrub planting – management by regular pruning schedule.
Urban – Woodland	Creation	Moderate	Low	27	0.03	0.09	Native WHIP planting – pruning management when required.
Urban - Street Tree	Creation	Moderate	Low	27	0.025	0.04	Mix of regular and heavy standards to be planted – Not anticipated to grow beyond 90cm stem diameter in 30-year period. Pruning management as required.
Grassland - Modified grassland	Habitat loss	N/A	Low	N/A	1.56	-3.04	N/A
Woodland and forest - Other woodland; broadleaved	Habitat loss	N/A	High	N/A	0.016	-0.15	N/A
Post-Development Biodiversity Units (HU)						4.24	



Baseline Biodiversity Units (HU)	3.69
Percentage Change in Biodiversity (%)	14.88%

Table A8. Post-Development Hedgerow-Based Habitat Gains/Losses

Habitat Type	Impact/Action	Target Condition	Strategic Significance	Time-to Target	Length (km)	Hedgerow Units (HeU)	Habitat Management
Hedge Ornamental Non-Native	Creation	Poor	Low	1	0.165	0	Ornamental single species hedgerow planted
Native Hedgerow with trees	Creation	Moderate	Low	20	0.1	0.28	Mixed native hedgerow with tree (WHIP) planting – low intensity management schedule
Native Hedgerow	Enhancement	Moderate	Low	10	0.05	0.18	Retention of existing hedgerows (H1) - low intensity management schedule
Native Hedgerow	Retention	Moderate	Low	N/A	0.134	0.54	Retention of existing hedgerows (H3) - low intensity management schedule
Native Hedgerow	Habitat loss	N/A	Low	N/A	0.064	-0.13	N/A
Hedge Ornamental Non-Native	Habitat loss	N/A	Low	N/A	0.041	0.00	N/A
Post-Development Biodiversity Units (HU)							1.00
Baseline Biodiversity Units (HU)							0.76
Percentage Change in Biodiversity (%)							30.86%