

Cleator Moor PEA report

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Cleator Moor Connected Town
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Executive summary

This report presents the findings of the Preliminary Ecological Appraisal (PEA) undertaken by Jacobs UK Ltd. (Jacobs) on behalf of Cumberland Council. As part of the planned construction works associated with Cleator Moor Connected Town project (hereafter referred to as "The Project").

The primary aim of this report is to provide baseline ecological information for the location and to assess the collated data in conjunction with the relevant good practice survey guidance and legislative framework. The survey results have been used to inform any potential further surveys or mitigation requirements in relation to species and habitats that are significant and/or protected by law and that may be impacted by the Project.

Habitats within the survey area included priority habitats (other native hedgerow, other lowland mixed deciduous woodland), non-priority habitats including other rivers and streams, other broadleaved woodland, modified grassland and other neutral grassland. Habitats were assessed for their potential to support protected species. Suitable habitat for badger, foraging and commuting bats, breeding birds, otter, reptiles, red squirrel, water vole and terrestrial invertebrates was identified within the survey area. No buildings or trees were identified as having bat roost potential.

Recommendations for further survey requirements and outline mitigation has been provided.

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1. Introduction

1.1 Project Background

The Connected Town project (hereafter referred to as the 'Project') seeks to deliver a programme of transport and related public realm interventions which will result in Cleator Moor having a high-quality integrated transport network, transforming the accessibility and attractiveness of the town. The Project encompasses investment in gateways and corridors to improve connectivity between residential and employment areas; corridor enhancements to improve access on foot; and improved local infrastructure for active travel.

The Project objectives are:

- To promote clean growth and decarbonisation. There is opportunity to promote low carbon journeys, with short trips on foot or by bike, creating environmentally low impact clean growth journeys.
- To promote active travel. Ability to capitalise on the town's walkable catchment and flat landscape which lends itself to walking and cycling. This would see Cleator Moor's town centre once again become a viable hub for both the local community and visitors.
- Tackling poor health outcomes. Encouraging participation in active journeys, promoting a healthier lifestyle with increased physical activity.
- Capitalise on existing assets. The Lake District National Park World Heritage Site, employment and services at Whitehaven and Sea to Sea cycling route are significant assets which could be better linked to Cleator Moor.
- Strengthen the attractiveness of Cleator Moor. There is clear opportunity to strengthen perceptions of Cleator Moor by giving the town a better sense of place.

The Project, through the delivery of an integrated walking and cycling network in Cleator Moor, improvements to key roads and junctions, as well as environmental and public realm improvements at key 'gateways' will result in:

- Increase in the number of new and upgraded cycle and walking routes;
- Increase in upgraded road infrastructure; and
- Improved public realm.

The relevant areas within the town of Cleator Moor within this report are Market Square to Cleator Mills Link, Leconfield to Activity Centre Link, and Leconfield Industrial Estate Link. The intended developments for each area are listed below:

Town Square to Cleator Mills Link	<ul style="list-style-type: none">• Improve signage and wayfinding• Upgrade to shared use path• Improve street lighting• Provide Toucan pedestrian crossing on Trumpet Terrace• Introduce traffic calming and 20mph zone on Cragg Road
Leconfield to Activity Centre Link	<ul style="list-style-type: none">• Improve signage and wayfinding• Traffic calming on Birks Road including raised crossing, build outs, and surfacing/materials

	<ul style="list-style-type: none"> • New active travel link from football club to existing cycle route to the west including ramp access to Coast to Coast (C2C) • New active travel link from activity centre to Birk's Road • Street lighting along proposed links • Planting and street furniture
Leconfield Industrial Estate Links to C2C	<ul style="list-style-type: none"> • Improve signage and wayfinding • Upgrade existing bridleway (BR403019) to footpath construction to Sanderson Park • Street lighting along proposed links • Traffic calming/junction build-out at Sanderson Park

For the purposes of this report the survey areas are described as Area 1, Area 2, Area 3 and Area 4. Descriptions are included below, refer to Appendix B, figures 1.1-1.3 for Area locations.

- Area 1 – Public Right of Way (PRoW) connecting Sanderson Park to Birks Rd (NY01901559);
- Area 2 – The area between Leconfield Industrial estate and Birks Rd (NY01821531);
- Area 3 – The area in the vicinity of the football club and Cleator Moor Cadets Detachment (NY02061516); and
- Area 4 – Public Right of Way connecting Todholes Rd to Trumpet Terrace (NY02071423).

1.2 Aims and Objectives

The purpose of this report is to:

- Collect desk study information on designated sites, priority habitats, and protected and priority species;
- Collect specific information on the habitats such as species composition and structure, and where applicable details on current management and age or permanence;
- Assess the suitability of the various habitats and other features present to support protected and priority fauna;
- Make recommendations on how to avoid or mitigate ecological impacts on important ecological features such as designated sites, priority habitats, and protected and priority species; and
- Make a preliminary assessment of the need for further detailed species and habitat surveys or what type of impacts are likely to trigger the need for further surveys.

This report describes the survey methods employed, presents the results of the surveys and makes recommendations to ensure that the development is in accordance with both legislative requirements and the long-term conservation status of populations within the affected areas.

The survey results will contribute to an understanding of the ecological value of the site, help identify the potential impacts of the design options and inform the design of any mitigation proposals.

1.3 Legislation

In the UK, many habitats and species are afforded legal protection to varying degrees through national and European legislation. The following legislation are relevant to this report:

- The Conservation of Habitats and Species Regulations 2017 (as amended);
- Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Protection of Badgers Act, 1992;
- The Countryside and Rights of Way (CROW) Act 2000;
- The Natural Environment and Rural Communities (NERC) Act, 2006; and
- The 'Birds Directive' 2009/147/EC (as amended).

Some invasive non-native plant species such as Himalayan balsam are controlled through the Invasive Alien Species (Enforcement and Permitting) Order 2019.

See Appendix A for full details of the relevant legislation.

1.4 Planning Policy

Area 1 and Area 4 are to be constructed under permitted development rights. Area 2 and 3 will likely require planning permission under the Town and Country Planning Act.

National and local policies are relevant to biodiversity and developments. The key national and local planning policies of potential relevance to the Project include:

National Planning Policy Framework

Chapter 15 (Conserving and enhancing the natural environment) of the National Planning Policy Framework (NPPF) (Department for Levelling Up, Housing and Communities, 2021) sets out the Government's planning policies and principles for habitats and biodiversity and how these should be applied. It sets out the need to consider the following (paraphrased).

- Protecting and enhancing valued landscapes, geological conservation interests and soils.
- Recognising the wider benefits of ecosystem services.
- Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.
- Preventing both 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.

1.5 UK Post-2010 Biodiversity Framework

The 'UK Post-2010 Biodiversity Framework' succeeded the UK Biodiversity Action Plan (UK BAP) in July 2012 and covered the period of 2011 to 2020. This framework is underpinned by the biodiversity and environment strategies of the four countries of the UK and sets out their common purpose and shared priorities. The UK BAP

list of priority species however, remains as a reference source and has been used to help draw up statutory lists of priorities.

'Biodiversity 2020: A strategy for England's wildlife and ecosystem services', published in 2011, is the most recent biodiversity strategy for England, and has as its mission to halt overall biodiversity loss, support healthy well-functioning ecosystems, and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people (Defra. 2011).

The Cumbria Local Biodiversity Action plan (LBAP) aims to promote the conservation, protection and enhancement of biological diversity in Cumbria. The aims and targets of the plan target the following habitats: coastal habitats, honeycomb worm reefs, various types of grassland, ancient/species-rich hedgerows, woodlands, blanket bog, upland heathland, managed greenspace, reedbeds, lowland raised mire, basin mire, mesotrophic standing water, rivers and streams. The Cumbria Biodiversity Data Centre includes habitat statements on all UK and Cumbria LBAP priority habitats within Cumbria (CBDC, 2016).

Additionally, the plan also states particular species of concern locally within Cumbria. The Cumbria Wildlife Trust list all species that are included within the Cumbria LBAP (Cumbria Wildlife Trust, 2009).

2. Methodology

2.1 Desk Study

A desk study was conducted including a 1km search area surrounding the survey area of Cleator Moor (Section 3 Image 1). This area was considered to be sufficient to cover the likely zone of influence (Zoi) of the Project, which will be localised and small scale.

The desk study sought records for fauna, flora, habitats and sites designated for their nature conservation value. Understanding nature conservation issues in the wider area helps in the assessment of the ecological value of a site and the habitats and species that it supports. The following data sources were consulted during the desk study:

- The Government's 'Multi-agency Geographic Information for the Countryside' (MAGIC) website for statutory designations, priority habitats and European Protected Species Mitigation Licences (EPSML) which have been granted by Natural England (website accessed 30th April 2024);
- The Woodland Trust's 'Ancient Tree Inventory' for records of notable, veteran and ancient trees (website accessed 30th April 2024);
- Cumbria Biodiversity Data Centre (CBDC) for lists of local Biodiversity Action Plan (LBAP) Habitats, species records and non-statutory designated sites (data accessed 10th May 2024);
- DEFRA fish explorer for fish and aquatic invertebrate species records in any river catchments within the survey area (data accessed 10th May 2024);
- Joint Nature Conservation Committee (JNCC) and Natural England websites for descriptions of statutory designated sites (websites accessed 30th April 2024);
- Arboricultural survey report for Cleator Moor Connected Town Project (Jacobs, 2024); and
- Cumbria Wildlife Trust for protected, notable and Biodiversity Action Plan (BAP) species data (data accessed 10th May 2024).

Where applicable, information supplied by these organisations has been incorporated into the following account with due acknowledgement. Only species records from the last ten years have been included in the report (post 2013).

Aerial images and detailed OS mapping were studied prior to the site visit. This enabled the ecologist to understand the context of the site and identify potential ecological features that would not be evident on the ground during the field survey. This is often useful in identifying potentially important faunal habitat which could have bearing on the ecology of the site, particularly ponds. It can also determine the proximity of potential wildlife corridors and whether the site forms a key part of these corridors to connect habitat in the wider landscape.

2.2 Field Survey

A PEA walkover survey was undertaken on 25th April 2024; which included an inspection of habitats within four sites throughout the town of Cleator Moor, where construction works are planned to take place. The survey area encompassed the assumed project construction boundary (shown in Appendix B, Figures 1.1-1.3) plus adjacent habitats.

Brief descriptions of the habitats present were recorded using the UK Habitat Classification System (UKHab); and a search was undertaken for evidence indicating the presence of, or potential for, legally protected species such as but not limited to; badger (*Meles meles*), bats, birds, otter (*Lutra lutra*), reptiles and water vole (*Arvicola amphibius*) and other notable species and habitats of nature conservation interest. Features of particular

ecological interest or those too small to map were marked with a target note (TN) (see Appendix C, Table 1). All survey methods were carried out with reference to good practice guidance (CIEEM, 2017).

2.2.1 UK Habitat Classification

All habitats within the survey area were described and mapped according to the UKHab guidance (UKHab Ltd, 2023). This involved walking across the survey area and recording the vegetation types and habitats present. Habitats were classified and mapped according to the DAFOR scale (Dominant (D), Abundant (A), Frequent (F), Occasional (O) and Rare (R)) used to describe the relative abundance of vegetation species present (see Table 2.2.1 below for more detail).

Table 2.2.1 – Botanical species percentage cover values and DAFOR scale value

% cover	DAFOR value
>75	Dominant
50-75	Abundant
25-50	Frequent
10-25	Occasional
<10	Rare

During the survey, habitats were assessed to see if they qualified as priority habitats under the NERC Act 2006, Section 41 list of Habitats of Principal Importance (HoPI) and/or listed in the Cumbria Local Biodiversity Action Plan (LBAP).

The condition of all priority habitats, (good, moderate, poor and N/A) within the survey area have been assessed in line with the Defra Statutory Biodiversity Net Gain Metric Condition Assessment guidance (Natural England, 2023). Habitats within areas where planning permission is required (Areas 2 and 3) also underwent a condition assessment. Should the Project require further BNG assessment, more details of habitat condition will be provided in a BNG report.

The UKHab survey was undertaken by Jacobs' ecologists when the weather conditions were suitable: clear skies with occasional periods of cloud cover.

2.2.2 Bat Potential Roost Assessment

A bat potential roost assessment (PRA) was also undertaken on any trees or structures within the survey area boundaries. The bat survey was undertaken in consideration of current good practice guidelines, including Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition) (Collins, 2023). Surveyors looked to identify potential points of access/egress into/from any gaps in buildings leading to voids. For ground-level tree assessments, surveyors were vigilant for features such as knot holes, cracks/crevices, lifted bark and ivy cover (refer to Collins 2023 for exhaustive list of both tree and structure features). Structures assessed were assigned a category: high, moderate, low or negligible bat roost potential, and trees categorised to have Potential Roost Features (PRF) for individual or multiple bats (PRF-I or PRF-M).

Table 2.2.2 – Description of suitability assessments for PRA of structures

Suitability	Negligible	Low	Moderate	High
Description	No obvious features within structure likely to be used by roosting bats; however, a small	A structure with one or more potential roost features that could be used by individual bats	A structure with one of more potential roost features that could be used by bats but unlikely to	A structure with one of more potential roost features that are obviously suitable for use by larger numbers

	element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	opportunistically at any time of year. However, no suitable to be used on a regular basis by larger numbers of bats.	support a roost with high conservation status i.e., maternity or hibernation.	of bats on a more regular basis and potentially for longer periods of time. These structures have the potential to support high conservation status roosts.
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Table 2.2.3 – Description of suitability assessments for PRA tree assessments

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

2.3 Limitations

During the survey visit a field of grassland to the north of Nor Beck within Area 1 (Figure 1.1) could not be accessed due to the watercourse posing a barrier to entry. The field was assessed at a distance but could not have a condition assessment undertaken and the UKHab category could not be categorised further than g3 neutral grassland. However, surveyors were able to determine that the grassland field was not a priority habitat, and the construction works are understood to have no impacts on this area.

The entire length of Nor Beck and the drainage ditch to the north (Figure 1.1) were also not able to be assessed completely for features such as otter holts, water vole burrows or kingfisher nests, due to access restrictions and dense vegetation. However, the construction works are understood to exclude working at the banks or working within the watercourse.

It should be noted that habitat types and habitat conditions can change over time. Therefore, this report and its recommendations reflect the conditions recorded within the survey area at the time. The likelihood of surveys needing to be updated increases with time and is greater in circumstances where the habitat or its management has changed significantly since the surveys were undertaken. Any changes or additional recommendations should be documented as required, to ensure that the assessment of ecological impacts is undertaken against an accurate baseline.

The findings of this report represent the professional opinion of qualified ecologists and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited in this document.

3. Baseline Conditions

3.1 Desk study

3.1.1 Statutory Designated Sites

A total of two statutory designated sites were identified within 1km of the survey area (see Image 1). Table 3.1.1 provides a summary of the designated sites within 1km of the Survey Area.

Image 1 – Survey Area and 1km buffer

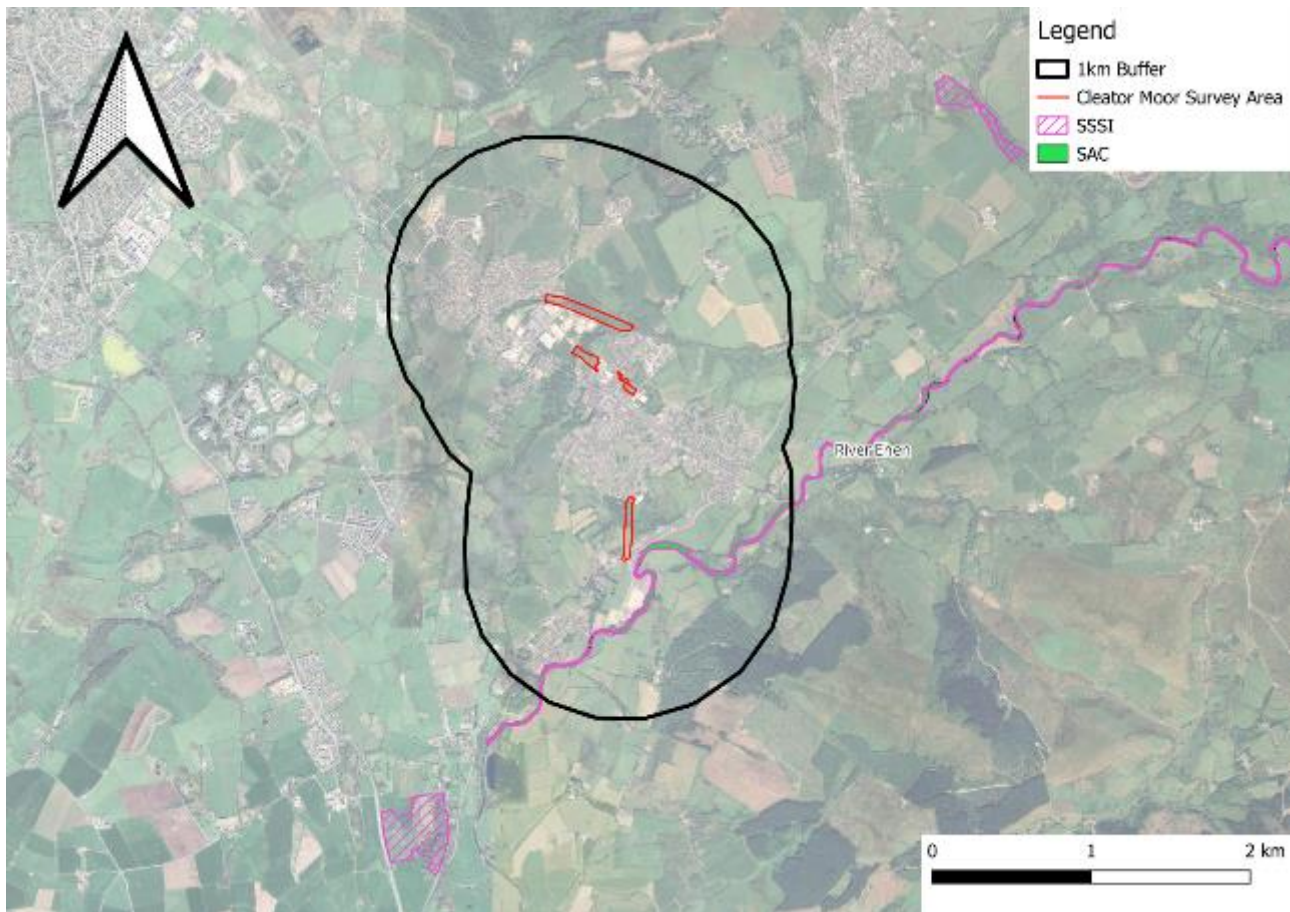


Table 3.1.1 – Statutory Designated sites within 1km of the survey area

Site name	Area (ha)	Relative locations and distances	Reason for designation
Ramsar sites			
N/A	N/A	N/A	N/A
Special Areas of Conservations (SACs)			
River Ehen SAC	23.77	68m east of Area 4	The River Ehen supports the largest freshwater pearl mussel (<i>Margaritifera margaritifera</i>) population in England. Exceptionally high densities (greater than 100

Site name	Area (ha)	Relative locations and distances	Reason for designation
			m ²) are found at some locations, with population estimates for the entire river exceeding 100,000.
Special Protection Areas (SPAs)			
N/A	N/A	N/A	N/A
National Nature Reserves (NNRs)			
N/A	N/A	N/A	N/A
Sites of Special Scientific Interest (SSSIs)			
River Ehen (Ennerdale Water to Keekle Confluence) SSSI	23.77	68m east of Area 4	The River Ehen supports the largest freshwater pearl mussel population in England. Exceptionally high densities (greater than 100 m ²) are found at some locations, with population estimates for the entire river exceeding 100,000.
Local Nature Reserves (LNRs)			
N/A	N/A	N/A	N/A

3.1.2 Non-statutory Designated Sites

A total of three non-statutory designated sites; two county wildlife sites (CWS) and one Site of Invertebrate Significance (SIS), were identified within 1km of the survey area. Table 3.1.2 provides a summary of the non-statutory sites within 1km of the survey area.

Table 3.1.2 – Non-Statutory Designated sites within 1km of the survey area

Site name	Area (ha)	Relative locations and distances	Details
Birkhouse Pond CWS	3.18	550m east of Area 1	Contains a pond and species rich herb fen , marshy grassland, neutral grassland and willow carr habitats.
Rheda South Park CWS	31.04	610m north of Area 1	Red squirrels recorded within semi natural woodland
River Keekle SIS	No citation or details available	890m west of Area 1	No citation or details available

3.1.3 Priority Habitats

Six priority habitats were identified within 1km of the survey area using MAGIC. Table 3.1.3 provides a summary of the priority habitats within 1km of the survey area.

Table 3.1.3 – Priority habitats identified within the 1km study area

Priority habitat	Description/location
Good quality semi-improved grassland (non-priority)	Three parcels of good quality semi-improved grassland are present within 1km of the Project. The closest is approximately adjacent to the northeast boundary of the Area 1.

Priority habitat	Description/location
Purple moor grass and rush pasture	Two parcels of purple moor grass and rush pasture are present within 1km of the Project. The closest is approximately 450m northwest of the Area 1.
Lowland fen	One parcel of lowland fen is present approximately 980m northwest of Area 1.
Ancient woodland (includes ancient semi-natural woodland and ancient replanted woodland)	Two parcels of ancient woodland are present within 1km of the site. The closest is approximately 750m south of Area 4. No ancient trees, notable trees or veteran trees were returned from the ancient tree inventory within 1km of the Project.
Deciduous woodland	Multiple parcels of deciduous woodland are present within 1km of the site. Two of the parcels that contain deciduous woodland are within the RLB of the Project in both the northern area and southern area of the Project within Area 1 and Area 4 at grid references NY01831561 and NY0208142.

3.1.4 Protected or Notable Species

Appendix A, Table A1 includes the full summary of species data, including relevant legislation and/or conservation status of the species listed.

In summary, the species and/or groups recorded within 1km of the Project are as follows:

- Mammals:
 - Otter – Cumbria LBAP
 - Natterer's Bat (*Myotis nattereri*) – Cumbria LBAP
 - Hedgehog (*Erinaceus europaeus*) – Cumbria LBAP – recorded on site
 - Red Squirrel (*Sciurus vulgaris*) – Cumbria LBAP
- Moth species
 - Latticed heath (*Chiasmia clathrate*) – Cumbria LBAP
 - Small phoenix (*Ecliptopera silaceata*) – Cumbria LBAP
 - Dark-barred twin-spot carpet (*Xanthorhoe ferrugata*) – Cumbria LBAP
 - Garden tiger – (*Arctia caja*) – Cumbria LBAP
 - Cinnabar (*Tyria jacobaeae*) – Cumbria LBAP
 - Dot Moth (*Melanchra persicariae*) – Cumbria LBAP
 - Small square-spot (*Diarsia rubi*) – Cumbria LBAP
 - Rosy rustic (*Hydraecia micacea*) – Cumbria LBAP
- Fish species
 - European eel – (*Anguilla anguilla*) – Cumbria LBAP
 - Atlantic salmon – (*Salmo salar*) – Cumbria LBAP
 - Brown trout – (*Salmo trutta*) – Cumbria LBAP

- Bird species (including two amber listed species on the Birds of Conservation Concern 5 (Stanbury et al. 2021))
 - Moorhen (*Gallinula chloropus*) – amber listed
 - Willow warbler (*Phylloscopus trochilus*) – amber listed
 - Tufted duck (*Aythya fuligula*)
 - Mute swan (*Cygnus olor*)
 - Goosander (*Mergus merganser*)
 - Swallow (*Hirundo rustica*)
 - Sand martin (*Riparia riparia*)

European Protected Species Licence(s) (EPSL)

One record of a granted European protected species mitigation licences was returned from the desk study. This licence was for whiskered bat (*Myotis mystacinus*), Brandt's bat (*Myotis brandti*) and Natterer's bat. Details and locations of this licence are shown in table 3.1.5.

Table 3.1.5 – European mitigation licences within 2km of the survey area

Licence start/end date	Licence reference number	Species	National grid reference	Distance and direction from the Site.	Impact of licence
06/08/2013 – 30/09/2014	EPSM2013-6035	Whiskered bat, Brandt's bat, Natterer's bat	NY00791569	Approximately 770m west of northern area of Project.	Destruction of a resting place

Invasive Species

Five records of Japanese knotweed (*Reynoutria japonica*) and a record of Himalayan balsam were returned from the CBDC data search within 1km of the Project. No records were present within the survey area.

3.2 Field Survey

Target Note (TN) positions are shown on Appendix B, Figure 1.1 – 1.3 and TNs are described in Appendix C, Table 1. Other photographs are included in Appendix C, Table 2.

3.2.1 Habitats

The following habitat types listed in Table 3.2.1 were recorded in the survey area. These include HoPI and LBAP habitats.

Table 3.2.1 – Habitat classifications present within survey area

Broad habitat type	UK Habitat classification
Rivers and lakes	Standing open water and canals (UKHab r1)
	Other rivers and streams (UKHab r2b) (LBAP)
Grassland	Modified grassland (UKHab g4)
	Neutral grassland (UKHab g3)
	Other neutral grassland (UKHab g3c)
Woodland and forest	Other broadleaved woodland (UKHab w1g)
	Other Lowland mixed deciduous woodland (w1f7) (HoPI)
	Other coniferous woodland (UKHab w2c)
Heathland and Scrub	Mixed scrub (UKHab h3h)
	Other native hedgerow (UKHab h2a6) (HoPI)
Urban	Developed land; sealed surface (UKHab u1b)
	Artificial unvegetated, unsealed surface (UKHab u1c)
	Other developed land (u1b6)

3.2.2 Habitat Descriptions

a) Rivers and Lakes

Standing open water and canals (UKHab r1) Secondary code - 50 (ditch)

A drainage ditch was present to the north of Area 1, flowing into Nor Beck (see Appendix C, photo 1). The ditch was approximately 0.5 wide. Depth and turbidity were not assessed due to access restrictions. The water flow was slow to still from north to south with evidence of iron oxide presence. The banks were less than 0.5m in height and shallow. Banks were dominated by grasses (*Poaceae* sp.) and rush species (*Juncus* sp.). Aquatic vegetation included frequent marsh marigold (*Caltha palustris*) and pond weed (*Potamogetonaceae* sp.). The ditch appeared to be dry further north.

Other rivers and streams (UKHab r2b)

Nor Beck was a small watercourse recorded to the north of Area 1 (see Appendix C, photo 2). The watercourse was approximately 1.5m wide, less than 15cm deep and had a moderate flow from east to west. The water was clear and not turbid but there was evidence of iron oxide coming from a culvert connected to a ditch to the north. The substrate was silt with occasional rocks and boulders. No submerged vegetation was present within the watercourse. The banks were earth with occasional boulders, varying in gradient along the length of the watercourse surveyed with some gentle slopes and some steep banks with exposed earth. Dense vegetation was present on all banks. Bramble (*Rubus* sp.) dominated the banks with frequent willowherb species (*Epilobium* sp.), occasional semi mature hawthorn trees (*Crataegus monogyna*), and rare Himalayan balsam (*Impatiens glandulifera*).

b) Grassland

Modified grassland (UKHab g4) Secondary codes – 106 (mown)

A field of regularly mown modified grassland associated with a church cemetery was present to the west of the footpath within the southern section of Area 4 (see Appendix C, photo 3). Perennial ryegrass (*Lolium perenne*) was dominant. Access was restricted at the time of survey.

A small sheep grazed paddock of modified grassland was located to the west of the footpath within the southern section of Area 4 (see Appendix C, photo 4). This paddock was regularly managed by livestock. Species comprised dominant perennial rye grass and abundant Yorkshire fog (*Holcus lanatus*) with frequent creeping buttercup (*Ranunculus repens*) and white clover (*Trifolium repens*).

A small section of modified grassland was present to the east of the footpath within Area 4, adjacent to the southern survey boundary (see Appendix C, photo 5). The grass was cut short and had evidence of being regularly managed by mowing. Species included Dominant perennial ryegrass, Yorkshire fog and annual meadow grass (*Poa annua*), with occasional daisy (*Bellis perennis*), creeping buttercup and white clover.

Neutral grassland (UKHab g3) Secondary codes – 10 (scattered scrub)

A large field of neutral grassland was present to the north of Area 1 (see Appendix C, photo 6). The field was surveyed from a distance due to access restrictions from the watercourse acting as a barrier, and as such could not be categorised further. The field was dominated by rush species, with occasional cuckoo flower (*Cardamine pratensis*) and marsh marigold (*Caltha palustris*). Scattered scrub along the southern field boundary included dominant bramble, frequent bracken (*Pteridium aquilinum*) and occasional hawthorn.

Other neutral grassland (UKHab g3c) Secondary codes – 10 (scattered scrub), 16 (tall forbs), 32 (scattered trees)

Two fields of other neutral grassland were present within Area 2. The west field was adjacent to a parcel of woodland (see Appendix C, photo 7). The field contained scattered hawthorn trees as well as scattered bramble scrub. Grass species consisted of abundant Yorkshire fog and smooth meadow grass (*Poa pratensis*). Other species included abundant colt's foot (*Tussilago farfara*), yarrow (*Achillea millefolium*), common knapweed (*Centaurea nigra*) and common hogweed (*Heracleum sphondylium*), frequent ribwort plantain (*Plantago lanceolata*) and creeping buttercup, and occasional dandelion (*Taraxacum officinale*).

The east field of other neutral grassland within Area 2 contained tall forbs and scattered willow scrub (*Salix* sp.) (see Appendix C, photo 8). The field was dominated by Yorkshire fog, with abundant broadleaved dock (*Rumex obtusifolius*), common hogweed, mare's tail (*Equisetum arvense*), creeping thistle (*Cirsium arvense*) and colt's foot, frequent ribwort plantain and creeping buttercup, and rare Spanish bluebell (*Hyacinthoides hispanica*) and cinquefoil (*Potentilla reptans*).

A parcel of other neutral grassland was recorded within Area 3 to the rear of a residential area north of Wyndham Street (see Appendix C, photo 9). The grassland looked to be unmanaged with a varied sward length up to 30cm. Grass species consisted of dominant smooth meadow grass with abundant Yorkshire fog. Other species included frequent hard rush (*Juncus inflexus*), willowherb species, ribwort plantain, broadleaved dock and dandelion, and occasional common knapweed, white clover, creeping buttercup and common vetch (*Vicia sativa*).

Another field of other neutral grassland was recorded in Area 4, adjacent to the northeast survey boundary (see Appendix C, photo 10). The field was unmanaged with a varied sward length less than 20cm and scattered bramble scrub was present around the edges of the field. The dominant species was Yorkshire fog, with abundant willowherb species and cuckoo flower.

c) Woodland and forest

Other broadleaved woodland (UKHab w1g)

A parcel of other broadleaved woodland was present along on both sides of the public right of way (a disused railway line) adjacent to Nor Beck within Area 1 (see Appendix C, photos 11, 12 and 13). The woodland was unmanaged and featured dense bramble scrub to the east extent. A great deal of litter was present within the woodland (see Appendix C, photo 14). The dominant canopy species along the path was mature hawthorn, with frequent silver birch (*Betula pendula*) and willow species, and occasional elder (*Sambucus nigra*). Understorey species included occasional ash saplings (*Fraxinus excelsior*) and bramble, and rare rowan saplings (*Sorbus aucuparia*), wild cherry (*Prunus avium*) and cherry laurel (*Prunus laurocerasus*). The understorey featured frequent grass species canary reed grass (*Phalaris arundinacea*) and Yorkshire fog along the woodland edges, as well as frequent cleavers (*Galium aparine*), ivy (*Hedera sp.*) and cow parsley (*Anthriscus sylvestris*), occasional opposite-leaved golden saxifrage (*Chrysosplenium oppositifolium*), common hogweed, creeping buttercup, dandelion, bush vetch (*Vicia sepium*) and dog violet (*Viola riviniana*), and rare hart's tongue fern (*Asplenium scolopendrium*), meadowsweet (*Filipendula ulmaria*), germander speedwell (*Veronica chamaedrys*), wild Angelica (*Angelica sylvestris*) and Himalayan balsam. The condition of this woodland parcel was assessed as "moderate" as there was high levels of continuous cover of native trees with a range of age classes present, though there was presence of Himalayan balsam and damaged ground/litter within the area.

A parcel of semi mature plantation woodland was present along the west boundary of Area 2 (see Appendix C, photos 15 & 16). Tree ages ranged from young to semi mature, and canopy species included abundant ash and willow species, with occasional rowan and rare oak (*Quercus robur*) and Scots pine (*Pinus sylvestris*). The understorey was dominated by young hawthorn with occasional young wild cherry. Ground flora was dominated by bramble, with frequent ivy, cow parsley, ground ivy (*Glechoma hederacea*), creeping buttercup, occasional broadleaf plantain (*Plantago major*), common hogweed, dandelion, broadleaved dock, herb Robert (*Geranium robertianum*), bracken, and rare strawberry (*Fragaria vesca*), bush vetch, meadowsweet, harts tongue fern, Angelica and pendulous sedge (*Carex pendula*). A stand of Japanese knotweed was also present to the west (TN4). The condition of this woodland habitat was assessed as "poor" due to the presence of Japanese knotweed, the low range of age classes and the lack of veteran trees present.

Other Lowland mixed deciduous woodland (w1f7)

A parcel of other lowland mixed deciduous semi natural woodland was present along both the east and west sides of a public footpath in Area 4, adjacent to the northern boundary (see Appendix C, photos 17 & 18). Historically this woodland started as a vegetated mound of spoil from a local iron ore mine. The woodland featured a lot of dead wood and two tree age classes. Very mature hazel (*Corylus avellana*) was the locally dominant canopy species to the north, with frequent ash and sycamore (*Acer pseudoplatanus*), occasional beech (*Fagus sylvatica*), and rare Norway spruce (*Picea abies*) making up the remaining canopy throughout the woodland parcel. Understorey consisted of occasional holly (*Ilex aquifolium*) and rowan, and rare dog wood (*Cornus sanguinea*). Ground flora species included locally abundant dog's mercury (*Mercurialis perennis*) in the north area of the woodland, abundant celandine (*Ficaria verna*), and ground elder (*Aegopodium podagraria*), frequent cow parsley and fern species (*Dryopteridaceae sp.*), occasional common hogweed, dandelion and hybrid bluebell, and rare wild Angelica, meadowsweet, hart's tongue fern, variegated yellow archangel (*Lamiastrum galeobdolon argentatum*), brome species (*Bromus sp.*) and wood sedge (*Carex sylvatica*). The woodland was assessed as moderate condition due to the large amount of dead wood, two age classes present, and the presence of the invasive species variegated yellow archangel.

Other coniferous woodland (UKHab w2c)

A parcel of other coniferous woodland was present to the west of the footpath in Area 4, adjacent to the church cemetery (see Appendix C, Photo 19). The canopy was dominated by Norway spruce, with ground flora consisting of abundant ivy, ground elder and cleavers, frequent common hogweed, occasional dandelion, and rare hybrid bluebell, lords and ladies (*Arum maculatum*) and celandine.

d) Heathland and scrub

Mixed scrub (UKHab h3h)

Mixed Scrub was present within Area 3, to the rear of residential buildings on Aldby St. and Wyndham St. (see Appendix C, Photos 20-22). All trees within the scrub were early mature to semi-mature with residential housing and amenity land surrounding the habitat. Woody species included frequent hawthorn and willow species, occasional silver birch, and rare elder and rowan. The ground flora consisted of abundant nettle (*Urtica dioica*) and willowherb species, occasional forget me not (*Myosotis sylvatica*) and hybrid bluebell, and rare cuckoo flower, red campion (*Silene dioica*), teasel (*Dipsacus fullonum*) and montbretia (*Crocsmia × crocosmiflora*). The habitat was assessed as poor due to the habitat edge being poorly developed with urban land in the immediate vicinity, the presence of invasive non-native species montbretia and a lack of clearings within the habitat.

Other native hedgerows (UKHab h2a6)

A mature hawthorn hedgerow was present within Area 4, running from the edge of the coniferous woodland parcel to Trumpet Terrace, following a public footpath adjacent to the church cemetery (NY02061421) (see Appendix C, photo 23). The hedgerow was 2m high and 1m wide with no gaps along its length. The hedgerow was not dense to ground level and showed evidence of regular management from cutting. Ground flora was dominated by cleavers and ground elder, with frequent nettle and broadleaved dock. The hedgerow condition was assessed as “moderate” due to the presence of species indicative of nutrient enriched soils, and the lack of undisturbed ground on either side of the hedgerow.

e) Urban

Developed land; sealed surface (UKHab u1b)

Examples of developed land; sealed surface were recorded throughout Area 1, Area 3 and Area 4 in the form of tarmac public footpaths and a car park.

Artificial unvegetated, unsealed surface (u1c)

Artificial unvegetated, unsealed surface was present in the form of dirt public bridleways throughout the length of Area 1, and to the eastern extent of Area 2.

Other developed land (u1b6)

Other developed land was present within Area 3, associated with the residential area of Aldby St.

3.2.3 Protected and Notable Species

Evidence or potential for the following species or groups (listed below in alphabetical order) was identified within the survey area:

Badger

No records of badger were returned from the desk study within 1km of the Project. Suitable badger habitat was observed within the woodland, grassland, and scrub within the survey area and a mammal path was recorded within Area 1 from the woodland edge to the bank of a watercourse (TN2). However, no setts or other field sign such as latrines, or prints were discovered during the survey.

Bats

The survey area was comprised predominantly of natural woodland, scrub, and grassland, as well as a river to the north, which all provided suitable foraging and commuting habitat for bats. No trees or buildings within the survey area were noted as having any PRFs due to lack of features observed, and the immature – semi mature age range of the trees present in the survey area.

Breeding Birds

Suitable nesting and foraging habitats for common breeding birds were noted throughout the survey area within woodland, tall ruderal vegetation, hedgerows and scrub. A curlew (*Numenius arquata*) was heard within the neutral grassland north of Area 1, and a buzzard (*Buteo buteo*) was spotted flying and perching on a fence on the northern boundary of the same field (TN1). The neutral grassland habitat within Area 1 contained suitable habitat for breeding birds such as curlew, grasshopper warbler (*Locustella naevia*) and snipe (*Gallinago gallinago*).

Sections of the banks of Nor Beck within Area 1 were steep with exposed banks, providing suitable nesting habitat for breeding Kingfisher (*Alcedo Atthis*). However the desk study returned no records of kingfisher within the survey area or within 1km of the Project.

Great Crested Newt (GCN)

There were no records of GCN or EPS licences issued within 1km of the Project. No ponds were recorded within the survey area. There were two ponds within 250m of the Project not separated by major barriers. The closest of these ponds was 96m east of the Project within Area 4.

Terrestrial habitat in the form of scrub, woodland edges and unmanaged neutral grassland had the potential to provide refugia and foraging opportunities to GCN. The remainder of the habitat within the survey area including the managed modified grassland and urban sealed surfaces were sub-optimal.

Otter

The watercourse Nor Beck, which flowed from east to west in Area 1 provided suitable habitat for commuting and foraging otter. However, no signs of presence (i.e., holts, spraints, footprints) were recorded at the time of survey, and the river was adjacent to a PRoW, where disturbance from walkers and dogs is prevalent.

Red Squirrel

Suitable habitat for foraging and breeding red squirrel was observed within the broadleaved and coniferous woodland habitats within Area 1, Area 2, and Area 4, however no dreys or other field observations were recorded.

Other mammals

Suitable habitat for hedgehog breeding and foraging was observed throughout the survey area in scrub and woodland.

Reptiles

There were no desk study results of reptile species within the survey area or within 1km. Suitable habitat for common reptiles was noted within mixed scrub habitat and woodland edges recorded within the survey area as well as the neutral grassland habitats. A large man-made brash pile was also recorded from scrub trimmings (TN6) (NY0206915117). These habitats provided a range of vegetation structure, potential hibernacula, foraging and basking opportunities.

Water Vole

There were no desk study results of water vole within the survey area or within 1km. No signs of water vole were evident from the PEA survey i.e., latrines, burrows or feeding signs. The ditch within the neutral grassland of Area 1 provided suitable habitat for water vole foraging and commuting due to the very slow water flow and dense vegetation cover of its banks. The steep earth banks and vegetation cover present on Nor Beck in Area 1, along with the moderate water flow meant that the habitat could provide opportunities for foraging, commuting and burrowing. The watercourse was adjacent to a PRoW with disturbance from the public and dogs.

White-clawed Crayfish

The watercourse Nor Beck was suitable for white-clawed crayfish (*Austropotamobius pallipes*); however, no records were returned from the CBDC data search within the survey area or within 1km of the Project, and a search of DEFRA's fisheries data returned no records within Nor Beck or the wider catchment.

Terrestrial invertebrates

The water course habitats provide suitable habitat for aquatic invertebrates. Other habitats identified within the survey area that are conducive to the presence of notable invertebrate assemblages/populations include the marginal vegetation around the water courses, areas of woodland and the fields of neutral grassland.

3.2.4 Invasive non-native plant species

During the survey visit stands of montbretia were recorded within the woodland habitat of Area 1 at approximate grid reference NY02031553 (TN3), and within the eastern other neutral grassland habitat within Area 2 at approximate grid reference NY01851528 (TN5).

Small stands of Himalayan balsam were present on both banks along the length of the Nor Beck. A stand of Japanese knotweed was recorded within the woodland habitat of Area 2 at approximate grid reference NY01751539 (TN4).

A small stand of variegated yellow archangel was recorded within the other Lowland mixed deciduous woodland within Area 4, at approximate grid reference NY02071426 (TN7).

4. Other Discussion and Recommendations

4.1 Designated Sites

There were two designated sites recorded within 1km of the Project. Both of these sites, River Ehen SAC and River Ehen (Ennerdale Water to Keekle Confluence) SSSI were recorded 68m east of the southern area of the Project.

There are no hydrological links between The Project and the River Ehen and the design of The Project will not alter drainage into any hydrologically linked culverts or watercourses.

Pollution control measures will be implemented into the contractor's Construction Environmental Management Plan (CEMP) or Precautionary Working Method Statement (PWMS), which will be developed in accordance with the following guidance and legislation:

- CIRIA C532: Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (Masters-Williams et al., 2001);
- CIRIA C648 Control of Water Pollution from Linear Construction Projects: Technical Guide (Murnane et al., 2006a);
- CIRIA C649 Control of Water Pollution from Linear Construction Projects: Site Guide (Murnane et al., 2006b);
- CIRIA C692: Environmental Good Practice on Site (Audus et al., 2010); and
- S.I. No. 40/2020 - European Union (Good Agricultural Practice for Protection of Waters) (Amendment) Regulations 2020.

Due to the localised nature of the Project and temporary construction works, it is unlikely that any direct or indirect negative impacts will be made on these designated sites.

4.2 Habitats of Principal Importance and LBAP habitat

During the desk study two blocks of ancient woodland within 1km of the Project were acknowledged. Of these, the closest was approximately 750m south of the southern area of Project. There were three further priority habitats within 1km acknowledged during the desk study, including purple moor grass and rush pasture, lowland fen and deciduous woodland. Two parcels of deciduous woodland were recorded as intersecting with the footprint of the Project at grid references NY01831561 and NY0208142. Measures to avoid impacts to ancient woodland and priority habitats should be considered at the earliest stage and it is likely that standard, good practice mitigation can be implemented to avoid adverse ecological impacts.

The "Other native hedgerow" (h2a6) and the "other lowland mixed deciduous woodland" (w1f7) present within the survey area were the only HoPI habitats recorded. Vegetation clearance is expected to be undertaken in areas that the route is where it encroaches upon existing habitat. The priority hedgerow and priority woodland trees will likely only require pruning to make space for the route widening works. However, at this stage the extent of vegetation clearance from the Project is not fully planned. It is currently proposed that a consistent width of 3m is utilised for the length of all off road routes. If removal of trees is required then further details should be provided to a qualified ecologist for advice before works are undertaken, in order to avoid significant impacts to these habitats. Good practice mitigation will be implemented. Further survey requirements will be determined by the final design and construction methods proposed.

It is recommended that a CEMP and/or PWMS is produced which prescribes measures that will be undertaken to prevent harm to habitats of ecological value by the works and the method of site access. This should include methods to prevent pollution incidents for both aquatic and terrestrial areas and disturbance (including trampling).

4.3 Protected and Notable Species

Badger

Some habitats within the survey area are suitable for use by badger for sett building and foraging. No evidence of badgers were recorded during the April walkover, but badgers are a highly mobile and transient species and can create setts in new areas overnight.

It is therefore recommended that a pre-works search for badger setts within 30m of all working areas be undertaken prior to works to reassess potential impacts to badgers and to inform mitigation and/or licensing requirements.

In addition, due to the inquisitive nature of badger and the potential for badgers to cross and explore the working area during construction, the following generic advice in relation to badgers and storage of equipment/chemicals should be adhered to and should be included within a CEMP and/or PWMS:

- all excavations (over 0.5m deep) should be covered before the end of each day's work. If they cannot be covered, a potential escape route should be provided from the excavations in the form of graded trench ends, or boards positioned in the trench to provide a means of escape;
- machinery, equipment and chemicals should be securely stored at the end of each day; and
- avoid night-time works and artificial lighting where possible.

Bats

One EPSL licence was granted for whiskered bat, Natterer's bat and Brandt's bat within 1km of the Project. None of the buildings in the vicinity of the Project were deemed as having bat roost potential. Tree removal may be required in the woodland parcel of Area 2, although this habitat was not observed to have any potential roosting features.

No additional surveys are proposed, disturbance impacts arising from the works are not expected due to the lack of roosts recorded on site.

A precautionary approach shall therefore be adopted. Staff on site will be briefed through a CEMP or toolbox talk on what to do in the unlikely event a bat is discovered during the works, and that all works on site should cease and a suitably qualified ecologist contacted.

Fragmentation of commuting routes and loss of foraging habitat is likely to occur if the planned cycleways are lit inappropriately. To avoid impacting foraging and commuting bats night working will be avoided, and it will be ensured that any lighting design of the Project is done in consideration of bat use (implementing minimal lighting sources with low light levels and avoiding unnecessary light spill, or implementing subtle waymarking lighting) (Collins, 2023).

Measures such as no night working and no increases in artificial light are recommended to limit any impacts on bats using the area to forage at night which will prevent indirect impacts to the local bat population (Collins, 2023).

Breeding Birds

The woodland, hedgerows, grassland and scrub habitats provide suitable habitat for nesting birds. Vegetation clearance in the form of pruning is understood to be planned as part of the Project. In some cases, tree removal may also be necessary. This is most relevant to Area 2 and Area 3 where a new offroad route is planned to be implemented in areas of existing woodland and mixed scrub.

Vegetation clearance should be undertaken outside of the main bird breeding season (considered to be March to August inclusive). If vegetation clearance must take place within the breeding bird season, the vegetation should be checked within 24 hours of removal by a suitably qualified ecologist. If evidence of

nesting is found, an appropriate buffer zone would need to be established by the ecologist, appropriate for the species, and all works within this area postponed until the young have fledged.

Great Crested Newt (GCN)

No ponds were recorded during the site walkover. Terrestrial habitat in the form of scrub, woodland edges and unmanaged neutral grassland have the potential to provide refugia and foraging opportunities to GCN. No records were returned from the desk study of either field records or EPSL applications within 1km of the Project.

Great crested newts are an EPS, which makes it an offence to kill, disturb, or damage/destroy a breeding or resting site. Great crested newts are also listed on Section 41 of the NERC Act 2006 and included in the Cumbria LBAP. No further consideration is required due to the lack of ponds recorded during the survey and no recent desk study records returned.

Otter and Water Vole

It was not possible to rule out breeding habitat for otter or water vole on the entire length of the Nor Beck, due to access restrictions and dense vegetation. Works are not currently anticipated to impact upon this watercourse. However, if the scope of the Project is changed to include the water course, then further surveys may be required to dismiss the possibility of breeding potential and inform any mitigation and/or licensing requirements. This constraint should be assessed by an ecologist when the final design for the Project is made available.

During construction it is recommended that any holes and pits are covered or have mammal ramps positioned to allow any trapped mammals to escape as per the working methods described for Badgers, and the working area should be fenced off to protect and prevent damage to nearby suitable habitat. It is also recommended that no night working shall be undertaken.

Red squirrel

Eight records of red squirrel within 1km of the Project were also returned from the NBDC data search, and suitable habitat for red squirrels was identified in the woodland habitats surveyed within Area 1, Area 2 and Area 4. Red squirrel are listed within Schedule 5 of the Wildlife and Countryside Act and are also Cumbria LBAP species and included within the NERC Act, 2006. Vegetation clearance is planned to allow for the widening of the offroad paths, and this may involve tree removal, especially in Area 2, which will have a new path constructed within the woodland parcel.

A finalised design of the Project, including the extent of tree removal has not yet been provided. Dependent on the scale and nature of works of the final design then a pre-works checks of any wooded area that will be impacted by works and have been identified as having potential for red squirrel presence might be suffice. However, if large volumes of tree loss are anticipated, then the design should be assessed by an ecologist and further surveys may be needed to determine potential licence or mitigation requirements.

Other mammals

Suitable habitat for hedgehog was recorded within the survey area. Hedgehog are a Species of Principal Importance (NERC Act, 2006) and Cumbria LBAP species, which places a duty of responsibility on the planning authority to take these species into account when deciding planning applications. Vegetation clearance is required as part of Project, and it is recommended that staged vegetation clearance is conducted, under ecological supervision and a PWMS, outside of the hedgehog hibernation period of October to April (weather dependant). During construction it is recommended that any holes and pits are covered or have mammal ramps positioned to allow any trapped mammals to escape as per the working methods described for Badgers, and the working area should be fenced off to protect and prevent damage to nearby suitable habitat.

Reptiles

There was limited suitable habitat identified for reptiles during the survey and as such they are considered low risk overall, where works are undertaken during the active season (March-October) it is considered that precautionary working methods should be outlined in a CEMP and/or PWMS.

Should any vegetation clearance of suitable habitat be required in hibernation season then a pre-works check may be required adequately assess the potential for hibernating protected species. If any potential hibernacula are present, then it should be left in situ until the active season commences.

White clawed crayfish

No further surveys are recommended. Nor Beck is suitable to support white-clawed crayfish, however it is understood that the Project will not impact upon the banks of the water course, and no in-channel working is planned.

Terrestrial invertebrates

The woodland edges and neutral grassland habitats were suitable to support assemblages and populations of notable terrestrial invertebrates such as latticed heath moth and cinnabar moth. Records of eight Cumbria LBAP moth species were returned from the NBDC data search within 1km of the Project. It is recommended that all plans for vegetation removal in the habitats within Area 2 and Area 3 are reviewed by an ecologist to determine the potential impacts to invertebrates.

4.4 Non-native Invasive Plant Species

Observations of Himalayan balsam, Montbretia, Japanese Knotweed and variegated yellow archangel were recorded throughout the survey areas. It is recommended that a preconstruction invasive species walkover survey is undertaken between April and September prior to any of the Project.

An invasive species management plan should be created prior to commencement of the works, this may include the removal of invasive species off-site under a waste removal licence or management during the construction period. Where removal is not possible, invasive plant species should be marked off with an exclusion zone. Contractors to be made aware of the location of invasive plant species and how to identify the plants through a toolbox talk, as required.

Biosecurity measures to be implemented whilst on site to prevent cross contamination. This may involve the cleaning of footwear and machinery, prior to, and on completion of each working window to ensure that invasive species are not taken off site.

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Appendix A. Further information

Desk Study Species Records

Table A1 Protected or Notable Species Records within 2km

Species	Number of records	Nearest record	Date of most recent record	Relevant protection/policy
Mammals				
Otter	2	245m southeast of Area 4	2020	UKBAP, LBAP, WCA Sch 5, NERC S41, Habitat Directive A2, EPSL
Natterer's bat	2	940m southwest of Area 4	2017	LBAP, Habitat Directive A4, WCA Sch 5, EPSL
Hedgehog	23	0km (within Area 4)	2022	UKBAP, LBAP, NERC S41, Habitat Directive A2
Red squirrel	8	330m southwest of Area 2	2015	UKBAP, LBAP, WCA Sch 5, NERC S41
Invertebrates				
Latticed heath	1	690m north of Area 1	2018	UKBAP, LBAP, NERC S41
Small phoenix	2	690m north of Area 1	2018	UKBAP, LBAP, NERC S41
Dark-barred twin-spot carpet	5	690m north of Area 1	2018	UKBAP, LBAP, NERC S41
Garden Tiger	1	690m north of Area 1	2018	UKBAP, LBAP, NERC S41
Cinnabar	2	580m southeast of Area 4	2017	UKBAP, LBAP, NERC S41
Dot moth	4	690m north of Area 1	2018	UKBAP, LBAP, NERC S41, Habitat Directive A2
Small square-spot	5	690m north of Area 1	2018	UKBAP, LBAP, NERC S41
Rosy rustic	3	690m north of Area 1	2018	UKBAP, LBAP, NERC S41

Species	Number of records	Nearest record	Date of most recent record	Relevant protection/ policy
Birds				
Tufted duck	1 record of 10 individuals	Record within 2km ² grid	2013	Birds Directive A2.1
Mute swan	1 record of 2 individuals	Record within 2km ² grid	2013	Birds Directive A2.2
Goosander	1 record of 16 individuals	Record within 2km ² grid	2013	Birds Directive A2.2
Moorhen	1 record of 3 individuals	Record within 2km ² grid	2013	Birds Directive A2.2, Amber listed BoCC
Swallow	1 record of 120 individuals	Record within 2km ² grid	2013	Bern convention A2
Sand Martin	1 record of 8 individuals	Record within 2km ² grid	2013	Bern convention A2
Willow warbler	1 record of 16 individuals	Record within 2km ² grid	2013	Amber listed BoCC
Fish				
European Eel	5	990m southwest of Area 4	2018	UKBAP, LBAP, Nerc S41,
Atlantic salmon	3	990m southwest of Area 4	2018	UKBAP, LBAP, Nerc S41, HabReg Sch 4, Habitat Directive A2, A5
Brown trout	3	990m southwest of Area 4	2018	UKBAP, LBAP, Nerc S41
Invasive non-native plant species				
Japanese knotweed	5	500m south of Area 4.	2015	WCA Sch9
Himalayan balsam	1	480m south of Area 4.	2014	Invasive Alien Species (Enforcement and Permitting) Order 2019

Legislation and Policies

Badger

Badgers are protected under the Protection of Badgers Act 1992 (as amended) which makes it an offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so;
- intentionally or recklessly damage, destroy or obstruct access to a badger sett; and,
- disturb a badger when it is occupying a sett.

These provisions have implications for construction or preparation works undertaken in the vicinity of an active sett and may be confounded by distance from the sett entrance. Any works resulting in ground penetration, vibration or noise near an identified badger sett entrance/s have the potential to disturb badgers and advice should be sought from a suitably experienced ecologist under such circumstances. If disturbance to an active sett is probable then a licence may need to be obtained from Natural England before any works commence.

Bats

All bat species and their roosts and resting places are protected under Schedules 5 and 6 of the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CROW) Act 2000, and the Conservation of Habitats and Species Regulations 2017. The Conservation of Habitats and Species Regulations 2017 implements the European Union's 'Habitats Directive' (Council Directive 92/43/EEC (a) on the Conservation of Natural Habitats and of Wild Fauna and Flora). The relevant sections of this legislation make it an offence to:

- intentionally kill, injure or capture or take a bat;
- possess or control (live or dead animal, part or derivative);
- deliberately (intentionally) or recklessly damage, destroy or obstruct access to a breeding site or any structure or place used for shelter or protection by a bat;
- deliberately (intentionally) or recklessly disturb a bat whilst it is occupying such a structure or place; and,
- sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

A number of bat species are of conservation concern listed on Section 41 of the NERC Act 2006.

Breeding Birds

All birds, their nests and eggs are protected by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) provides further protection for a number of species of conservation concern during the breeding season. In summary, under this legislation it is an offence, with certain exceptions, to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- intentionally take or destroy the egg of any wild bird; and,
- intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building or is in, on or near a nest with eggs or young; or disturb the dependent young of such a bird.

In addition to the above legislation, the 'Birds Directive' 2009/147/EC (as amended) requires the designation of Special Protection Areas (SPAs) for rare or vulnerable species, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance. Annex I of the Birds Directive lists bird species to be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution.

Many of the UK's bird species are of conservation concern. Designations which may apply to birds in the UK include the IUCN Red List, the UK red and amber lists and Section 41 of the NERC Act 2006.

Great Crested Newt

Great crested newt (*Triturus cristatus*) (GCN) is afforded strict protection under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. The Conservation of Habitats and Species Regulations 2017 implements the European Union's 'Habitats Directive' (Council Directive 92/43/EEC (a) on the Conservation of Natural Habitats and of Wild Fauna and Flora) in England and Wales. The relevant sections of this legislation make it an offence to:

- intentionally kill, injure or capture or take a GCN;
- possess or control (live or dead animal, part or derivative);
- deliberately (intentionally) or recklessly damage, destroy or obstruct access to a breeding site or any structure or place used for shelter or protection by a GCN;
- deliberately (intentionally) or recklessly disturb a GCN whilst it is occupying such a structure or place, and,
- sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

The above legislation applies to all life stages of a GCN, including eggs, juveniles and adults. Impacts upon each individual GCN as the result of an illegal act constitute a separate offence under the above legislation.

Great crested newts are also of Species of Principal Importance, listed on Section 41 of the NERC Act 2006 and included in the Cumbria LBAP.

Other amphibians

Under the Wildlife and Countryside Act 1981 (as amended) the five widespread amphibian species: smooth newt (*Lissotriton vulgaris*), palmate newt (*Lissotriton helveticus*), common toad (*Bufo bufo*), and common frog (*Rana temporaria*) and also the less widespread pool frog (*Pelophylax lessonae*), receive limited protection under section 9(5) only, which makes selling, offering for sale, possessing or transporting for the purpose of sale (live or dead animal, part or derivative) an offence.

Common toad and pool frog are a Species of Principal Importance, listed on Section 41 of the NERC Act 2006.

Otter

Otters are afforded strict protection under Schedule 5 (sections 9(5)(a) (b) and 9 (4)(b)(c)) of the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. The Conservation of Habitats and Species Regulations 2017 implements the European Union's 'Habitats Directive' (Council Directive 92/43/EEC (a) on the Conservation of Natural Habitats and of Wild Fauna and Flora) in Great Britain and in summary makes it illegal to:

- intentionally kill, injure or capture or take an otter;
- intentionally or recklessly disturb an otter whilst it is occupying a holt;
- deliberately disturb an otter in such a way as to be likely to significantly affect the local distribution or abundance of otters or the ability of any significant group of otters to survive, breed, rear or nurture their young;
- possess or control (live or dead animal, part or derivative);
- deliberately (intentionally) or recklessly damage, destroy or obstruct access to a holt;

- deliberately (intentionally) or recklessly disturb an otter whilst it is occupying such a structure or place; and,
- sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

Otter is a Species of Principal Importance listed on Section 41 of the NERC Act 2006.

Red Squirrel

The red squirrel is fully protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended) through its inclusion in Schedule 5. The legal protection makes it an offence to:

- intentionally kill, injure or capture or take a red squirrel;
- possess or control (live or dead animal, part or derivative);
- deliberately (intentionally) or recklessly damage, destroy or obstruct access to a breeding site or any structure or place used for shelter or protection by a red squirrel;
- deliberately (intentionally) or recklessly disturb a red squirrel whilst occupying such as structure or place; and,
- sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

Red squirrel is a Species of Principal Importance listed on Section 41 of the NERC Act 2006 and is included in the Cumbria LBAP. The Cumbria LBAP includes plans to maintain and enhance the current Cumbria red squirrel population.

Common Reptiles

All native reptile species have some degree of protection in the UK, through section 9(1) and (5) (specified in Schedule 5) of the Wildlife and Countryside Act 1981 (as amended).

Protection against killing, injuring and trade

This level of protection under section 9 (parts 1 and 5) of the Wildlife and Countryside Act 1981 (as amended) applies to the four widespread species of reptile, namely the common lizard (*Zootoca vivipara*), slow-worm, grass snake and adder. Only part of sub-section 9(1) applies, which make it an offence to:

- intentionally kill or injure; and,
- sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

Grass snake, slow-worm and adder are all Species of Principal Importance listed on Section 41 of the NERC Act 2006.

Water Vole

The water vole is fully protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended) through its inclusion in Schedule 5. The legal protection makes it an offence to:

- intentionally kill, injure or capture or take a water vole;
- possess or control (live or dead animal, part or derivative);
- deliberately (intentionally) or recklessly damage, destroy or obstruct access to a breeding site or any structure or place used for shelter or protection by a water vole;
- deliberately (intentionally) or recklessly disturb a water vole whilst occupying such as structure or place; and,
- sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

Water vole is a Species of Principal Importance listed on Section 41 of the NERC Act 2006 and is included in the Cumbria LBAP. The Cumbria LBAP includes plans to maintain and enhance the current Cumbria water vole population.

Non-native Invasive Plant Species

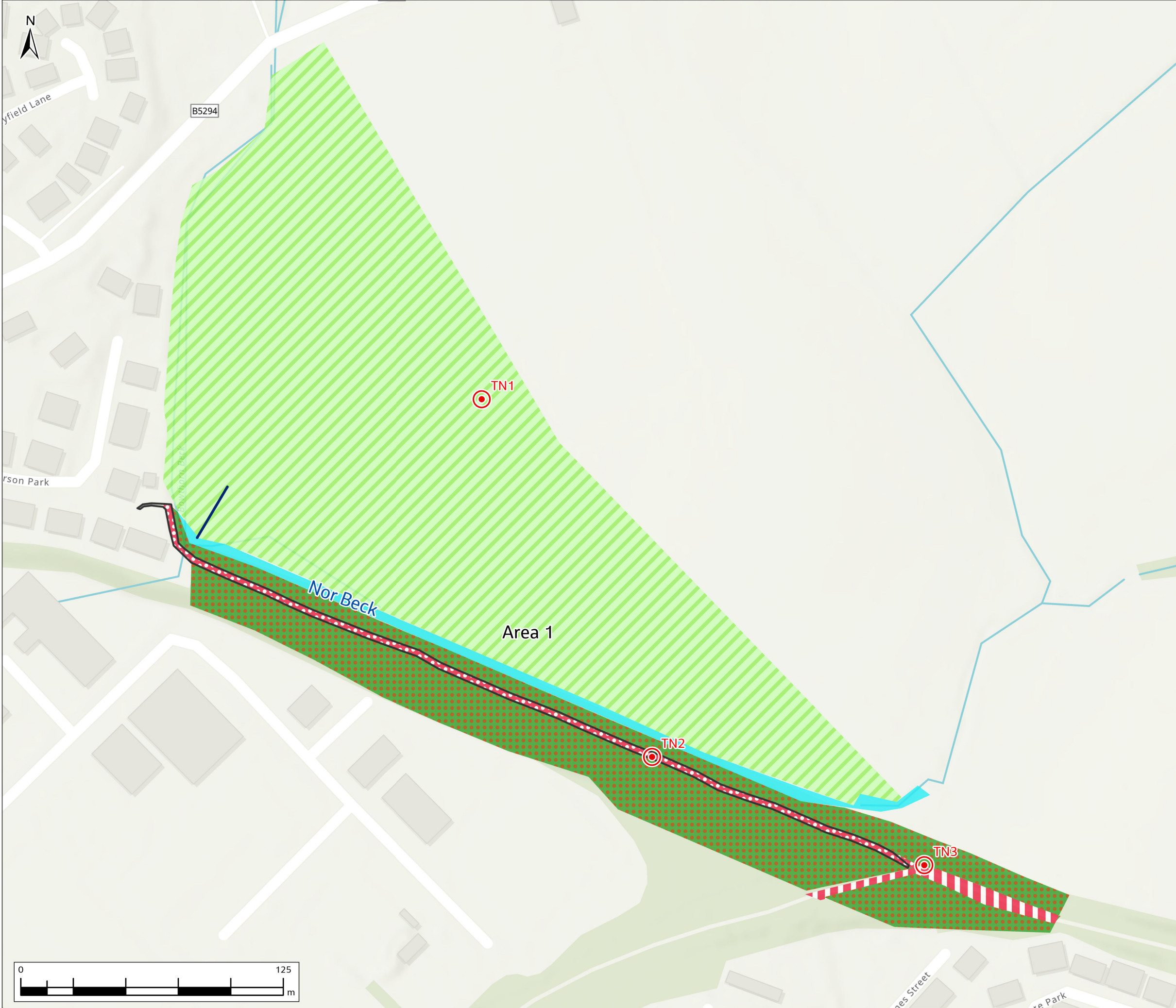
A number of non-native invasive plant species are listed under Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended), which makes it an offence to '...plant or otherwise cause the species to grow in the wild'. This includes spreading or transferring contaminated soil from one area to another.

In addition to this legislation, subsection 14ZA (1) of the NERC Act 2006 makes it an offence to sell, offer or expose for sale, or to have in one's possession or transport for the purpose of sale, any Schedule 9 animal or plant or anything from which such an animal or plant can be propagated. Under subsection 14ZA (2) of the NERC Act 2006 it is also an offence to publish or cause to be published any advertisement for the purchase or sale of these animals and plants.

Himalayan balsam is now included within the Invasive Alien Species (Enforcement and Permitting) Order 2019. This Order introduces permitting and licensing provisions needed to comply with the requirements of EU Regulation No 1143/2014 on the prevention and management of the introduction and spread of invasive alien species. Article 3 contains offences around the importing, keeping, breeding, purchasing, and releasing or allowing to escape into the wild of species of special concern. The Order amends Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) to omit those species from Schedule 9 which are also species of special concern, preventing duplication.

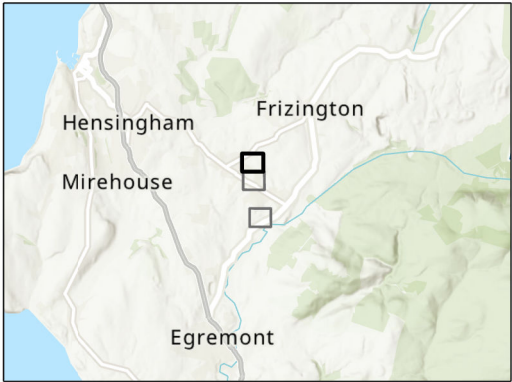
A number of strict controls apply to the handling and treatment of non-native invasive plant species covered by this legislation: these are a key consideration during the construction phase of development projects.

Appendix B. Figures



Legend

- Project Boundary
- Habitat type (UK Habitat)
 - Target Notes
 - r1 - Standing open water and canals
 - g3 - Neutral grassland
 - r - Rivers and lakes
 - u1b - Developed land; sealed surface
 - u1c - Artificial unvegetated, unsealed surface
 - w1g - Other broadleaved woodland



Source:
Esri, Intermap, NASA, NGA, USGS, Esri Community Maps Contributors, Esri UK, TomTom, Garmin, Foursquare, Geotechnologies, Inc, METI/NASA.
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0	6/4/2024	Initial Issue	RW	PB	RC	CS
Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
Scale @ A3		Scale: 1:1,750		DO NOT SCALE		

Jacobs No. BCU00027

Jacobs

Client

Project

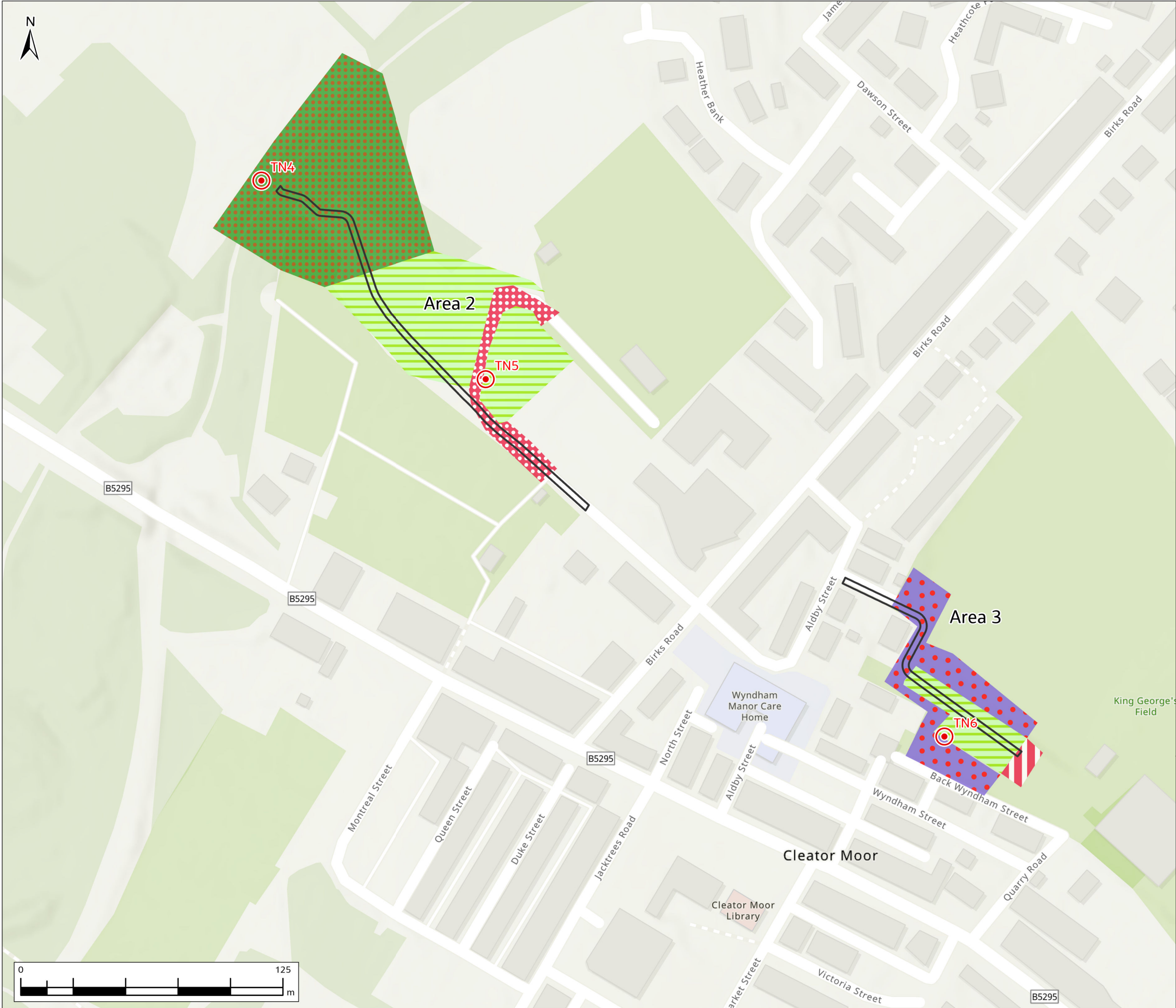
CLEATOR MOOR CONNECTED TOWN

Drawing Title

PRELIMINARY ECOLOGICAL APPRAISAL
AREA 1

Drawing No.	Drawing Status
BCU00027_PreliminaryEcologicalAppraisal	DRAFT

FIGURE 1.1



Legend

Project Boundary

Habitat type (UK Habitat)

Target Notes

g3c - Other neutral grassland

h3h - Mixed scrub

u1b - Developed land; sealed surface

u1c - Artificial unvegetated, unsealed surface

w1g - Other broadleaved woodland

Source:
Esri, Intermap, NASA, NGA, USGS, Esri Community Maps Contributors, Esri UK, TomTom, Garmin, Foursquare, Geotechnologies, Inc, METI/NASA.
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Scale @ A3Scale: 1:1,750DO NOT SCALE

Jacobs No. BCU00027

Client

Project

CLEATOR MOOR CONNECTED TOWN

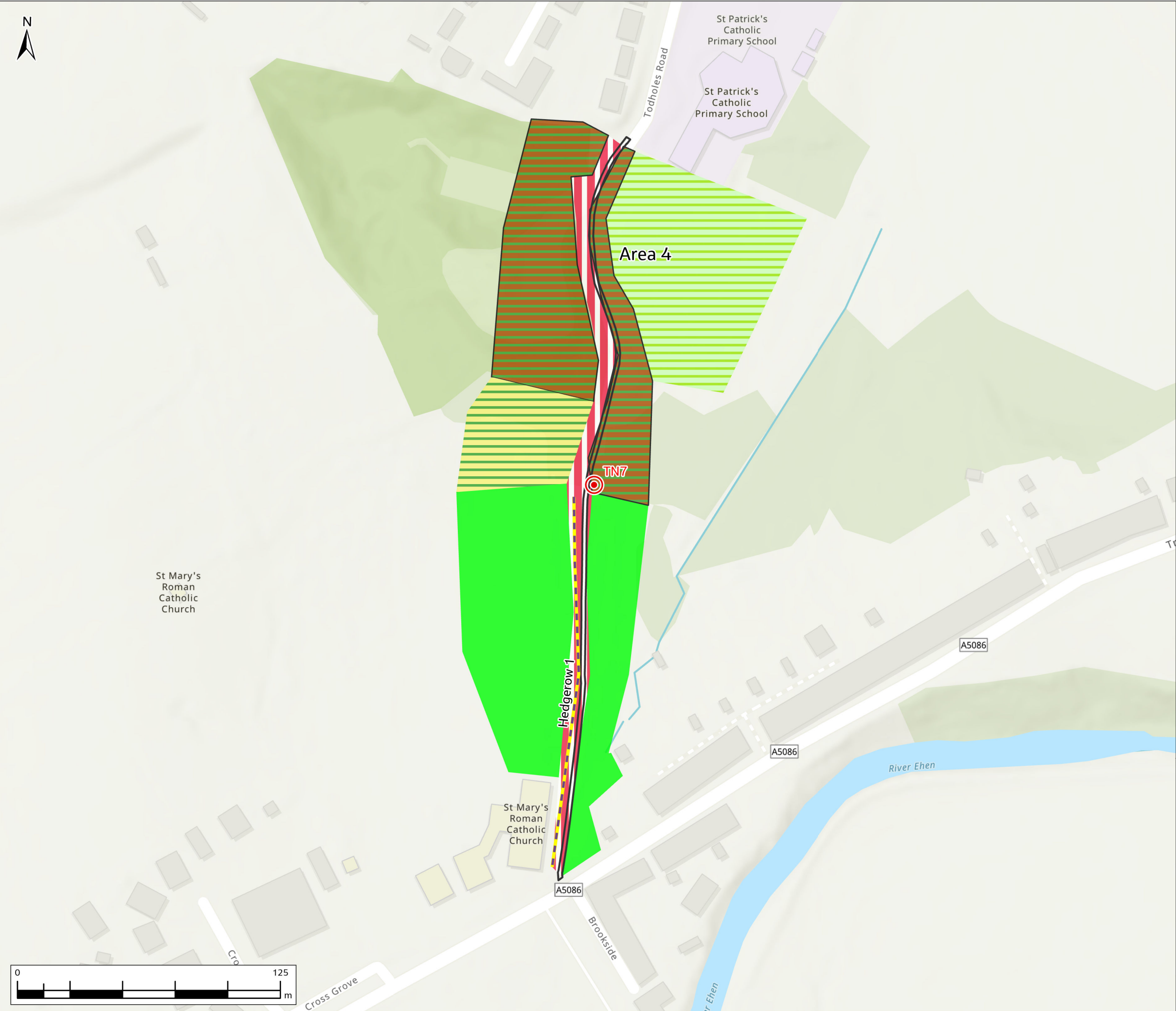
Drawing Title

PRELIMINARY ECOLOGICAL APPRAISAL
AREA 2 AND 3

Drawing No.
BCU00027_PreliminaryEcologicalAppraisal

Drawing Status
DRAFT

FIGURE 1.2



Legend

Project Boundary

Habitat type (UK Habitat)

Target Notes

h2a6 – Other native hedgerow

g3c - Other neutral grassland

g4 - Modified grassland

u1b - Developed land; sealed surface

w1f7 - Other Lowland mixed deciduous woodland

w2c - Other coniferous woodland

Source:
Esri, Intermap, NASA, NGA, USGS, Esri Community Maps Contributors, Esri UK, TomTom, Garmin, Foursquare, Geotechnologies, Inc, METI/NASA.
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Scale @ A3Scale: 1:1,750DO NOT SCALE

Jacobs No. BCU00027

Jacobs

Client

Project

CLEATOR MOOR CONNECTED TOWN

Drawing Title

PRELIMINARY ECOLOGICAL APPRAISAL
AREA 4

Drawing No.

BCU00027_PreliminaryEcologicalAppraisal



Drawing Status

DRAFT

FIGURE 1.3

Appendix C. Target Notes and Photographs



Table C.1. Target notes with descriptions.



Target Note (TN) and Grid Reference	Photograph/description
TN1 – Buzzard sighting (NY01841576)	Buzzard seen perched on fence to north of neutral grassland field in Area 1.
TN2 – Mammal path from woodland to watercourse (NY01891560).	
TN3 – Stand of Montbretia in Area 1 (NY02031553).	

Target Note (TN) and Grid Reference	Photograph/description
TN4 – Stand of Japanese knotweed in Area 2 (NY01751539).	
TN5 – Stand of Montbretia in Area 2 (NY01851528).	

Target Note (TN) and Grid Reference	Photograph/description
<p>TN6 – Large brash pile suitable for hedgehog and reptiles (NY02071511).</p>	
<p>TN7 – Stand of variegated yellow archangel in Area 4 (NY02071426).</p>	

Table C.2. Habitat photographs with descriptions.

Description	Photograph
Photo 1 – Ditch flowing into Nor Beck watercourse with iron oxide within Area 1.	
Photo 2 – Nor Beck watercourse with dense vegetation on banks within Area 1.	

Description	Photograph
<p>Photo 3 – Modified grassland associated with cemetery within Area 4.</p>	 A photograph showing a cemetery with many headstones of various shapes and sizes scattered across a green grassy field. A wide, light-colored gravel path curves through the foreground and middle ground. In the background, there is a line of trees and a cloudy sky.
<p>Photo 4 – Modified grassland in grazed paddock within Area 4.</p>	 A photograph of a large, open grassy paddock. A wooden fence runs along the right side of the frame. In the background, there are several trees and a church with a prominent steeple. The sky is blue with some white clouds.

Description	Photograph
<p>Photo 5 – Modified grassland managed by mowing within Area 4.</p>	 A photograph showing a well-maintained green grassy field in the foreground. In the background, there is a row of terraced houses with light-colored walls and dark roofs. A green shed and some wooden structures are visible near the houses. A black car and a blue car are parked on the street in front of the houses.
<p>Photo 6 – Neutral grassland north of Area 1.</p>	 A photograph showing a grassy field with some bushes in the foreground. The field is covered in dry, yellowish-brown grass. In the background, there are some trees and a cloudy sky. The sky is blue with large, white, fluffy clouds.

Description	Photograph
<p>Photo 7 – West parcel of other neutral grassland within Area 2.</p>	 A photograph showing a grassy field in the foreground, with a dense line of trees and shrubs in the background. The sky is blue with scattered white clouds. The field appears to be a mix of green and yellowish grass.
<p>Photo 8 - East parcel of other neutral grassland within Area 2.</p>	 A photograph showing a field with tall, green, leafy vegetation in the foreground. In the background, there are several buildings, including a prominent white house with a dark roof. The sky is blue with large white clouds.

Description	Photograph
<p>Photo 9 – Other neutral grassland recorded within Area 3.</p>	 A photograph showing a grassy field with some taller grasses and small shrubs in the foreground. In the background, there are several trees and a wooden fence. The sky is blue with some light clouds.
<p>Photo 10 – Other neutral grassland recorded within Area 4.</p>	 A photograph showing a grassy field with some taller grasses and small shrubs in the foreground. In the background, there are several trees and a wooden fence. The sky is blue with some light clouds.

Description	Photograph
<p>Photo 11 – Other broadleaved woodland in Area 1.</p>	
<p>Photo 12 – Other broadleaved woodland in Area 1.</p>	


Description	Photograph
<p>Photo 13 – Other broadleaved woodland in Area 1.</p>	
<p>Photo 14 – Evidence of heavy littering within woodland.</p>	

Description	Photograph
<p>Photo 15 – Other broadleaved woodland in Area 2.</p>	
<p>Photo 16 – Other broadleaved woodland in Area 2.</p>	

Description	Photograph
<p>Photo 17 - Other Lowland mixed deciduous woodland in Area 4.</p>	
<p>Photo 18 - Other Lowland mixed deciduous woodland in Area 4.</p>	

Description	Photograph
<p>Photo 19 – Other coniferous woodland in Area 4.</p>	
<p>Photo 20 – Mixed scrub within Area 3.</p>	

Description	Photograph
Photo 21 – Mixed scrub within Area 3.	
Photo 22 – Mixed scrub within Area 3.	

Description	Photograph
<p>Photo 23 – Other native hedgerow within Area 4.</p>	 A photograph showing a dense, mature hedgerow. The trees and shrubs are covered in vibrant green leaves, creating a thick canopy. The top of the hedgerow is visible against a bright blue sky filled with fluffy white clouds. The lighting suggests a sunny day, with some highlights on the leaves and deep shadows within the foliage.