Proposed Solar PV Development

Byers Gill Solar
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6.4.6.1 Environmental Statement Appendix 6.1 Preliminary Ecological Appraisal Report

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Preliminary Ecological Appraisal Report

Project number 2483386

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RSK biocensus
EXPERTS IN ECOLOGY

EXECUTIVE SUMMARY

1. RSK Biocensus was commissioned by Arup (the client) to conduct a preliminary ecological appraisal (PEA) on behalf of RWE (the Applicant). This report has been prepared to accompany Chapter 6 of the Environmental Statement (ES) (Document Reference 6.2.6).
2. This report presents the results of a background data search, a UK habitat survey with an assessment for protected species, including notable species, and a ground-level tree assessment (GLTA) for bats. The surveys were carried out in March, April, October and November 2022 and in January, August and September 2023.
3. Teesmouth and Cleveland Coast are 5.4 km (Special Protection Area & proposed Ramsar) and 7.2 km (Ramsar) from the Proposed Development. Thrislington special area of conservation (SAC) is 10 km from the Proposed Development. Potential impacts to these sites from the Proposed Development have been assessed through a Habitat Regulations Assessment (HRA) screening exercise. Full details of the HRA screening exercise are presented in ES Appendix 6.5 Habitats Regulations Assessment No Significant Effects Report (Document Reference 6.4.6.5).
4. A total of four special sites of special scientific interest (SSSI) and two local nature reserves (LNR) are within 2 km of the Order Limits, with a further two local wildlife sites (LWS) within 1 km. Considering the light, noise and pollution control measures that will be set out in a Construction and Environmental Management Plan (CEMP), it is expected that there would be no impacts to these sites. An Outline CEMP can be seen in ES Appendix 2.6 Outline Construction Environmental Plan (Document Reference 6.4.2.6).
5. The vast majority of the habitats across the study area are species-poor and are common and widespread in the surrounding landscape. However, most of the hedgerows, ponds, areas of woodland and watercourses (particularly Byers Gill and Bishopton Beck) qualify as local biodiversity action plan (BAP) priority habitats and/or habitats of principal importance, being listed under Section 41 of the NERC Act 2006. The Proposed Development will maintain suitable buffers to watercourses, with the majority of BAP priority habitats and/or habitats to be retained.
6. Common Valerian (*Valeriana officinale*), which is on the England red list listed as near threatened, was recorded within the study area. It is not expected to be impacted by the Proposed Development; therefore, no plant-species-specific surveys or mitigation is recommended.
7. The presence of Himalayan Balsam (*Impatiens glandulifera*) was recorded along Bishopton Beck and Brafferton. Himalayan Balsam is listed on the Invasive Alien Species (Enforcement and Permitting) Order 2019, it would therefore be an offence to aid its spread into the wild. If work comes within *c.*10m of semi-natural habitat along Bishopton Beck, an invasive non-native plant species (INNPS) method statement should be created, detailing measures to minimise the risk of spreading the species.
8. Due to the timing of the surveys, there is a low possibility that small infestations of other invasive species have been missed across the site. A pre-construction invasive species walkover should be carried out in the higher risk areas, such as along watercourses and

in semi natural habitats at a suitable time of year (May-August). If further invasive species were found, these would also need to be added to an INNPS method statement.

9. A total of five ponds were recorded within the Order Limits with four of these ponds considered to have potential suitability for great crested newts (*Triturus cristatus*) (GCN). The majority of terrestrial habitat within the study area was seen as unsuitable for GCN. However, as there remains a possibility that GCN might be present in low numbers or might enter the construction area, an application for a Natural England District Level Licence for GCN should be made.
10. Suitable habitat to support reptiles was recorded within the study area. Appropriate reasonable avoidance measures should be implemented to ensure compliance with legislation and minimise the risk of killing of, or injury to, any reptiles present.
11. The habitat available across the study area was largely sub-optimal for water vole (*Arvicola amphibius*) and otter (*Lutra lutra*). The design of the Proposed Development in most cases will maintain a suitable buffer from watercourses. As a precaution, a pre-construction otter and water vole survey should be undertaken in areas that were seen as suitable for these species, that may be affected by works.
12. Badger (*Meles meles*) setts recorded within the study area were mainly located within hedgerows or woodland along the edge of the study area. A pre-construction badger survey should be undertaken to search for new setts and update the status of recorded setts. Security fencing for the Proposed Development will allow the passage of mammals such as badger.
13. During the ground-level tree assessment, a total of 527 trees (or groups of trees) were identified throughout the site with bat roost potential, ranging from low to high suitability. A small number of trees are anticipated to require felling/pruning. Any tree to be felled/pruned will be subject to a pre-construction check to determine its bat roost potential and will be subject to suitable surveys, as described in good practice survey guidelines (Collins 2023).
14. The study area was assessed as having 'moderate potential' for foraging and commuting bats. It is expected that the majority of boundary features will be retained with suitable buffers to allow the continued use of these features. Static detector bat activity surveys were undertaken to indicate species and numbers of bats using the study area for foraging and commuting and are reported upon separately.
15. There are opportunities for barn owl (*Tyto alba*) and ground nesting birds such as skylarks (*Alauda arvensis*) and lapwing (*Vanellus vanellus*) to nest within the Proposed Development. To avoid impacts on nesting birds, if vegetation suitable for nesting birds is to be cut during the nesting season (March to August inclusive), it will have to be checked for nests by an ecologist immediately prior to clearance. If nests are found, they must be retained (with a suitable, species-specific buffer from works established) and protected from damage or abandonment until the young have fledged.
16. Several brown hares (*Lepus europaeus*) were seen within the study area. Hares favour a mosaic of arable fields, grassland and woodland edges, which are present within the study area. Habitats within the study area were also considered suitable for European hedgehog (*Erinaceus europaeus*).

17. To minimise the risk of trapping animals such as badgers, hedgehogs and brown hare, no excavations are to be left open overnight, or an escape ramp must be placed overnight to prevent trapping animals.
18. If mammal burrows such as a fox (*Vulpes vulpes*) den and rabbit (*Oryctolagus cuniculus)* warren are to be destroyed, then the burrow may need to be excavated under ecological supervision, to ensure no mammals are harmed during the unearthing process. It should be noted that all wild mammals are protected by The Wild Mammals (Protection) Act 1996 (as amended).
19. A detailed impact assessment has been undertaken in ES Chapter 6 Biodiversity (Document Reference 6.2.6).

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1.0 INTRODUCTION

1.1 Purpose of this report

1.1.1 RSK Biocensus was commissioned by Arup (the client) to conduct a preliminary ecological appraisal (PEA) on behalf of RWE (the Applicant). This report has been prepared to accompany Chapter 6 of the Environmental Statement (ES) (Document Reference 6.2.6).

1.1.2 This report presents the results of a preliminary ecological appraisal (PEA), comprising a background data search and a UK habitat survey, with assessment for protected or otherwise notable species, at multiple land parcels in Darlington and Stockton-on-Tees in County Durham.

1.1.3 The following terminology is used throughout this report:

- the Proposed Development – outlined by the red line boundary including all infrastructure, cables and Panel Areas as shown in Figure 6.1.1.
- study area – the land within the application boundary where field surveys were carried out as shown in Figure 6.1.1.
- Order Limits – the land area within the application boundary outlined by the red line boundary including all infrastructure, cables and Panel Areas as shown in Figure 6.1.1.

1.1.4 The report identifies ecological constraints relevant to the Proposed Development, specifies any further survey or mitigation requirements for an ecological impact assessment, gives recommendations for avoidance and protection through design changes, and suggests opportunities for ecological enhancement, in particular to deliver biodiversity net gain.

1.2 Landscape context

1.2.1 The Order Limits comprises numerous land parcels north- east of Darlington (Ordnance Survey Grid reference: NZ 35750 21286). The Order Limits is dominated by agricultural land and hedgerows with some areas of broadleaved woodland. The cable route runs along minor road networks (often lined by hedgerows) and rural residential areas.

1.3 Development proposals

1.3.1 The Proposed Development consists of a solar farm capable of generating over 50 MW Alternating Current (AC) of electricity with co-located Battery Energy Storage Systems (BESS), located between Darlington and Stockton-on-Tees in north-east England. The Proposed Development comprises six solar photovoltaic (PV) panel areas (Panel Areas A-F). The solar PV panels would be mounted on a metal frame in groups, fixed in position and aligned in east-west rows with panels facing south. An on-site substation would be located within Panel Area C.

1.3.2 The Proposed Development includes up to 32.5 km of 33 kilovolt (kV) underground cabling between the Panel Areas and the on-site substation, as well as approximately 10 km of 132 kV underground cable to connect the Proposed Development to the grid connection at the existing Norton substation (located to the north-west of Stockton-on-Tees) with both on-road and off-road options. A range of supporting infrastructure is required for the Proposed Development, comprising BESS; transformers and inverters for managing the electricity produced; storage containers to hold this equipment; and security measures such as fencing, CCTV and lighting. The Proposed Development includes environmental mitigation and enhancement measures to avoid or reduce adverse impacts on the surrounding environment and nearby communities.

1.3.3 The majority of the Proposed Development's planning boundary (the 'Order Limits') is located within the administrative boundary of Darlington Borough Council, with a section of the cable route situated within the administrative boundary of Stockton-on-Tees Council. A very small section of the Order Limits is within the administrative boundary of Durham County Council.

1.3.4 A full description of the Proposed Development and a detailed description of the design and environmental mitigation is provided in ES Chapter 2 The Proposed Development (Document Reference 6.2.2).

2.0 METHODS

2.1 Overview

2.1.1 The PEA was undertaken in line with guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017); it therefore included:

- a desk study (here called a background data search (BDS)), which included a review of aerial photographs; obtaining information from Natural England and JNCC websites, and the local authority website; requesting data from the local records centre; and
- a field survey that informed habitat mapping, an assessment of the possible presence of protected or priority species and the likely importance of habitat features.

2.1.2 The PEA report includes an ecological description of the study area and information about species that may occur there. Notes and mapping of any incidental sightings of invasive non-native plant species and protected or priority fauna species are also provided.

2.1.3 The surveys were carried out by several RSK Biocensus ecologists on the following dates;

- March, April, October and November 2022; and
- January, August and September 2023.

2.1.4 All staff members are suitably qualified and experienced ecological consultants, are members of CIEEM, and experienced in carrying out preliminary ecological appraisals.

2.2 Background data search

2.2.1 A search was made in March 2022 for relevant reference materials relating to the ecology of the Order Limits. A list of sources is given in Table 1.

Table 1 Data sources

Information obtained	Available from
Protected and noteworthy species-records	Environmental Records Information Centre (ERIC) North East https://www.ericnortheast.org.uk/
MAGIC (the Multi-Agency Geographic Information website) to view statutory designated nature conservation sites	www.magic.gov.uk [NB: this site is included for convenience as a viewer, but data to create maps for any figures used is extracted from Open Source data provided by the SNCBs]
Nationally designated site locations and citations	Natural England website https://designatedsites.naturalengland.org.uk/
European and internationally designated site locations and citations	Joint Nature Conservation Committee (JNCC) website https://jncc.gov.uk/our-work/ramsar-sites/ https://jncc.gov.uk/our-work/special-protection-areas-overview/

Information obtained	Available from
Local designated site locations and citations	Tees Valley Nature Partnership https://jncc.gov.uk/our-work/special-areas-of-conservation-overview/ https://teesvalleynaturepartnership.org.uk/wp-content/uploads/2016/07/Stockton-BC-Local-Site-return-2016.pdf Wynyard Woodland Park citation not available
Designations and legal protection of noteworthy species	Joint Nature Conservation Committee (JNCC) website
Details of species and habitats listed on the LBAP	North East England Nature Partnership website https://neenp.org.uk/natural-environment/biodiversity-priorities/
Local planning guidance and policies	Darlington Borough Council: Policy Env 7 & 8; Pages 101-105 https://microsites.darlington.gov.uk/media/2281/local-plan-adopted-feb22-web.pdf
Aerial photography	As a viewer only, sources include: www.google.com; www.bing.com; Google earth. Where reproduced as figures, sources vary and be licensed through ArcGIS, as stated.

2.2.2 A search was made for the following international and national statutory designated sites of ecological importance within 10 km of the Order Limits boundary: Ramsar sites, special areas of conservation (SAC), special protection areas (SPA)[1], and for SSSIs, including consideration of SSSI risk zones, within 2 km.

2.2.3 A search was also made for non-statutory designated (often important in a local context) within 1 km of the Order Limits boundary. The distances were selected as the Proposed Development is unlikely to permanently disturb notable foraging and commuting resources for mobile species such as badgers, bats or birds.

2.2.4 The BDS also included a search for records within 1 km of the Order Limits boundary of noteworthy species, which might pose a constraint to the Proposed Development. Species included in the search were:

- European protected species (listed on Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017 (as amended));
- nationally protected species under Schedules 1, 5 and 8 of The Wildlife & Countryside Act 1981 (as amended) and The Protection of Badgers Act 1992;
- species listed as critically endangered, endangered or vulnerable based on the IUCN Red List Categories and Criteria 2001;
- all species listed on the RSPB's Birds of Conservation Concern 5 (Stanbury et al., 2021) as red' or 'amber';

[1] SACs and SPAs were formerly called 'European Sites' and part of the Natura 2000 network; post-'Brexit', they are now considered part of the UK's 'national site network'. Ramsar sites are sites of international importance. See Appendix A for details. Note that SPAs, SACs and Ramsar sites are also underpinned by SSSI designations whose citations/boundaries may be slightly different.

- nationally rare or nationally scarce species;
- notable2 invertebrates; and
- species of principal importance listed under The Natural Environment and Rural Communities (NERC) Act 2006 or priority species under the Durham local biodiversity action plan.

2.3 Plants and habitats

UK habitat survey

2.3.1 The field survey was based on the UK habitats (UK Hab) survey methodology (Version 1.1; Butcher *et al*. 2020), as extended for use in environmental impact assessment. The UK Hab classification system is the habitat classification that underpins the DEFRA Biodiversity Metric and is therefore the habitat classification to use when surveys need to inform a Biodiversity Net Gain Calculation. This field survey involved the following elements:

- habitat mapping using a set of standard colour codes to indicate habitat types on a habitat map; and
- a description of features of possible ecological or nature conservation interest in notes relating to numbered locations on the habitat map, called 'target notes'.

2.3.2 Vascular plant species were recorded during the survey, although no attempt was made to produce an exhaustive species list (additional species would almost certainly be found during more detailed surveys or repeat surveys at various times of the year).

2.3.3 Plant nomenclature in this report follows Stace (2019) for native and naturalised species of vascular plant, and mosses and liverworts follow Hill *et al*. (2008). Introduced species and garden varieties were identified using relevant Floras. Plant names in the text are given with common names with the scientific name (in italics) immediately following the first time it is mentioned. Doubtful identifications are preceded by 'cf.' placed before the specific epithet where the plant is very probably the species indicated, but it could not be distinguished from similar members of the genus with certainty.

Hedgerow Regulations

2.3.4 The status of each hedgerow within and bordering the study area was not fully assessed using the Wildlife and Landscape Criteria of the Hedgerows Regulations 1997 due to the Order Limits extent, in addition at the time of survey the location and extent of hedgerows requiring removal was unknown.

2.3.5 A hedgerow is considered 'important' if it is more than 30 years old and meets at least one of these criteria (amongst others):

- contains protected species listed in the Wildlife and Countryside Act 1981 (as amended)

[2] Appendix C includes a description of 'notable' as used in this context.

- contains species that are endangered, vulnerable and rare and identified in the British Red Data books
- includes woody species and associated features as specified in Schedule 1, Part II Criteria, paragraph 7(1) of the Hedgerow Regulations - the number of woody species needed to meet the criteria is one fewer in northern counties.

Invasive non-native species (INNS)

2.3.6 UK habitat survey does not involve exhaustive surveying for individual plant species, and various invasive species may be little in evidence at various times of year (depending on the species). A survey seeking to identify habitat types cannot therefore be relied upon to provide firm information about the presence or extent of any INNS. However, any INNS that were encountered during the habitat survey were noted, including Japanese Knotweed (*Reynoutria japonica*), Giant Hogweed (*Heracleum mantegazzianum*) and Himalayan Balsam (*Impatiens glandulifera*), as well as any invasive non-native species of animals.

2.4 Protected and notable animals

General

2.4.1 The study area was assessed for its suitability to support protected or otherwise notable animals that are likely to occur in the area. Taking into account the results of the BDS, the geographic location, connectivity to natural habitats in the wider landscape, the nature and extent of habitats at the Order Limits, and the Proposed Development, specific assessment was also carried out for the species/species groups outlined below.

Invertebrates

2.4.2 The study area was assessed for its suitability to support notable species and/or assemblage of invertebrates, but no specific surveys were undertaken. The habitat requirements of particular invertebrates are often species-specific, so consideration was given to the presence of features and habitats that might be suitable for the notable species identified in the BDS.

Fish

2.4.3 Waterbodies/watercourses within/alongside the study area were broadly assessed for their likely habitat and water quality, and consequent suitability to support fish (and other species); however, no specific fish surveys were undertaken.

Amphibians

2.4.4 Although standing water is essential for their breeding, great crested newts (*Triturus cristatus*) are terrestrial for most of the year and have been recorded up to 500m from their breeding ponds. As the Proposed Development will retain the majority of habitats within the study area only ponds within 250m were considered. Ordnance Survey maps and aerial imagery was reviewed to identify any ponds within 250m of the Proposed Development with the study area assessed for its suitability for both terrestrial and

breeding great crested newts. Optimal breeding ponds tend to be well-vegetated, relatively clean and unpolluted, free of fish and wildfowl, and retentive of water throughout most summers (but not necessarily all). Highly suitable terrestrial habitats include woodland, scrub and tussocky grassland, although great crested newts can be found in a broad range of sub-optimal habitats as well. Habitat suitability for other amphibians was similarly assessed.

Reptiles

2.4.5 The study area was assessed for its suitability for the four most widespread reptile species, with particular attention given to those features that provide suitable basking areas (*e.g.* south-facing slopes), hibernation sites (*e.g.* banks, walls, piles of rotting vegetation) and opportunities for foraging (*e.g.* rough grassland and scrub).

2.4.6 Specific habitat requirements differ between species. Common lizards (*Zootoca vivipara*) and slow-worms (*Anguis fragilis*) favour rough grassland. Grass snakes (*Natrix helvetica*) have broadly similar requirements, with a greater reliance on ponds and wetlands. Adders (*Vipera berus*) use a range of fairly open habitats with some cover but are most often found in dry heath.

Water voles and otters

2.4.7 Waterbodies and watercourses and their surrounding habitats were assessed to determine whether they were suitable for water voles (*Arvicola amphibius*). Suitable habitats include vegetated earth banks, reed beds, flowing water and wet ditches. Incidental signs of water vole activity, including burrows, feeding platforms, food remains and latrines, were recorded if they were encountered.

2.4.8 Waterbodies and watercourses within the study area were also assessed for their suitability for otters (*Lutra lutra*). Otters require clean rivers and associated waterbodies with an abundant, varied supply of food and plenty of bank-side vegetation, offering secluded sites for their holts. Other suitable habitats include reed beds and interconnected ditches and streams. Incidental signs of otter activity, including holts, foraging signs, paths (runs), footprints and spraints, were recorded if they were encountered.

Bats

2.4.9 Habitats were assessed for their suitability for foraging and commuting bats, in line with guidance provided in Collins (2016)[3]. Areas of particular interest vary between species, but generally include sheltered areas and habitats with good numbers of insects, such as woodland, scrub, rivers and species-rich or rough grassland.

Ground-Level Tree Surveys

2.4.10 All trees within the study area were surveyed from ground level. Features that might be used by roosting bats were described and categorised according to accepted guidelines

[3] This guidance document was updated in October 2023 after surveys were completed. The report references previous guidance for fieldwork, with recommendations citing the updated guidance (Collins, 2023).

(Collins, 2016). Each tree was given a category during the ground-level surveys (see Table 2) based on its potential for roosting bats.

2.4.11 Trees may also be categorised as having unknown potential if the surveyor's view of the tree is obscured. This can be caused by dense Ivy (*Hedera helix*) covering the trunk and major limbs so as to conceal potential roosting features from view.

Table 2: Categorisation of trees for roosting bats (adapted from Collins 2016)

Category (Potential to support roosting bats)	Description
Negligible suitability	Negligible habitat features on site likely to be used by roosting bats.
Low suitability	A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate suitability	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely for a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High suitability	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Confirmed roost	Bats or evidence of bats recorded during the initial inspection survey. A confirmed record (supplied by records centre/local bat group) would also apply.

2.4.12 Evidence of roosting bats includes droppings, urine stains, staining from fur-oils, wear marks, feeding remains, dead bats, odour, squeaking and chattering, and in some cases the absence of cobwebs.

Badgers

2.4.13 An initial assessment was carried out to identify areas that might be used by badgers (*Meles meles*) for commuting, foraging or setts within the study area. The study area was systematically searched for signs of badgers including setts, foraging signs, paths (runs) and latrines where possible, and the category of sett and levels of activity visible at each sett was recorded.

Dormice

2.4.14 Habitats were assessed for their general suitability for hazel dormouse (*Muscardinus avellanarius).* Dormice generally use areas of dense woody vegetation cover (including hedgerows) and are more likely to be found where there is a wide diversity of woody species contributing to three-dimensional habitat complexity, a number of food sources, plants suitable for nest-building material, and good connectivity to other areas of suitable habitat.

Birds

2.4.15 Birds nest, forage and roost in a wide variety of habitats including scrub, woodland, hedgerows and trees, wetland, arable and pastoral farmland and rough grassland. Some species also use open bare ground and man-made structures.

2.4.16 The study area was assessed for its suitability to support diverse assemblages and/or uncommon species of breeding and non-breeding birds, with an emphasis on those species that are listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended), the red and amber lists of the RSPB's Birds of Conservation Concern 5 (Stanbury et al., 2021) and other notable species recorded in the BDS, including any species that are qualifying features of nearby designated sites. Consideration was given to the Order Limits connectivity to landscape features that are likely to be of particular importance to birds, such as extensive areas of semi-natural woodland or wetlands. Buildings and trees were surveyed for their suitability for barn owls and other species, with signs including nesting sites, feathers, droppings and pellets.

Other species of Principal Importance

2.4.17 The UK countries of England, Wales, Scotland and Northern Ireland are obliged by their individual laws to maintain lists of species and habitats of principal importance for biodiversity conservation. In England, this obligation derives from the Natural Environment and Rural Communities (NERC) Act 2006. An assessment of the suitability and likelihood of the study area to support such species was made (for example, hedgehog (*Erinaceus europaeus*) and brown hare (*Lepus europaeus)*).

2.5 Constraints and limitations

2.5.1 Less conspicuous plant species (including INNS) may have been missed as a result of the survey being undertaken outside of the ideal survey season. However, the majority of plants present were confidently identified, and the survey was sufficient to make a broad assessment of the habitats present within the study area.

2.5.2 This preliminary appraisal as to whether protected or otherwise notable species might occur within the study area was based on the suitability of habitat, the known distribution of relevant species in the local area (from online sources and desk study), and any signs of the relevant species. It does not constitute a full and definitive survey of any protected species group.

2.5.3 Field signs for protected and valuable species are often difficult to find or absent. The survey conducted was not intended to be a comprehensive presence/absence survey for all species, but rather to provide an indication of the likely presence of such species based on the field signs found, and the nature of the habitats present.

2.5.4 Some areas of the study area were covered by dense bramble scrub, which prevented a full survey for both badger and nesting birds being conducted. The peripheries of all such areas were, however, extensively searched, providing a high level of confidence in the results and assessment provided.

2.5.5 All recommendations made in this report are based on the Proposed Development layout plan (Figure 6.1.1) provided. If the plans change significantly, then an ecologist must be consulted, and further surveys may be required.

3.0 RESULTS

3.1 Background Data Search

International and Statutory Designated Sites

3.1.1 There are four internationally designated sites within 10 km of the Order Limits. These are, Teesmouth and Cleveland Coast SPA, Teesmouth and Cleveland Coast Ramsar, Teesmouth and Cleveland Coast proposed Ramsar and Thrislington SAC. These sites are listed in Table 3 with short descriptions given for the sites. The location of these designated sites with respect to the Proposed Development are shown in Figure 6.1.2.

3.1.2 There are six statutory designated sites within 2 km of the Order Limits. These are Briarcroft Pasture SSSI, Whitton Bridge Pasture SSSI, Redcar Field SSSI, Newton Ketton Meadow SSSI, Hardwick Dene and Elm Tree Woods LNR and Stillington Forest Park LNR. These sites are listed in Table 3 with short descriptions given for the sites. The locations of these designated sites with respect to the Proposed Development are shown in Figure 6.1.2.

Table 3: International and Statutory sites within 10 km of the Order Limits (2 km for SSSI and LNRs)

Site name	Reasons for designation	Approximate distance (km) and direction from site
Teesmouth and Cleveland Coast SPA	The SPA comprises of intertidal sand and mudflats, rocky shore, saltmarsh, freshwater marsh, saline lagoons, sand dunes and estuarine and coastal waters on and around the Tees estuary. These habitats provide feeding and roosting opportunities for important number of waterbirds in winter and during passage periods. Freshwater and brackish pools also support breeding avocet during summer. Qualifying species under annex I include Ruff (*Philomachus pugnax),* Pied Avocet *(Recurvirostra avosetta),* Little Tern (*Sterna albifrons),* Common Tern (*Sterna hirundo*), and Sandwich Tern (*Sterna sandvicensis*). In addition Red Knot (*Calidris canutus)* is listed as an annex II qualifying species. Also includes an assemblage criterion of over 20,000 waterbirds.	5.4

Site name	Reasons for designation	Approximate distance (km) and direction from site
Teesmouth and Cleveland Coast Ramsar	The Ramsar site is a wetland of international importance, comprising intertidal habitats. The site qualifies under RAMSAR criterion 5 and 6 as it is regularly used by over 20,000 waterbirds in any season and by 1% or more of the biogeographic populations of the following bird species, in any season; red knot (*Calidris canutus*), common redshank (*Tringa tetanus*) and Sandwich tern (*Thalasseus sandvicensis*).	5.4 (proposed Ramsar) 7.2 (Ramsar)
Thrislington SAC	Thrislington is a small site which contains the largest of the few surviving stands of *Sesleria albicans – Scabiosa columbaria* grassland.	10
Briarcroft Pasture SSSI	Briarcroft Pasture is nationally important for its areas of species rich unimproved neutral grassland.	1.9
Whitton Bridge Pasture SSSI	A nationally important Site for its areas of species-rich unimproved neutral grassland.	0.7
Redcar Field SSSI	The Site supports a range of fen vegetation types not found at any other site in County Durham, including basic flush, fen meadow, tall fen and willow carr. It is one of the few remaining examples of spring fed vegetation on the Magnesian Limestone of County Durham, and the only site known to contain fen meadow.	0.4
Newton Ketton Meadow SSSI	The Site is one of the few surviving unimproved hay meadows in the coastal plain between the Rivers Tyne and Tees.	0.1
Hardwick Dene & Elm Tree Woods LNR	The site consists of four distinct sections – two steep sided wooded valleys, separated by a roughly triangular area of grassland, and a further area of herb-rich, unimproved grassland. Orchid sp, Ragged-Robin (*Silene*	1.3

Site name	Reasons for designation	Approximate distance (km) and direction from site
	flos-cuculi) and Devil's-bit Scabious (*Succisa pratensis)* are among the many species of wildflower here. There are 19 species of butterfly, most notable being the White-letter Hairstreak (*Satyrium w-album*), which is a Local Biodiversity Action Plan species.	
Stillington Forest Park LNR	The Site was reclaimed from a former slag heap and developed to benefit both wildlife and visitors. It is managed as a wildflower meadow. There are several ponds and wetland areas. At the north of the site is a dense woodland consisting of mature Hawthorn (*Crataegus monogyna)* and Ash (*Fraxinus excelsior)* trees.	0.9

Non-Statutory Sites

3.1.3 There are two non-statutory designated sites within 1 km of the Order Limits. These are Carr House Pond LWS and Wynyard Woodland Park Stockton LWS. These sites are described in Table 4 in order of proximity to the site.

Table 4: Non-statutory designated sites within 1 km of the Order Limits

Site name	Reasons for designation	Approximate distance (km) and direction from site
Carr House Pond LWS	The Site is important with regards to its neutral grassland habitat.	0
Wynyard Woodland Park Stockton LWS	The Site is important with regards to the presence of great crested newts, harvest mouse (*Micromys minutus),* neutral grassland and neutral grassland mosaic habitat.	0

Habitats

3.1.4 There were no ancient woodlands within 1 km of the Order Limits.

Protected and Notable Species

3.1.5 There are at least 82 records of legally protected species and an additional 1181 records of noteworthy species from places within 1 km of the Order Limits. Noteworthy species

include species of principal importance that are listed under Section 41 of The Natural Environment and Rural Communities (NERC) Act 2006.

3.1.6 Of these, 49 records are of amphibians, 930 are birds, one is a fish, 92 are invertebrates, 185 are mammals (of these, 40 are bats) and six are plants. Species that are protected by law under Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017 (as amended), Schedules 1, 2, 5 and 8 of The Wildlife and Countryside Act 1981 (as amended) or The Protection of Badgers Act 1992 that have been recorded in the search area are highlighted in the full species list is given in Appendix B. Those of relevance to the Order Limits and the current proposals are discussed in Sections 4.2 and 4.3.

3.2 Plants and habitats

UK Habitat Survey

3.2.1 The UKHab habitat map is provided as Figure 6.1.4 and shows the location of the botanical target notes referred to in the text below. A full description for each of the botanical target notes is given in Appendix D, Table 7. The study area comprised of the following:

- other neutral grassland (UKHab code: g3c)
- modified grassland (UKHab code: g4)
- woodland (UKHab code: w1)
- lines of trees (UKHab code: w1g6)
- hedgerows (UKHab code: h2)
- dense scrub (UKHab code: h3)
- fen, marsh and swamp (UKHab code: f2f)
- arable and horticulture (UKHab code: c1)
- built-up areas and gardens (UKHab code: u1)
- standing open water (UKHab code: r1a6)
- rivers and streams (UKHab code: r2)

Other neutral grassland

3.2.2 While most of the grassland around the study area has been heavily improved, modified and managed, there were several areas of semi-improved or less managed grassland. The largest two areas were within the Panel Areas – a *c.*1ha variable, semi-improved grassland by Bishopton Beck (TN15) and a *c.*1.3ha area of grassland around a tributary to the River Skerne (TN3). Both of these fields had grassland referable to MG6 *Lolium perenne-Cynosurus cristatus* grassland. Graminoid species include Perennial Rye-grass (*Lolium perenne*), Crested Dog's-tail (*Cynosurus cristatus*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Yorkshire-fog (*Holcus lanatus*), Cock's-foot (*Dactylis glomerata*) and more rarely, Field Wood-rush (*Luzula campestris*) and Red Fescue (*Festuca rubra).* Forbs include Pignut (*Conopodium majus*), Hogweed (*Heracleum*

sphondylium), Meadow Buttercup (*Ranunculus acris*), Common Mouse-ear (*Cerastium fontanum*), Common Sorrel (*Rumex acetosa*) and Lesser Celandine (*Ficaria verna*).

3.2.3 Other areas were rank, rough grassland with tall herbs found on the borders or corners of fields (e.g. TN5), fields recently planted with trees along the cable routes, or other small, neglected areas. Grass species typically include Cock's-foot, Common Couch (*Elymus repens*), False Oat-grass (*Arrhenatherum elatius*), Timothy (*Phleum pratense*). Forbs often include Common Nettle (*Urtica dioica*), Creeping Thistle (*Cirsium arvense*), White Dead-nettle (*Lamium album*), Cow Parsley (*Anthriscus sylvestris*), Creeping Buttercup (*Ranunculus repens*) and Broad-leaved Dock (*Rumex obtusifolius*).

3.2.4 There were also occasionally small, wet areas within fields (e.g., TN10) and around ponds (TN4 and TN20 large pond and pond to the north-west). These areas had species such as Creeping Buttercup, Yorkshire-fog, Tufted Hair-grass (*Deschampsia cespitosa*), Great Willowherb (*Epilobium hirsutum*), and common rushes; Hard Rush (*Juncus inflexus*), Soft-rush (*Juncus effusus*), and rarely Jointed Rush (*Juncus* cf*. articulatus*).

Modified grassland

3.2.5 A significant number of the Panel Areas (and fields along the cable routes) were areas of species-poor, permanent pasture grazed by sheep, cattle and horses. There were also smaller areas of improved, amenity grassland around roads and villages. Most of these were very species-poor, being dominated by Perennial Rye-grass with other occasional species including White Clover (*Trifolium repens*), Crested Dog's-tail, Yorkshire-fog, Dandelion (*Taraxacum* agg.), Spear Thistle (*Cirsium vulgare*) and Cock's-foot.

3.2.6 Most areas also appeared to be uniformly heavily grazed or mown on a regular basis, though there were one or two fields where the grassland was more variable. To the west of the study area near Brafferton, the modified grassland was also in a better condition with species such as Common Mouse-ear, Common Sorrel (*Rumex acetosa*), Field Wood-rush, Lesser Celandine and Daisy (*Bellis perennis*) being rare or occasional, areas which merged into the more moderately species-rich grassland described in the previous section.

Woodland

3.2.7 There were several areas of woodland around the study area, though all were on the boundaries of the study area or working areas and are unlikely to be impacted. Two exceptions were areas to the east along the cable route – one is an area of scrubby young Ash (*Fraxinus excelsior*) woodland south of Carlton (TN19) and another area of young Ash and Sycamore (*Acer pseudoplatanus*) woodland around a railway line by the substation. Neither could be surveyed in detail during the survey due to access restrictions.

3.2.8 The rest of the woodland around the study area were along roads, watercourses or along boundaries of fields. Three significant areas of woodland were present along roads; one dominated by Field Maple (*Acer campestre*) on a bank down from Aycliffe Lane to the west of the study area, another with several native tree species along Kirk Hill Road in between Redmarshall and Carlton, and a large strip of Ash and Sycamore woodland along Letch Lane to the east of the study area.

3.2.9 Most of the woodland along field boundaries and in corners of fields were limited in their extent and are young or semi-mature and clearly planted (e.g., TN6). However, areas of woodland along watercourses were often much larger and often mature. The most significant of these were large areas of woodland around Byers Gill and along Bishopton Beck.

3.2.10 Woodland around Byers Gill was mostly dominated by Ash, Sycamore, Pedunculate Oak (*Quercus robur*) and Beech (*Fagus sylvatica*). It also occasionally had a moderately notable ground flora including species such as Pignut, Broad Buckler-fern (*Dryopteris dilatata*) and Enchanter's-nightshade *Circaea lutetiana*). The woodland along Bishopton Beck (TN16) was also dominated by Ash and Sycamore, but also frequently had elm species (*Ulmus* spp.), Hybrid Crack-willow (*Salix* x *fragilis)*, European Larch (*Larix decidua*) and Hybrid Black-poplar (*Populus ×canadensis*). Almost all of the woodland here and across the study area generally had some kind of scrubby understorey, often dominated by Hawthorn (*Crataegus monogyna*), and a species-poor ground flora with species such as Common Nettle (*Urtica dioica*), Cleavers (*Galium aparine*) and Bramble (*Rubus fruticosus* agg.).

3.2.11 There were also some smaller areas of wet woodland dominated by Hybrid Crack-willow (often mature), with occasional Ash, a scrubby understorey and a ground flora dominated by Common Nettle (e.g., TN9). These were most notably found along Little Stainton Beck, the east of Byers Gill, and along eastern sections of Bishopton Beck.

Lines of trees

3.2.12 A small proportion of field boundaries around the study area were marked by lines of trees. Almost all of these are outgrown hedges which were usually dominated by Hawthorn, though rarely by species of elm (*Ulmus* spp.) Frequently, these outgrown shrubs were joined by large hedgerow trees, which often form the majority of the canopy. The trees were mostly Ash with Sycamore also frequent, along with several other standard tree species mentioned in the following section, such as Pedunculate Oak and Wild Cherry (*Prunus avium*). The ground flora was never species-rich and was often grazed or dominated by Common Nettle and Cleavers.

Hedgerows

3.2.13 The majority of the Panel Area boundaries were delineated by hedgerows, though some were also marked by fences, ditches, watercourses and lines of trees as mentioned previously. Additionally, most of the cable routes either intersect hedges or run along roads where hedges are frequently present on both sides. Almost all of the hedges qualify as priority habitats, comprising mostly native species, though they are also almost all species-poor. Even the most species-rich hedges recorded (e.g., TNs 7, 8, 12 and 14) are not particularly species-rich. There was a large amount of variability in the structure of the hedges, though most have at least some gaps and those not along roads are usually infrequently managed, often overgrown.

3.2.14 The most common woody species recorded within the hedgerows were Hawthorn and Blackthorn (*Prunus spinosa*) with other common species including rose species (*Rosa* spp.) and Elder (*Sambucus nigra*). Species more rarely or occasionally recorded include

Gorse (*Ulex europaeus*), Gooseberry (*Ribes uva-crispa*), Holly (*Ilex aquifolium*), Hazel (*Corylus avellana*), elm species (*Ulmus* spp.) Spurge-laurel (*Daphne laureola*), Honeysuckle (*Lonicera periclymenum*), Wild Plum (*Prunus domestica*) and Grey Willow (*Salix cinerea*).

3.2.15 Trees were often present in the hedges and were usually Ash, though Sycamore was also frequent. More rarely species included Hybrid Poplar (*Populus ×canadensis*), Wild Cherry, Pedunculate Oak and Hybrid Crack-willow (*Salix* x *fragilis*).

3.2.16 The ground-flora of the hedges was usually either species poor or non-existent due to heavy grazing or shading from blackthorn hedges. The dominant species were usually Common Nettle and Cleavers, though other species were also frequent including Ivy (*Hedera helix*), Garlic Mustard (*Alliaria petiolata*), Bramble (*Rubus fruticosus* agg.) and grasses such as False Oat-grass (*Arrhenatherum elatius*) or Common Couch (*Elymus repens*) where there are large gaps.

3.2.17 Less frequent species include Red Campion (*Silene dioica*), Wood Avens (*Geum urbanum*), Rough Meadow-grass (*Poa trivialis*), Wood Forget-me-not (*Myosotis sylvatica*), Lesser Celandine, Sweet Violet (*Viola odorata*), Crosswort (*Cruciata laevipes*), Rough Chervil (*Chaerophyllum temulum*), Bush Vetch (*Vicia sepium*), White Dead-nettle (*Lamium album*), Ground-elder (*Aegopodium podagraria*), Rosebay Willowherb (*Chamaenerion angustifolium*), Broad Buckler-fern (*Dryopteris dilatata*), Male-Fern (*Dryopteris filix-mas*) and Hart's-tongue Fern (*Asplenium scolopendrium*).

Dense scrub

3.2.18 The only significant areas of dense scrub were an area of Hawthorn scrub at the eastern end by the substation, large areas of dense scrub along the roadside banks of Lime Lane and Aycliffe Lane to western end of the study area, and pockets of mixed scrub around tributaries to the River Skerne near Brafferton. There were also some wide scrubby edges of the woodland where the scrub is the only part within the study area boundary (especially around Byers Gill near the centre of the study area). Additional areas of scrub are noted to the east of the site (TN 22 & 23)

3.2.19 There were smaller areas of scrub along a few of the roads, along Little Stainton Beck (south of Great Stainton) and around the boundaries of fields where hedges have become outgrown, usually as remnant patches.

3.2.20 Most of the scrub across the entire study area was very similar, comprising a small range of woody species, most commonly Hawthorn, Blackthorn, Bramble and Dog-rose, with more occasional species being Elder and Gorse. There were occasionally young trees within the scrub, most commonly Ash, but also Field Maple, Hybrid Crack-willow and Rowan. The ground flora was usually very species-poor and likely to be sparse for most of the year, with Common Nettle, Cleavers, Ivy, and Bramble being most common. However, one area of scrub along the cable route to the west does have a small clearing with semi-improved grassland (TN1).

Fen, marsh and swamp

3.2.21 There was only one area of swamp vegetation within the study area around a large, seasonally wet pond along the cable route south of Carlton (TN20). Species include Bulrush (*Typha latifolia*), Hard Rush (*Juncus inflexus*), Reed Canary-grass (*Phalaris arundinacea*) and young Grey Willow (*Salix cinerea*).

Arable and horticulture

3.2.22 The majority of the Panel Areas are arable fields. At the time of the survey, most were being used for cereal crops, though a few other non-cereal crops were noted. Several areas were also being used as temporary Perennial Rye-grass (*Lolium perenne*) leys. While the timing of the survey was not always ideal to detect arable weeds, it is considered unlikely that many fields will support a species-rich assemblage given how intensively they appeared to be managed.

3.2.23 Only two areas of the fields were recorded as being anything other than intensively managed cropland. There was a strip of Sunflowers (*Helianthus annuus*) (TN18) in one field close to Redmarshall Road and one corner of a field near Great Stainton (TN13) was recorded as an area of seasonally wet set-aside. However, even this was species-poor, with a mix of grassland and ruderal species including Timothy (*Phleum pratense*), Cock's-foot, Perennial Rye-grass, Creeping Bent, Yorkshire-fog, Creeping Bent, Broad-leaved Dock and Spear Thistle.

Built-up areas and gardens

3.2.24 A large proportion of the proposed cable routes run along roads and through villages. These areas have very little interest ecologically other than the hedgerows and trees either side of the roads, the trees often overhanging the roads. Gardens and residential properties are also included in the study area due to their proximity to the cable routes, though none are expected to be impacted by the Proposed Development.

Standing open water

3.2.25 There were two main ponds within the study area, a small pond at the north-western edge of the study area (TN4) and a larger, shallow, seasonally wet pond along the cable route south of Carlton (TN20). The ponds may qualify as a priority habitat depending on the species that use it, but neither have much significant botanical value. Marginal vegetation includes Bulrush, Hard Rush, Soft-rush and Reed Canary-grass. Two very minor ponds with no marginal vegetation were also noted near Great Stainton (TN11) and within an area of scrub along the cable route north-west of Bishopton.

3.2.26 There were also some ponds very close to the study area boundary such as two ponds west of Little Stainton which are adjacent to the study area (AN23), though these were not surveyed in detail.

Rivers and streams

3.2.27 There are several watercourses around the study area which include:

- three minor tributaries to the River Skerne near Brafferton (TN 2, 3 and 5);
- nearby ditches and tributaries to Byers Gill and Byers Gill itself (TN9) and two adjacent arms of Little Stainton Beck;
- Bishopton Beck, both north and south of Bishopton (TN16 and 17) and a tributary to the south along the cable route;
- a small section of Letch Beck along the cable route (near TN20); and
- several ditches, mostly along hedgerows aside from a recently dredged ditch north of Newton Beck along Salters Lane (east of TN6).

3.2.28 Given the limited size of most of these watercourses and the shading from adjacent scrub, the aquatic and marginal vegetation was usually quite limited to species such as Reed Canary-grass, Great Willowherb and very common species of rush (*Juncus* spp.). Other less frequent species included Meadowsweet (*Filipendula ulmaria*), Brooklime (*Veronica beccabunga*), Water-cress (*Nasturtium officinale*), Floating Sweet-grass (*Glyceria fluitans*), Common Valerian (*Valeriana officinale*), Water Figwort (*Scrophularia auriculata*), Wild Angelica (*Angelica sylvestris*), Branched Bur-reed (*Sparganium erectum*) and a Water-starwort (*Callitriche* species). The least species-poor watercourses were one of the tributaries to the river Skerne (TN3) and the long, northern stretch of Bishopton Beck (TN16).

3.2.29 Most of the watercourses, but most notably Bishopton Beck, have scrub and/or trees along them, the trees mainly comprising hybrid crack willow (*Salix* x *fragilis*) and ash.

Hedgerows regulations

3.2.30 The hedgerows were not fully assessed to ascertain whether or not they are 'important' under the Wildlife and Landscape Criteria of the Hedgerows Regulations 1997. However, it is assumed that a clear majority would not meet the criteria due to a lack of native woody species.

Non-native invasive plant species

3.2.31 The only invasive species identified within the study area was Himalayan Balsam, found along Bishopton Beck (TN16 and 17) and Brafferton (TN21). Given the timing of the surveys, their broad nature, and the fact that they did not include local gardens, small, local infestations of other invasive plant species could have easily been missed, though it is highly unlikely they would be within Panel Areas which are almost all heavily managed agricultural land.

3.3 Protected and notable animals

3.3.1 Figure 6.1.5, 6.1.6 and 6.1.7 shows the location of the animal target notes (AN) referred to in the text below, which outline particular features with suitability for protected and notable animals. A full description for each of the animal target notes is given in Appendix D.

Invertebrates

3.3.2 The BDS returned protected butterfly species such as the large tortoiseshell (*Aglais polychloros*) and white-letter hairstreak (*Satyrium w-album*) and a range of notable invertebrates, which were predominantly associated with the priority habitats listed in Section 3.0 above.

3.3.3 Given the habitats found throughout the study area which predominantly includes regularly managed crop and pastureland, it is considered likely that these areas only support a common assemblage of invertebrate species.

Fish

3.3.4 The BDS returned one fish species of note (European eel; *Anguilla Anguilla)*. The record was from Bishops Beck which is a different waterway to those found within the study area.

3.3.5 There are several watercourses within the study area which are mostly shallow in depth and of moderate water quality, including three minor tributaries to the River Skern, two arms of Little Stainton Beck, Byers Gill (and its tributaries), Bishopton Beck (and tributary), a small section of Letch Beck and numerous drainage ditches along field lines. Small fish species are likely to be present within most these waterways, but the habitat present was largely unsuitable for white-clawed crayfish (*Austropotamobius pallipes*) and European eel.

Amphibians

3.3.6 The BDS revealed 49 records of four different amphibians; including 9 great crested newt, 10 common toad (*Bufo bufo*), 18 smooth newt (*Lissotriton vulgaris*) and 12 common frog (*Rana temporaria*). Common toad is a priority species listed on Section 41 of the NERC Act, and great crested newts are protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and Wildlife and Countryside Act 1981 (as amended).

3.3.7 The study area is largely unsuitable for great crested newt as the terrestrial habitat is predominantly used for crops or grazing pastures, with the exception of some rough grassland along the field perimeters and hedgerow bases which may be suitable for foraging but are limited in their extent. Woodland (AN28) and scrub are also present in fragmented patches which is suitable for foraging, refuge and hibernation.

3.3.8 Using OS mapping, 23 ponds are within 250 m of the Proposed Development Boundary were located (See Figure 6.1.3).

3.3.9 Five ponds were recorded within the Order Limits with four of these assessed as suitable for GCN (AN12, AN15, AN18, AN31 & TN4), and one pond assessed as unsuitable (AN15). Adjacent to the Order Limit, four ponds were located with three of these ponds assessed as suitable for GCN (AN8, AN10 & AN17), and one pond assessed as unsuitable (AN23).

3.3.10 Much of the study area is considered to be unsuitable for the species but areas around some ponds are considered to be optimal as there is some terrestrial habitat with potential for foraging, refuge and hibernacula.

3.3.11 There is also only a limited amount of habitat that may be suitable for common toad. It is unlikely that toads will be found within most of the development area given that the agricultural land is unsuitable, however, suitable habitats here include, ponds, scrub, hedgerow bases and woodland.

Reptiles

3.3.12 There were no BDS records of reptiles returned.

3.3.13 There is some limited suitable habitat for reptiles which are shown in Figure 6.1.5 and listed in Appendix D, Table 8. Areas suitable for reptiles included areas of rough grassland (AN2, 3, 4, 5, 14, 19, 25, 26, 29 and 33), scrub (AN3, 4, 5, 9, 19,25 and 32), tall ruderal (AN4, 9 and 13), compost/muck heap (AN4 and 16) woodland (AN27 and 29), woodland edge (AN5 and 9) and ponds (specifically for grass snake). In addition, a few brash (AN6 and 20), log (AN7, 14, 25 and 29) and rubble piles (AN22 and 25) offer potential for basking and refuge/hibernacula. However, the study area is largely unsuitable for reptiles within the crop and grazed pastureland.

Water voles and otters

3.3.14 One record of water vole and 14 records of otter were returned from the BDS. The water vole record was recorded in 2000 and was located near Dene Beck. The closest otter record was within the Order Limits near to Bishopton Beck with the most recent record from 2019 at the River Skerne.

3.3.15 Certain areas of the streams surveyed such as a flowing drain at Letch Beck offer suitable riparian habitat for Water Vole within the study area which are shown in Figure 6.1.5 and listed in Appendix D, Table 8. However, the majority of habitat available was limited and sub optimal given the depth of water and lack of in channel vegetation.

3.3.16 The waterways throughout the study area may be used by commuting and foraging otters, likely using the burns for commuting between ponds and larger rivers, for example, a minor culverted watercourse emerging at a bridge in Brafferton was recorded to have suitable habitat for otter (AN1). A flowing drain at Letch Beck offered some suitable riparian habitat for otter and water vole (AN34). The terrestrial habitat within the study area was mostly unsuitable, providing little opportunity for laying up spots, couches or holts and minimal spraint or other evidence was recorded during the survey apart from one otter spraint and possible lay-up sites found along Bishopton Beck (AN24).

Bats

3.3.17 The BDS returned 40 records of the following bat species:

- noctule bat (*Nyctalus noctule*) (2 records).
- Daubenton's bat (*Myotis daubentonii*) (4 records).
- whiskered bat (*Myotis mystacinus*) (1 record).
- common pipistrelle bat (*Pipistrelle pipistrelle*) (18 records, 2 within 100 m of the Order Limits).
- soprano pipistrelle (*Pipistrelle pygmeaus*) (1 record).

- Nathusius's pipistrelle (*Pipistrellus nathusii*) (1 record).
- in addition, there are 4 records of unidentified pipistrelles, 4 unidentified Myotis species and 5 unidentified bats (*Vespertilionidae* family).

3.3.18 During the GLTA, a total of 527 trees (or groups of trees) were identified throughout the study area with bat roost potential, ranging from low to high suitability. Features that were recorded that have the potential to support roosting bats included knot holes, woodpecker holes, butt rot, tear outs, compression-forks, desiccation fissures, transverse snaps, flaking bark, ivy plating, shearing cracks, welds, wounds and hazard beams. Of the trees identified, 60 were recorded as having low suitability, 416 were recorded as having moderate suitability and 51 trees were recorded as having high suitability to support roosting bats. The results of the GLTA survey are shown in Figure 6.1.6 and listed in Appendix D; Table 9.

3.3.19 The vast majority of the trees identified with potential roost features (PRFs) were Ash. PRFs were also recorded in other species such as Sycamore, Pedunculate Oak, Willow (*Salix spp.*), Hawthorn, Beech, Poplar (*Populus spp.*), Horse chestnut (*Aesculus hippocastanum*), and Alder (*Alnus glutinosa*).

3.3.20 Most trees identified were located on woodland edges, within field margins or roadside hedgerows, the locations of trees and groups of trees with potential are shown in Figure 6.1.6.

3.3.21 Buildings within the study area were not fully assessed at the time of survey as it was assumed that they were unlikely to be affected by works. If any buildings are to be demolished, a preliminary roost assessment survey will be required to assess their potential for roosting bats.

3.3.22 There was a small collapsed stone building lining the perimeter of a field which is shown in Figure 6.1.5; AN21, gaps in the stonework from missing mortar appear to provide cavities large enough to support a moderate number of roosting bats. However, the works are unlikely to affect this building.

3.3.23 A road bridge consisting of a single arch also offered moderate suitability for bats by way of cracks in the brickwork, pointing and a larger crevice on the eastern supporting buttress (TN35).

3.3.24 The habitats range from low to moderate suitability for commuting and foraging bats given the different characteristics of individual areas throughout the study area. For instance, the low potential areas consist of hedgerows with gaps and isolated trees which don't continuously connect to the wider landscape, likely to only support a small number of foraging bats. In contrast, other areas of the study area provide multiple roosting opportunities and linear commuting routes including woodland edges, streams and hedgerows that connect the study area to the wider landscape and are likely to support a number of commuting and foraging bats.

Badgers

3.3.25 All the badger features described in this section are shown in Confidential Appendix E which contains Figure 6.1.7. As this Confidential Appendix contains sensitive information on the location and activity of badgers, it is not appended to this report and instead is

provided as a standalone document with its distribution to be limited to relevant project staff, relevant councils, Natural England and the Badger Trust.

3.3.26 18 records of badger were returned during the BDS, with the closest being a record northeast of the Order Limits from 2009. Badgers and their setts are protected under the Protection of Badgers Act 1992 and the habitats within the study area were noted as being suitable for this species comprising of woodland and arable and pastureland which provides suitable foraging and resting opportunities for badgers.

3.3.27 Numerous badger setts (B4, 7, 9, 10, 11, 16, 18, 19, 21, 35, 36 and 38), latrines (B3, 6, 14, 17, 20, 24, 25, 27, 29, 32, 33, 34, 42, 43 and 44), snuffle holes (B1, 2, 5, 12, 13, 14, 15, 22, 23, 25, 26, 27, 37, 39, 40 and 41), prints (B8), foraging signs (B28) and paths (B30, 31 and 32) were observed throughout the study area. The setts found within the study area comprise two main setts, one annex sett, three outlier setts, four subsidiary setts and two potential setts.

3.3.28 One of the main setts was recorded along a fence line amongst trees, the other main sett was found within a woodland. Several fresh latrines were recorded across the study area, providing evidence of recent badger activity. Additionally, badger hairs were found on barbed wire along mammal paths across the study area.

Dormice

3.3.29 The study area contained fragmented areas of woodland, hedgerows and areas of scrub habitat that were potentially suitable for use by hazel dormouse, however, the study area is outside the species' known range (Mammal Society, 2023). Furthermore, no records of this species were identified within the 1 km BDS search area or the wider area beyond this. This species is therefore assumed to be absent from the study area.

Birds

3.3.30 The BDS returned 930 records of 86 priority bird species, with many of these being associated with farmland for breeding and/or overwintering such as: greylag goose (*Answer answer*), quail (*Coturnix coturnix*), brambling (*Fringilla montifringilla),* redwing (*Turdus iliacus*), fieldfare (*Turdus pilaris*) and skylark (*Alauda arvensis*) among others.

3.3.31 Three records of barn owl (*Tyto alba*) were returned in the BDS and evidence of their presence was incidentally recorded during the survey. A few trees were identified as being suitable roosting sites for this species, additionally, owl pellets and wing feathers were found along some of the field margins. Therefore, this species may be using some of the trees within the study area for roosting and it is likely they are using field margins and woodland edges for foraging.

3.3.32 There are opportunities for ground nesting birds such as skylarks and lapwing (*Vanellus vanellus)* to nest on some areas of farmland. Skylark and lapwings were observed displaying breeding behaviors during the survey and multiple pairs of lapwings were observed.

3.3.33 A small collapsed stone building lines the perimeter of a field which is shown in Figure 6.1.5; AN21, the gaps in the stonework are suitable for nesting wrens (*Troglodytes troglodytes*). In addition, the trees, woodland, scrub and hedgerows provide opportunities for nesting birds.

Other species

3.3.34 Several brown hares (*Lepus europaeus*) were seen within the study area. Hares favour a mosaic of arable fields, grassland and woodland edges, which are present within the study area. The BDS returned 45 records of brown hares, nine of which are within 100m of the study area.

3.3.35 The survey did not record the presence of any other animals of nature conservation importance; however, habitats within the study area were considered suitable for European hedgehog. 65 records of hedgehogs within 1 km of the Order Limits were identified during the BDS, eight of which were from within 100 m. Hedgehogs occupy a range of lowland habitats with enough cover to allow nesting; they are common in parks in urban and suburban environments, farmland and gardens. Scrub, hedgerows, and grassland within the study area provide suitable foraging habitat for hedgehogs. There may be opportunities for hedgehogs to hibernate in log piles, root plates or dense scrub and it is likely that they are present.

3.3.36 One harvest mouse (*Micromys minutus*) was recorded in 2010 to the west of the Order Limits. The hedgerows, fields with cereal crops and longer grassland on some of the field margins and hedgerow bases are suitable for the species, therefore they may be present within the study area.

3.3.37 One polecat (*Mustela putorius*) was recorded in 2009 to the east of the Order Limits. The mixed deciduous woodland and arable land found throughout the study area are suitable foraging habitats for polecat and rabbit (*Oryctolagus cuniculus*) burrows may act as their dens. It is thought that no large woodland blocks are likely to be removed to facilitate works and it is likely they will naturally move away from disturbance as they are a mobile species.

3.3.38 A mammal burrow was found at the base of a tree during the survey, likely used by rabbit and/or fox (AN11).

4.0 EVALUATION AND RECOMMENDATIONS

4.1 Designated sites

Internationally Designated Sites

4.1.1 SACs and SPAs are part of the 'national site network' and are afforded protection under the provisions of The Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations') or their equivalents in the devolved administrations (refer to Appendix A). These sites are designated as being of international importance for ecology and nature conservation. Furthermore, Ramsar sites are also of international importance, being wetlands that have been designated under the criteria of the Ramsar Convention on Wetlands for containing representative, rare or unique wetland types or for their importance in conserving biological diversity (see Appendix A).

4.1.2 Thrislington SAC is 10 km from the Proposed Development. Thrislington SAC is of internal importance and is designated for semi-natural dry grasslands, broadleaved deciduous woodland and scrubland.

4.1.3 Potential impacts to these sites have been assessed through a Habitat Regulations Assessment (HRA) screening exercise. Full details of the HRA screening exercise are presented in ES Appendix 6.5 Habitats Regulations Assessment No Significant Effects Report (Document Reference 6.4.6.5).

Nationally Designated Sites

4.1.4 A total of four SSSIs and two LNRs are within 2 km of the Proposed Development. Considering the light, noise and pollution control measures that will be set out in a Construction Environmental Management Plan (CEMP), it is expected that there would be no impacts on these designated sites. An Outline CEMP can be seen in ES Appendix 2.6 Outline Construction Environmental Plan (Document Reference 6.4.2.6).

Non-statutory designated sites

There are two non-statutory designated sites within 1 km of the Order Limits boundary (Carr House Dalrlington Pond & Wynyard Woodland Park Stockton), both of which are LWS that are recognised as being of local ecological value and are located along the boundary of the Proposed Development. Considering the light, noise and pollution control measures that will be set out in a CEMP, it is expected that there would be no impacts on these designated sites. An Outline CEMP can be seen in ES Appendix 2.6 Outline Construction Environmental Plan (Document Reference 6.4.2.6).

4.2 Habitats and plants

Habitats

4.2.1 The vast majority of the habitats across the site are species-poor and have little intrinsic botanical value. All of the habitats are also common and widespread in the surrounding landscape. However, most of the hedgerows, ponds, areas of woodland and

watercourses (particularly Byers Gill and Bishopton Beck) qualify as local BAP priority habitats and/or habitats of principal importance, being listed under Section 41 of the NERC Act 2006.

4.2.2 The vast majority of the hedges will not be important under the Wildlife and Landscape Criteria of the Hedgerows Regulations 1997. However, an ecologist should assess the hedgerows due to be affected and decide whether a further hedgerow survey is needed (most likely only necessary for about four hedgerows: TNs 7, 8, 12 and 14).

4.2.3 The relatively poor quality of the hedgerows (and other habitats) likely to be affected by the proposals means that the proposals offer the opportunity to greatly enhance habitats in the area. A landscape ecological management plan (LEMP) should be produced, underpinned by a biodiversity net gain (BNG) assessment aiming for at least a 10% increase in biodiversity units.

Plant species

4.2.4 All of the plant species recorded around the site were relatively common and widespread in the local area. No species are present on the red list for England (Stroh et al. 2014) with the exception of Common Valerian (found around TN3) which is one of the relatively common species on the England red list and listed as near-threatened, likely due to a loss of suitable habitat. Even if it were rarer, the tributary in this area (and this species) is not expected to be impacted by the proposals. Therefore, no plant-species-specific surveys or mitigation is recommended.

Non-native, invasive plant species

4.2.5 The presence of Himalayan Balsam along Bishopton Beck may be a concern where works come close to the watercourse and infested areas, as it is listed on the Invasive Alien Species (Enforcement and Permitting) Order 2019 and would therefore be an offence to aid its spread into the wild. Therefore, if work comes within *c.*10ms of semi-natural habitat along Bishopton Beck, an invasive non-native plant species (INNPS) method statement should be created, detailing measures to minimise the risk of spreading the species.

4.2.6 Due to the timing of the surveys, there is a low possibility that small infestations of other invasive species have been missed across the site, though these would all be outside of the agricultural Panel Areas (i.e., along the cable routes). A pre-construction invasive species walkover should be carried out in the higher risk areas, such as along watercourses and in semi natural habitats at a suitable time of year (May-August). If further invasive species were found, these would also need to be added to an INNPS method statement.

4.3 Protected and other notable species

Great crested newts

4.3.1 Great crested newts are protected under the Habitats Regulations and the Wildlife and Countryside Act 1981 (as amended) (see Appendix A).

4.3.2 A total of five ponds were recorded within the Order Limits. The majority of terrestrial habitat within the Panel Areas and along the cable corridor were seen as unsuitable for GCN.

4.3.3 OS mapping shows a number of other waterbodies relatively close to the Proposed Development with habitat connectivity, and in the absence of survey information there is potential for GCN to be present within these waterbodies.

4.3.4 As there remains a possibility that GCN might be present in low numbers or might enter the construction area, an application for a Natural England District Level Licence for GCN will be made. The terms of this licence will include an appropriate payment to be determined by Natural England.

Reptiles

4.3.5 Reptiles are protected under the Wildlife and Countryside Act 1981 (as amended) (see Appendix A).

4.3.6 No records of reptiles were returned from the BDS. Suitable habitat to support reptiles were recorded within the study area, such as: long grass around field margins, rough and tussock grassland, areas of woodland and tall ruderal and scrub around field margins. Five potential hibernacula sites were also recorded which were large brash, log or stone piles and an area with dead wood.

4.3.7 However, the study area is largely unsuitable for reptiles given that the majority of the land is arable land and improved grassland, which is suboptimal for reptiles. There is some potential for reptiles to be present in the field margins, with some potential hibernacula features recorded and it is therefore assumed that they are present on a precautionary basis.

4.3.8 Appropriate reasonable avoidance measures will, therefore need to be implemented to ensure compliance with legislation and minimise the risk of killing of, or injury to, any reptiles present. As part of these measures, it will be important to:

- avoid leaving excavations open overnight, or place ‘escape ramps’ in excavations left open overnight to prevent the inadvertent trapping of animals; and
- employ a project ecologist to oversee site clearance works, conduct fingertip searches during site clearance, if required and translocate any individuals found to adjacent retained habitat.

4.3.9 Any required vegetation clearance within suitable reptile habitat must follow a cautious approach to avoid killing or injuring reptiles. A cautious approach includes clearance of vegetation in two stages to allow any reptiles present to move away: careful removal of scrub to 10cm in order to make it unattractive to reptiles, and a second cut at the latest a couple of days prior to any required tree felling. Likewise, heaps of stored materials and waste may provide refugia and should be removed by hand.

Water voles and Otters

4.3.10 Water voles and otters are protected species in the UK (see Appendix A). Only one record of water vole and 14 records of otter were returned from the BDS. The water vole

record was recorded in 2000 and was located near Dene Beck. The closest otter record was within the site near Bishopton Beck with the most recent record from 2019 at the River Skerne.

4.3.11 Certain areas of the streams surveyed within the study area had some suitability to support water vole, however the habitat available was limited and sub optimal given the depth of water and lack of in stream channel vegetation. Due to limited habitat available and fragmentation of good quality suitable habitat, it is unlikely that water voles are present. However, as a precaution, water vole surveys should be undertaken in advance of construction to confirm that there are no active burrows, in areas that were seen to be suitable for this species, that could be disturbed by works (the timescale will depend on the season in which works start) and ensure compliance with relevant legislation.

4.3.12 The waterways throughout the study area may be used by commuting and foraging otters, likely using the burns for commuting between ponds and larger rivers. The terrestrial habitat within the study area was mostly unsuitable, providing little opportunity for laying up spots, couches or holts and minimal spraint or other evidence was recorded during the survey. However, as a precaution, an otter survey should be undertaken in advance of construction to confirm that there are no shelters such as holts or couches that could be disturbed by the works (the timescale will depend on the season in which works start) and ensure compliance with relevant legislation.

Bats

4.3.13 During the ground-level tree assessment, a total of 527 trees (or groups of trees) were identified throughout the site with bat roost potential, ranging from low to high suitability. Of the trees identified, 60 were recorded as having low suitability, 416 were recorded as having moderate suitability and 51 trees were recorded as having high suitability to support roosting bats. Most of the trees identified were located on woodland edges, within field margins or along roadside hedgerows.

4.3.14 It is anticipated that only a small number of trees will require felling/pruning. Any tree to be felled/pruned will be subject to a pre-construction check to determine its current bat roost potential and will be subject to suitable surveys, as described in good practice survey guidelines (Collins 2023). These checks should involve, where safe to do so, an aerial inspection of any suitable features using tree climbing techniques and an endoscope, to look for bats or evidence of bats. If, on inspection a feature is identified as having potential for roosting bats then further surveys will be necessary. If features are found to have low potential the tree can be felled under precautionary measures (Collins, 2023). If tree climbing is not possible, emergence surveys will be required, the scope of which will be dependent on the value of each feature.

4.3.15 The study area was assessed as having ‘low to moderate potential’ for foraging and commuting bats. It is expected that the majority of boundary features will be retained with suitable buffers to allow the continued use of these features across the study area. Static detector bat activity surveys were undertaken to indicate the species and numbers of bats using the study area for foraging and commuting and are reported upon separately.

4.3.16 In order to minimise the risk of killing, injury or disturbance to bats (if present), or damage to tree roosts, the following measures should be adopted:

- employ a project ecologist to undertake a check of any trees which need to be felled or trimmed or any bridges with bat roost suitability that will be affected by works
- employ best practice measures for working close to mature trees, and in particular those which may contain bat roosts, for example: Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (National Joint Utilities Group, 2007)4.
- the use of site lighting/working in the hours of darkness should be avoided.

4.3.17 If a tree which has the potential to support a bat roost, such as a large mature tree must be felled or pruned, the advice of an ecologist should be obtained. Further surveys, in the form of close-up aerial (climbed) inspections and/or emergence surveys may be required to determine the need to obtain a licence from Natural England for those works to proceed, which could result in a delay to the proposed works.

Badgers

4.3.18 Badgers are afforded protection through the Protection of Badgers Act 1992 and the Wildlife and Countryside Act 1981 (as amended) (refer to Appendix A). 18 records of badger were returned during the BDS, with the closest being a record northeast of the site from 2009. Numerous badger setts, latrines, snuffle holes, prints, foraging signs and paths were observed throughout the study area.

4.3.19 Badger setts recorded within the study area were mainly located within hedgerows or woodland along the edge of the Order Limits.

4.3.20 A badger survey should be undertaken in advance of construction to confirm that there are no setts that could be disturbed by the works (the timescale will depend on the season in which works start) and ensure compliance with relevant legislation.

4.3.21 If a sett is discovered and requires removal, a licence will be required from Natural England to exclude badgers before it can be removed; removal can only be undertaken between 1 July and 30 November inclusive. A licence would also be required for setts subject to disturbance but not removal.

4.3.22 Where possible, works should be avoided within 30m of a main sett. Badgers regularly move territories, open old setts, or dig new ones. In order to safeguard any badgers that may be active in the area, security fencing used around the Panel Areas should be permeable to badgers allowing continued movement across the Order Limits. It is also good practice to cover any excavations overnight to prevent badgers (and other mammals such as hedgehogs) from becoming trapped. If it is not possible to cover excavations, an egress route should be provided to allow animals to climb out.

4.3.23 The planting of native species in landscaping schemes including flower-, berry- and fruit-bearing species would benefit badgers and other species, providing a good foraging

[4] National Joint Utilities Group (2007). *NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees*. Issue 2. (And: *Operatives Handbook*) http://njug.org.uk/wp-content/uploads/2016/09/V4-Trees-Issue-2-16-11-2007.pdf http://njug.org.uk/wp-content/uploads/2016/09/V4-Trees-Issue-2-Operatives-Handout.pdf

resource. The inclusion of such species in any future landscape planting plans for the site should therefore be considered.

Birds

4.3.24 There are opportunities for barn owl and ground nesting birds such as skylarks and lapwing to nest within the study area. It is recommended that breeding bird surveys are carried out to indicate the species and numbers of birds using the study area for nesting.

4.3.25 All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) (see Appendix A). It is recommended that further surveys for breeding and winter birds should be carried out to identify the importance of the bird assemblage within the Order Limits and determine the likely impacts and mitigation requirements for the Proposed Development. Should birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) be found using the site, mitigation may be required to safeguard them and prevent their breeding sites from being disturbed or destroyed by the Proposed Development.

4.3.26 All active birds' nests, regardless of species, are protected by UK law. A nest is deemed to be active even if it is in the process of being built and does not yet contain eggs or young. To avoid impacts on nesting birds, if vegetation suitable for nesting birds is to be cut during the nesting season (March to August inclusive), it will have to be checked for nests by an ecologist immediately prior to clearance. If nests are found, they must be retained (with a suitable, species-specific buffer from works established) and protected from damage or abandonment until the young have fledged.

4.3.27 Removal of suitable bird nesting habitat should be conducted over the winter months between October and February to avoid the main breeding bird season (March to August inclusive), where possible.

4.3.28 Throughout the Order Limits, to minimise the risk of damaging or destroying a bird's nest, including significant disturbance of the birds (if present), the following measures should be adopted:

- fell trees and shrubs, and reduce bramble scrub and other above-ground vegetation to 30cm height either: (a) outside the main bird breeding season (March to August inclusive, taking care to avoid impacts to features on the ground which may be used by hibernating reptiles or amphibians, and thereafter retaining habitat as unsuitable for use by breeding birds; or (ii) during the main bird breeding season, but only once a project ecologist has conducted checks for nesting birds prior to site clearance operations.

4.3.29 If a bird's nest is discovered on site, the works should cease and the advice of an ecologist should be obtained.

Hedgehog, and other mammals

4.3.30 To minimise the risk of trapping animals such as hedgehogs and brown hare (if present), the following measures should be adopted:

- employ a project ecologist to oversee site clearance works, conduct searches during site clearance (e.g. for the new graded access drive, parking and turning areas).
- avoid leaving excavations open overnight, or place 'escape ramps' in excavations left open overnight to prevent the inadvertent trapping of animals.

4.3.31 Precautions should be taken during any planned works to avoid adverse effects to hedgehogs. Working at night should be avoided where possible and it is also good practice to cover any excavations overnight to prevent hedgehogs (and other mammals) from becoming trapped in them. If it is not possible to cover excavations then an egress route should be provided to allow animals to climb out of excavations, should they become trapped (i.e. ramps or planks of wood).

4.3.32 Enhancements within the Proposed Development to support urban hedgehog and other species populations can include unlit hedgerows and holes in garden fences to improve habitat connectivity ('hedgehog highways') (PTES, 2019). The use of pesticides, herbicides and rodenticides should be avoided on the site and vegetation clearance to ground level should only occur once the area has been walked and checks for hedgehogs and other notable species made. No further surveys for other animals such as hedgehog are considered necessary.

4.3.33 If mammal burrows such as a fox den and rabbit warren are to be destroyed the burrow may need to be excavated under ecological supervision to ensure no mammals are harmed during the unearthing process. It should be noted that all wild mammals are protected by The Wild Mammals (Protection) Act 1996 (as amended).

4.4 Opportunities for enhancement

Landscaping

4.4.1 The planting of native species including flower-, berry- and fruit-bearing species would benefit badgers, birds and other noteworthy species. Furthermore, planting trees and hedgerows on site would create a commuting corridor for many species including bats and hedgehogs. These features should have strips of rough native grassland planted adjacent to them to attract invertebrates.

4.4.2 Field margins between the boundary hedgerows and the security fencing should be enhanced and managed accordingly with sowing seed mix such as; winter wild bird food (sowing with specific wild bird winter food), provision of rough grass margins (sowing with tussock forming grass species), and provision of flower rich margins (sowing with a wildflower seed).

4.4.3 Land under and between Panel Areas to be enhanced and managed accordingly with maintenance grass.

4.4.4 Where possible hedgerows across the Proposed Development which have been removed will be re-planted. Existing hedgerows will be enhanced with planting along defunct hedgerows where landscape concerns suggest its effective mitigation. Only native species will be planted along these hedgerows.

4.4.5 Relaxation of cutting (flailing) along existing hedgerows to benefit nesting birds and invertebrates.

Nest/Roost boxes

4.4.6 Bird and bat boxes should be incorporated into the development design, including those suitable for a range of bat species. These features would provide additional roosting/nesting sites for these species groups and help offset impacts associated with habitat loss.

Log piles and 'hedgehog highways'

4.4.7 Log piles should be incorporated into quiet and varied habitats in the development to offer refuge for hedgehogs and other species. Ideally, they should be created using any logs generated from vegetation clearance, or from native and local wood. Furthermore, 'hedgehog highways' (holes *c.*13cm^2) should be provided to improve habitat connectivity for hedgehogs.

4.5 Validity of Data

4.5.1 Unless the site changes significantly, the surveys carried out for this report should remain valid for at least 18 months, and potentially up to 3 years (CIEEM 2019).

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Figures

Figure 6.1.1 Site Location Plan

429000 430000 431000 432000 433000 434000 435000 436000 437000 438000 439000 440000 441000

526000 525000 524000 523000 522000 521000 520000 519000 518000 517000 516000

Mordon
Thorpe Larches
Preston le Skerne
Elstob
Elstob Lane
Stillington
Thorpe Thewles
Panel Area B: Hauxley Farm
Panel Area D: Great Stainton
Panel Area F: North of Bishopton
A1(M)
Carlton
Letch Lane
Bishopton
Redmarshall
Harrowgate Lane
Drovers Lane
A167
Panel Area A: Brafferton
Panel Area C: Byers Gill Wood
Little Stainton
Panel Area E: West of Bishopton
Fairfield
Whinney Hill
Bishopton Lane
Hill House Lane
Darlington Back Lane
Yarm Back Lane
Darlington Golf Course
Elton
Whessoe Road
North Road
A1150
Sadberge
Great Burdon
A66
Long Newton
Durham Lane
Cleveland Trading Estate
A66
Middleton

Legend:

- Order Limits

Panel Area

- Panel Area A: Brafferton
- Panel Area B: Hauxley Farm
- Panel Area C: Byers Gill Wood
- Panel Area D: Great Stainton
- Panel Area E: West of Bishopton
- Panel Area F: North of Bishopton

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Byers Gill Solar Farm

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Site Location Plan

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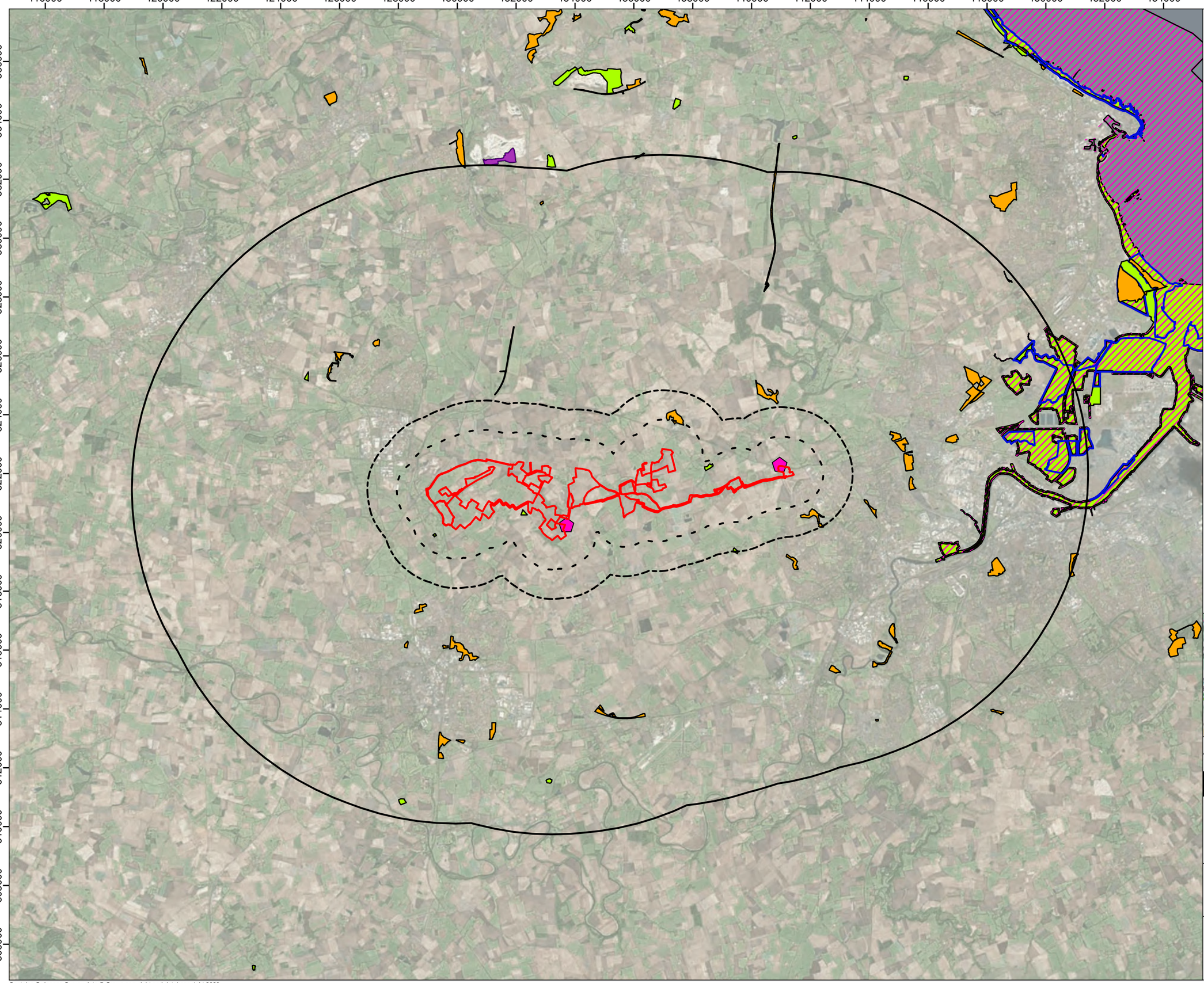
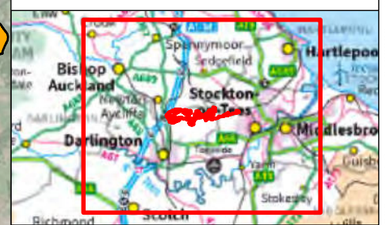
Figure 6.1.2 Designated Sites



Legend:

- Order Limits
- Site Area 1KM Buffer
- Site Area 2KM Buffer
- Site Area 10KM Buffer
- Special Area of Conservation
- Special Protection Areas
- Ramsar Site
- Proposed Ramsar Site
- Site of Special Scientific Interest
- Local Nature Reserves
- Local Wildlife Sites (Nearest Point)



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Designated Sites

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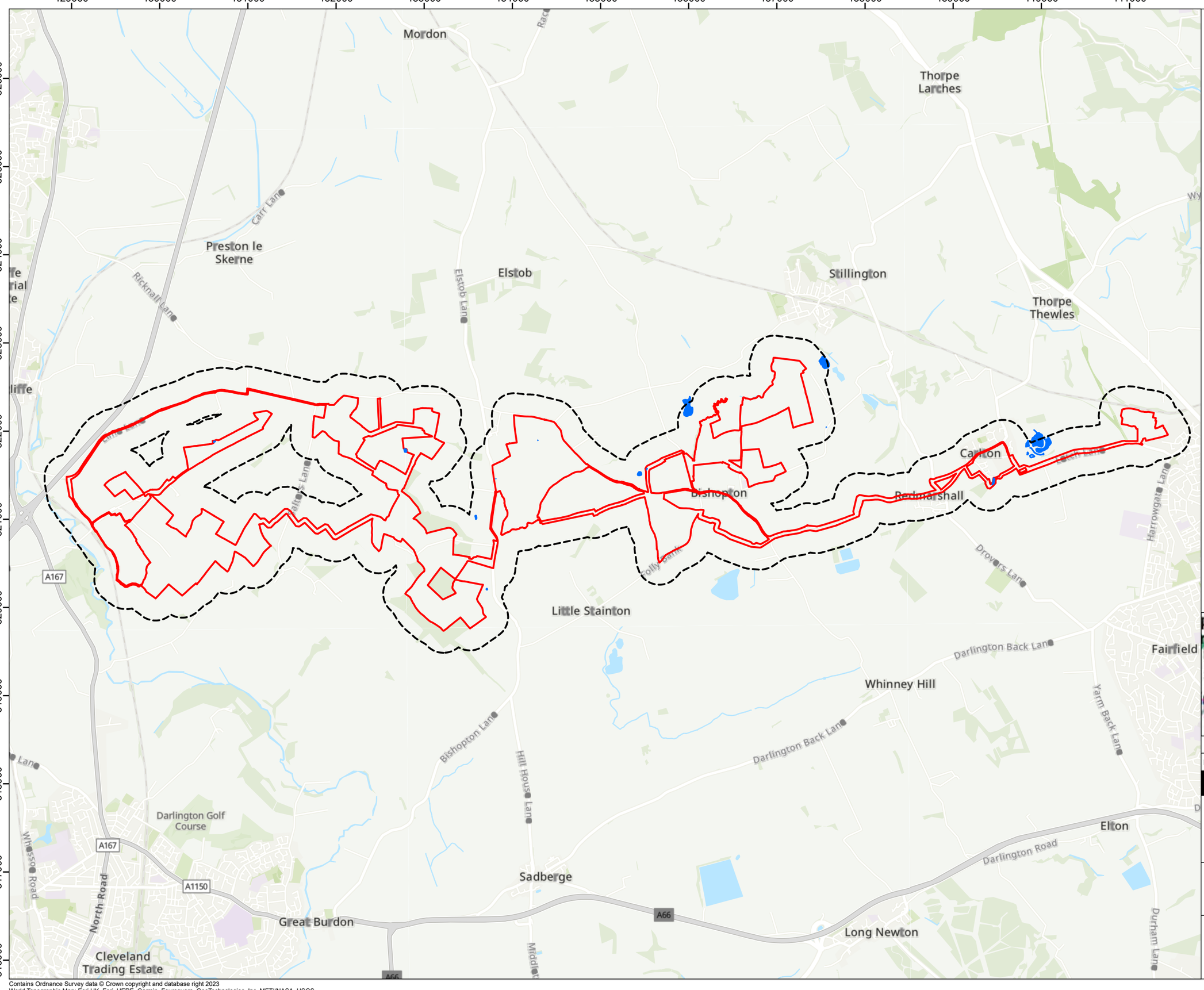
Figure 6.1.3 Distribution of Ponds



Legend:

- Order Limits
- Site Area 250M Buffer
- Pond

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Distribution of Ponds

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Figure 6.1.4 UKHab Survey Map

428600 428800 429000 429200 429400 429600 429800 430000

522400 522200 522000 521800 521600 521400 521200

TN1 TN2 TN3

Legend:

- Order Limits

UKHab Habitats

- Other Neutral Grassland
- Lolium-Cynosurus Neutral Grassland
- Modified Grassland
- Hawthorn Scrub
- Mixed Scrub
- Built Linear Features
- Other Lowland Mixed Deciduous Woodland
- Native Hedgerow
- Other Hedgerow
- Other Rivers and Streams
- Line of Trees
- Target Note

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RSK biocensus EXPERTS IN ECOLOGY

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UK Habitat Survey
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521400 521200 521000 520800 520600 520400 520200

TN3

TN5

TN21

Legend:

- Order Limits

UKHab Habitats

- Arable and Horticulture
- Temporary Grass and Clover Leys
- Cereal Crops
- Other Neutral Grassland
- Arrhenatherum Neutral Grassland
- Lolium-Cynosurus Neutral Grassland
- Holcus-Juncus Neutral Grassland
- Modified Grassland
- Other Blackthorn Scrub
- Hawthorn Scrub
- Mixed Scrub
- Buildings
- Built Linear Features
- Other Lowland Mixed Deciduous Woodland
- Other Woodland; Mixed; Mainly Broadleaved
- Native Hedgerow
- Other Hedgerow
- Other Rivers and Streams
- Line of Trees
- Target Note

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RSK biocensus
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UK Habitat Survey
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522600 522400 522200 522000 521800 521600 521400

TN4

Legend:

- Order Limits

UKHab Habitats

- Lolium-Cynosurus Neutral Grassland
- Holcus-Juncus Neutral Grassland
- Modified Grassland
- Mixed Scrub
- Other Eutrophic Standing Waters
- Built Linear Features
- Other Lowland Mixed Deciduous Woodland
- Native Hedgerow
- Other Rivers and Streams
- Line of Trees
- Target Note

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RSK biocensus EXPERTS IN ECOLOGY

TITLE: Figure 6.1.4:
UK Habitat Survey
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430800 431000 431200 431400 431600 431800 432000 432200

521400 521200 521000 520800 520600 520400 520200

TN6

Legend:

- Order Limits

UKHab Habitats

- Arable and Horticulture
- Temporary Grass and Clover Leys
- Cereal Crops
- Holcus-Juncus Neutral Grassland
- Modified Grassland
- Mixed Scrub
- Built Linear Features
- Other Lowland Mixed Deciduous Woodland
- Other Woodland; Mixed; Mainly Broadleaved
- Native Hedgerow
- Other Hedgerow
- Ditch
- Line of Trees
- Target Note

Rev	Date	Description	Drn	Chk	App
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RSK biocensus
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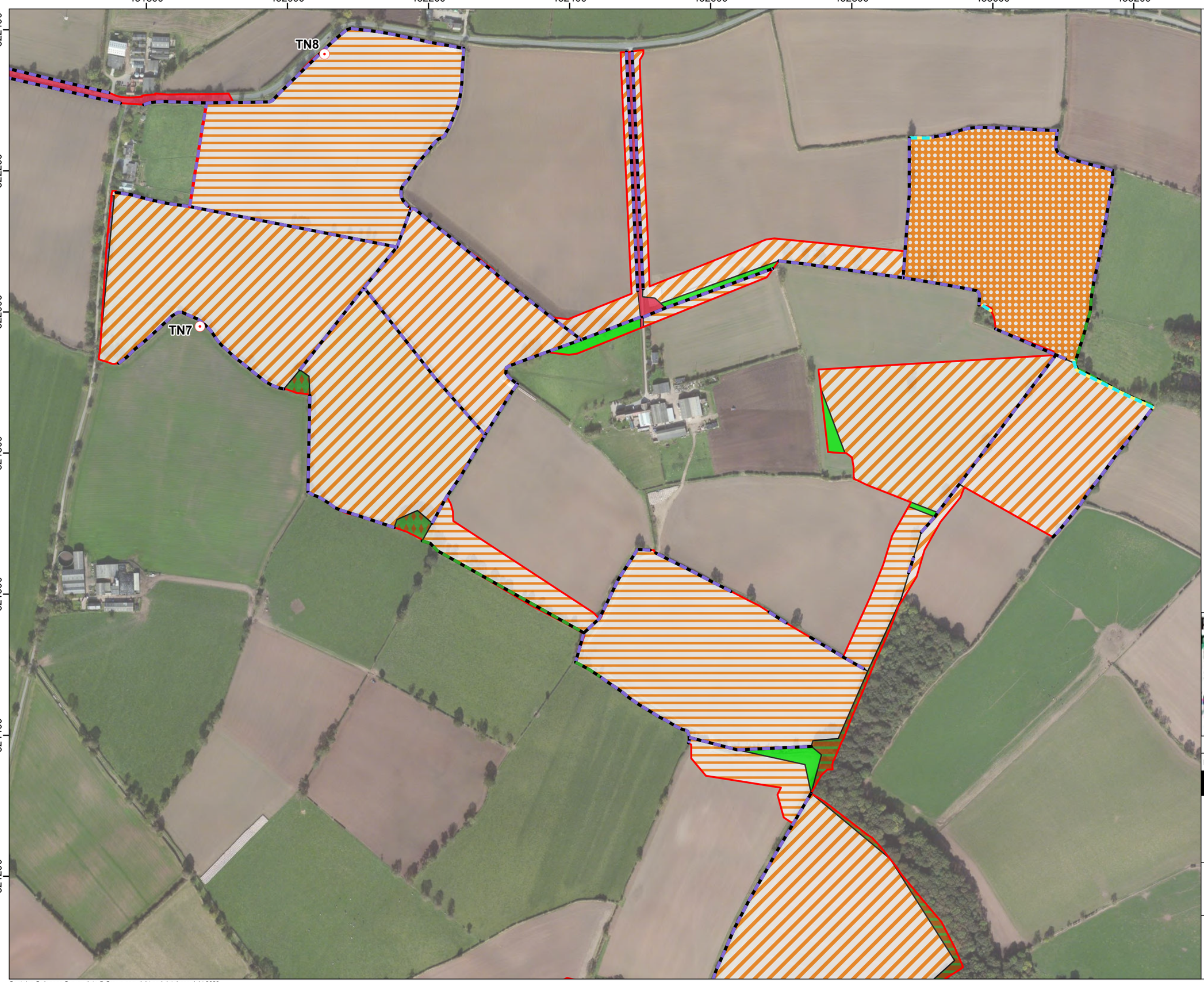

Legend:

- Order Limits

UKHab Habitats

- Arable and Horticulture
- Cereal Crops
- Non-Cereal Crops
- Modified Grassland
- Dense Scrub
- Built Linear Features
- Lowland Mixed Deciduous Woodland
- Other Lowland Mixed Deciduous Woodland
- Other Broadleaved Woodland Types
- Native Hedgerow
- Other Hedgerow
- Ditch
- Line of Trees
- Target Note

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Legend:

- Order Limits

UKHab Habitats

- Arable and Horticulture
- Arable Field Margins
- Temporary Grass and Clover Leys
- Cereal Crops
- Other Neutral Grassland
- Modified Grassland
- Other Blackthorn Scrub
- Bramble Scrub
- Mixed Scrub
- Built-Up Areas and Gardens
- Artificial Unvegetated, Unsealed Surface
- Built Linear Features
- Wet Woodland
- Lowland Mixed Deciduous Woodland
- Other Lowland Mixed Deciduous Woodland
- Native Hedgerow
- Other Hedgerow
- Ditch
- Other Rivers and Streams
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- Target Note

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433600 433800 434000 434200 434400 434600 434800 435000 435200

522200 522000 521800 521600 521400 521200 521000

TN10 TN11 TN12 TN13

Legend:

- Order Limits

UKHab Habitats

- Arable Field Margins
- Temporary Grass and Clover Leys
- Cereal Crops
- Other Neutral Grassland
- Arrhenatherum Neutral Grassland
- Holcus-Juncus Neutral Grassland
- Modified Grassland
- Hawthorn Scrub
- Mixed Scrub
- Eutrophic Standing Waters
- Built Linear Features
- Wet Woodland
- Other Lowland Mixed Deciduous Woodland
- Other Broadleaved Woodland Types
- Native Hedgerow
- Other Hedgerow
- Ditch
- Other Rivers and Streams
- Built Linear Feature
- Line of Trees
- Target Note

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435200 435400 435600 435800 436000 436200 436400 436600 436800

521800 521600 521400 521200 521000 520800 520600

TN17

Legend:

- Order Limits

UKHab Habitats

- Arable and Horticulture
- Temporary Grass and Clover Leys
- Cereal Crops
- Other Neutral Grassland
- Arrhenatherum Neutral Grassland
- Modified Grassland
- Mixed Scrub
- Standing Open Water and Canals
- Built-Up Areas and Gardens
- Artificial Unvegetated, Unsealed Surface
- Built Linear Features
- Lowland Mixed Deciduous Woodland
- Other Lowland Mixed Deciduous Woodland
- Other Broadleaved Woodland Types
- Native Hedgerow
- Other Hedgerow
- Other Rivers and Streams
- Line of Trees
- Target Note

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522800 522600 522400 522200 522000 521800 521600

TN16

TN15

TN14

Legend:

- Order Limits

UKHab Habitats

- Temporary Grass and Clover Leys
- Cereal Crops
- Other Neutral Grassland
- Arrhenatherum Neutral Grassland
- Lolium-Cynosurus Neutral Grassland
- Modified Grassland
- Built-Up Areas and Gardens
- Artificial Unvegetated, Unsealed Surface
- Built Linear Features
- Wet Woodland
- Other Lowland Mixed Deciduous Woodland
- Native Hedgerow
- Other Hedgerow
- Other Rivers and Streams
- Line of Trees
- Target Note

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436800 437000 437200 437400 437600 437800 438000 438200 438400

521600 521400 521200 521000 520800 520600 520400

TN18

Legend:

- Order Limits

UKHab Habitats

- Arable and Horticulture
- Cereal Crops
- Other Neutral Grassland
- Arrhenatherum Neutral Grassland
- Modified Grassland
- Mixed Scrub
- Built-Up Areas and Gardens
- Built Linear Features
- Native Hedgerow
- Other Rivers and Streams
- Line of Trees
- Target Note

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522200 522000 521800 521600 521400 521200 521000

TN19 TN20

Legend:

- Order Limits

UKHab Habitats

- Cereal Crops
- Other Swamps
- Other Neutral Grassland
- Modified Grassland
- Built Linear Features
- Other Lowland Mixed Deciduous Woodland
- Other Broadleaved Woodland Types
- Native Hedgerow
- Other Hedgerow
- Other Rivers and Streams
- Line of Trees
- Target Note

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522600 522400 522200 522000 521800 521600 521400

TN22

TN23

Legend:

- Order Limits

UKHab Habitats

- Arable and Horticulture
- Cereal Crops
- Other Neutral Grassland
- Modified Grassland
- Bramble Scrub
- Hawthorn Scrub
- Mixed Scrub
- Built-Up Areas and Gardens
- Suburban / Mosaic Of Developed / Natural Surface
- Built Linear Features
- Other Lowland Mixed Deciduous Woodland
- Other Broadleaved Woodland Types
- Native Hedgerow
- Target Note

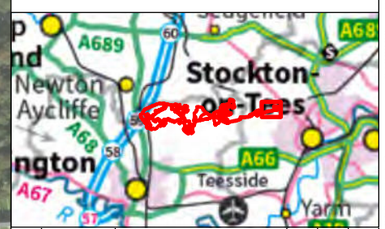

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Figure 6.1.5 Animal Walkover Map

428600 428800 429000 429200 429400 429600 429800 430000

522400 522200 522000 521800 521600 521400 521200

Legend:

Order Limits

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429000 429200 429400 429600 429800 430000 430200 430400 430600

521400 521200 521000 520800 520600 520400 520200

AN1

AN2

Legend:

Order Limits

Animal Notes

Otter Suitable Habitat

Reptile Suitable Habitat

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522600 522400 522200 522000 521800 521600 521400

Legend:

Order Limits

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431800 432000 432200 432400 432600 432800 433000 433200

522400 522200 522000 521800 521600 521400 521200

Legend:

Order Limits

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Legend:

- Order Limits

Animal Notes

- GCN Suitable Habitat - Waterbody
- Reptile - Potential Hibernacula
- Reptile Suitable Habitat

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522200 522000 521800 521600 521400 521200 521000

AN14
AN13
AN15
AN16
AN12
AN11
AN10

Legend:

Order Limits

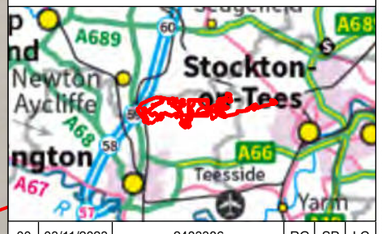
Animal Notes

GCN Suitable Habitat - Waterbody

GCN Unsuitable Habitat - Waterbody

Mammal Burrow

Reptile Suitable Habitat



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435200 435400 435600 435800 436000 436200 436400 436600 436800

521800 521600 521400 521200 521000 520800 520600

AN17 AN18 AN19 AN20

Legend:

Order Limits

Animal Notes

GCN Suitable Habitat - Waterbody

Reptile - Potential Hibernacula

Reptile Suitable Habitat

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522800 522600 522400 522200 522000 521800 521600

AN20 AN21 AN22 AN23 AN24 AN25

Legend:

Order Limits

Animal Notes

- Bat - Potential Roost Building
- GCN Unsuitable Habitat - Waterbody
- Otter Spraint
- Reptile - Potential Hibernacula

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AN26

Legend:

Order Limits

Animal Notes

Reptile Suitable Habitat

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522200 522000 521800 521600 521400 521200 521000

AN29
AN33
AN34
AN27
AN30
AN31
AN28
AN32

Legend:

- Order Limits

Animal Notes

- GCN Suitable Habitat
- GCN Suitable Habitat - Waterbody
- Otter Suitable Habitat
- Reptile Suitable Habitat

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AN35

Legend:

Order Limits

Animal Notes

Bat - Potential Roost Building

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Figure 6.1.6 Assessment of Trees for Roosting Bats Survey Results Assessment

Legend:

Order Limits

Suitability after Initial Assessment

- Moderate
- Low

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Legend:

Order Limits

Suitability after Initial Assessment

- Moderate
- Low

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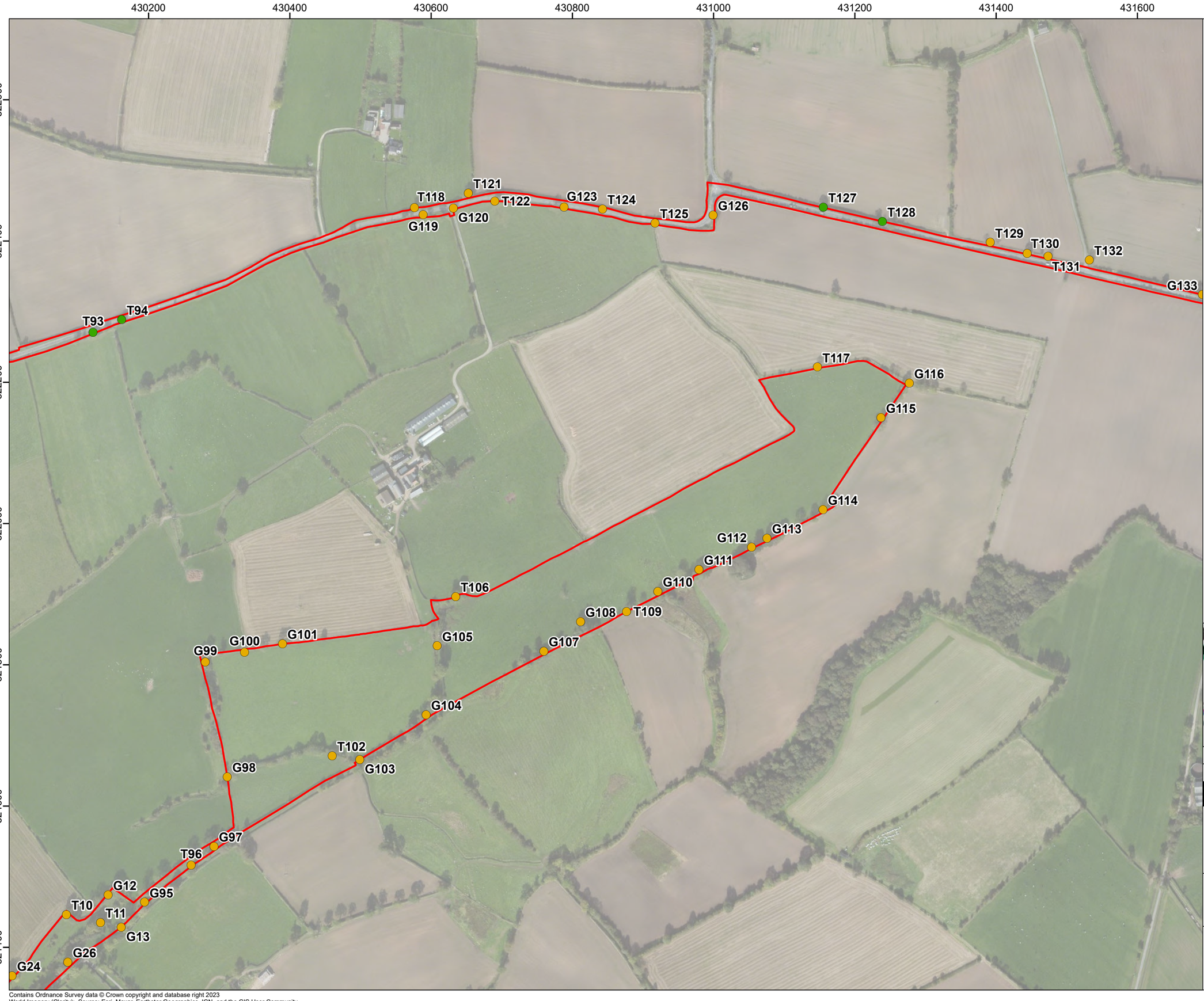

Legend:

Order Limits

Suitability after Initial Assessment

- Moderate
- Low

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Legend:

Order Limits

Suitability after Initial Assessment

- Moderate
- Low

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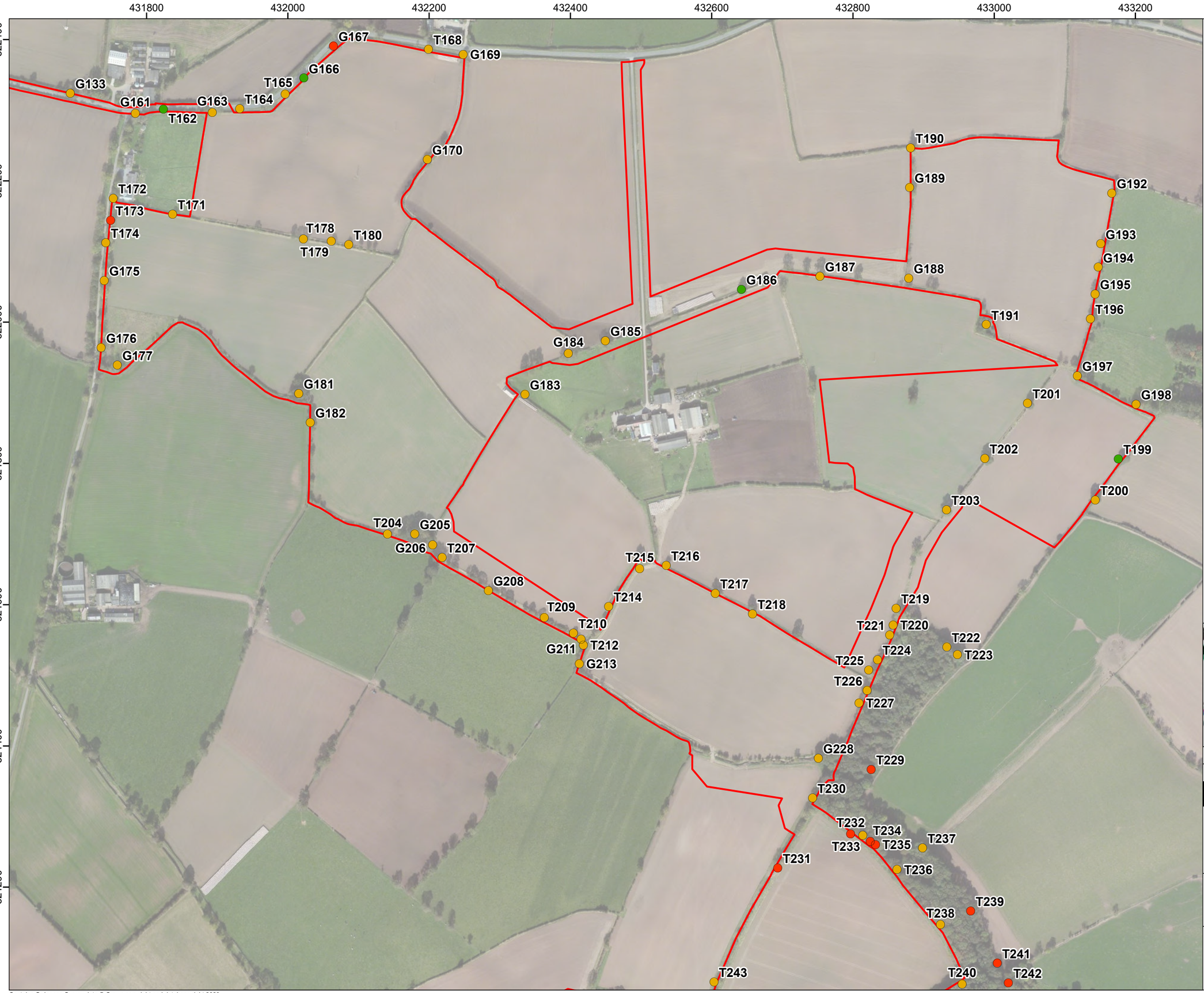

Legend:

- Order Limits

Suitability after Initial Assessment

- High
- Moderate
- Low

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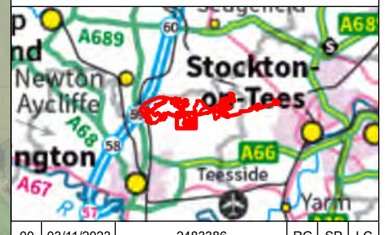
Legend:

- Order Limits

Suitability after Initial Assessment

- High
- Moderate
- Low



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Legend:

Order Limits

Suitability after Initial Assessment

- High
- Moderate
- Low

Rev	Date	Description	Drn	Chk	App
00	03/11/2023	2483386	RG	SP	LC

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RSK biocensus EXPERTS IN ECOLOGY

TITLE: Figure 6.1.6:
Assessment of Trees for Roosting Bats
Survey Results
Page 7 of 12

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Order Limits

Suitability after Initial Assessment

- High
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Legend:

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RSK biocensus EXPERTS IN ECOLOGY

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Order Limits

Suitability after Initial Assessment

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- Moderate
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- Order Limits

Suitability after Initial Assessment

- Moderate
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RSK biocensus
EXPERTS IN ECOLOGY

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Order Limits

Suitability after Initial Assessment

- High
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- Low

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RSK biocensus EXPERTS IN ECOLOGY

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APPENDIX A – NATURE CONSERVATION LEGISLATION AND POLICY

International Legislation

The following international conventions and directives apply to biodiversity protection in the UK. Post-'Brexit', even though European Union (EU) directives no longer directly apply to the UK, the provisions therein are enshrined in both domestic legislation and international agreements. Legislation has been enacted to ensure the regulations derived from these remain in force[5].

The Convention on Biological Diversity 1992 *et seq.*

This multilateral treaty (https://www.cbd.int/doc/legal/cbd-en.pdf), signed by 150 government leaders at the 1992 Rio Earth Summit, has three main goals, of which one is the conservation of biological diversity. Article 6 requires countries to develop national biodiversity strategies, plans or programmes. In response, the UK developed the UK Biodiversity Action Plan (BAP) 1994 (https://jncc.gov.uk/our-work/uk-bap/) as well as county-specific BAPs. Subsequent to this, parties of the convention agreed the supplementary Nagoya Protocol 2010 (available at https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf), adopting the Strategic Plan for Biodiversity 2011-2020. The purpose of this Strategic Plan was to provide a framework for establishing national and regional biodiversity targets (https://www.cbd.int/doc/strategic-plan/2011-2020/Aichi-Targets-EN.pdf).

Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (Birds Directive) 2009
https://www.legislation.gov.uk/eudr/2009/147

The Birds Directive 2009 relates to the conservation of all species of naturally occurring birds in their wild state in the territory of the EU Member States (MSs) to which the treaty applies. Under the Birds Directive, the most suitable areas of conservation of the Annex I species are to be designated as Special Protection Areas (SPAs), as part of the European Natura 2000 network. Post Brexit, SPAs are no longer considered part of Natura 2000 and are instead components of the UK's 'national site network', but their highly protected status is unchanged. Maintaining a coherent network of protected sites with overarching conservation objectives is still required in order to fulfil the commitment made by government to maintain environmental protections and continue to meet the UK's international legal obligations.

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) 1992
https://www.legislation.gov.uk/eudr/1992/43

The Habitats Directive 1992 requires EU MSs to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of community interest, which are listed

[5] Further information relating to England and Wales can be found here: https://www.gov.uk/government/publications/changes-to-the-habitats-regulations-2017/changes-to-the-habitats-regulations-2017. A similar exercise has been undertaken in Scotland and Northern Ireland.

under Annex I, II, IV and/or V. Species listed under Annex IV are known as 'European Protected Species' (EPS), and have retained their protected status in UK domestic legislation post-Brexit.

Under the Habitats Directive, EU Member States are required to contribute to the Natura 2000 network through the designation of Special Areas of Conservation (SACs) for natural habitat types listed in Annex I and habitats of species listed in Annex II. Post Brexit, SACs are no longer considered part of the European Natura 2000 network and are instead components of the UK's 'national site network', but their highly protected status is unchanged.

The Convention on Wetlands of International Importance Especially as Waterfowl Habitat 1971: the Ramsar Convention

Accessible via https://jncc.gov.uk/our-work/ramsar-convention/

The Ramsar Convention is an intergovernmental treaty focused on the conservation and sustainable use of wetland, primarily as habitats for water birds. Under the convention, each ratified country is required to identify and designate sites (Ramsar sites) that meet the criteria for identifying a wetland of international importance, i.e. containing representative, rare or unique wetland types. In addition, the convention promotes international co-operation to promote the wise use of all wetlands and their resources.

Habitats Regulations Assessment (HRA): a note

There is a requirement under the EU nature directives, and enshrined in country-specific domestic legislation[6] (see below), to undertake a screening exercise to determine whether any sites that form part of the 'national site network' (formerly Natura 2000) are likely to be significantly affected by any proposal (project or plan). The assessment must consider the proposals alone and also in combination with other plans and projects, if they result from activities that are not directly connected with, or necessary to, the management of the designated sites. If significant effects are likely, an Appropriate Assessment (AA) will need to be carried out. The screening, any AA, and any subsequent assessment, are collectively known as a Habitats Regulations Assessment (HRA). The HRA needs to take into account each of the 'Qualifying Features' (habitats or species) that justified the site being designated. Ramsar sites are treated in the same way as SACs and SPAs in HRAs, as are sites which have not been fully adopted i.e. candidate SACs (cSACs) and potential SPAs (pSPAs).

The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979

Accessible via**:** https://jncc.gov.uk/our-work/the-convention-on-the-conservation-of-migratory-species-of-wild-animals/#convention-summary

The Bonn Convention was adopted in 1979 and came into force in 1985. Contracting Parties work together to conserve migratory species and their habitats by providing strict protection for endangered migratory species (listed in Appendix I of the Convention), concluding multilateral agreements for the conservation and management of migratory species which require or would

[6] In England and Wales: the Conservation of Habitats and Species Regulations 2017 (as amended).
In Scotland: the Conservation (Natural Habitats &c.) Regulations 1994 (as amended).
In Northern Ireland: the Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended). .
In the UK offshore area: the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended).

benefit from international cooperation (listed in Appendix II), and by undertaking cooperative research activities. The UK Government ratified the Bonn Convention in 1985. The current legally-binding Agreements under the Convention include EUROBATS[7].

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1979
https://www.coe.int/en/web/bern-convention

The principal aims of the Bern Convention 1979 are to ensure the conservation and protection of wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase cooperation between contracting parties, and to regulate the exploitation of those species (including migratory species) listed in Appendix III. To this end, the Bern Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1,000 wild animal species. The UK Government ratified the Bern Convention in 1982.

National Legislation

The following pieces of domestic legislation apply to biodiversity protection in the UK.

The Wildlife and Countryside Act (WCA) 1981
https://www.legislation.gov.uk/ukpga/1981/69

The Wildlife and Countryside Act 1981 (as amended) is the primary piece of legislation relating to nature conservation in the UK, though it has been adapted in different ways in the devolved administrations. It was initially enacted to implement the Bern Convention, Bonn Convention and the Birds Directive (described above).

The act is supplemented by provisions in the Countryside and Rights of Way (CRoW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006, and extended in Scotland by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2011). Its equivalent in Northern Ireland is the Wildlife (Northern Ireland) Order 1985 (as amended and similarly extended). In addition to the Habitat Regulations (described below), the WCA provides protection for species listed in Schedules 1 (birds), 5 (other animals) and 8 (plants) of the Act. It provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) in England and Wales[8]. It also sets out, in other schedules, important and invasive species which are legally protected or require management.

All species of bird are protected under the WCA. The legislation makes it an offence to intentionally:

a) kill, injure or take any wild bird;
b) take, damage, or destroy the nest of any wild bird while that nest is in use or being built; or
c) take or destroy an egg of any wild bird.

[7] More information available at https://jncc.gov.uk/our-work/agreement-on-the-conservation-of-populations-of-european-bats-eurobats

[8] Duty replaced by the Nature Conservation (Scotland) Act 2004 (as amended) and the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 (as amended) in those countries.

Those species of birds listed on Schedule 1 of the WCA are afforded additional protection, which deems it an offence to intentionally or recklessly:

a) disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
b) disturb dependent young of such a bird.

Under Section 9 of the WCA, for animals listed on Schedule 5, it is an offence in England and Wales to intentionally or recklessly:

- kill, injure or take any wild animal listed on Schedule 5*;
- possess or control any live or dead those wild animals or anything derived from it*;
- damage or destroy any structure or place which wild animals listed on Schedule 5 uses for shelter or protection*;
- disturb any such animal while it is occupying a structure or place of shelter or protection;
- obstruct access to any structure or place used by any such animal for shelter or protection; and
- sell, offer or expose for sale, or have in their possession or transports for the purpose of sale, any live or dead wild animal listed on Schedule 5 or any part of, or anything derived from such an animal.

As noted above, there are minor differences between the offences in England and Wales outlined above, and those in Scotland / Northern Ireland. The three clauses marked with asterisks do not apply to EPS in England and Wales, as these offences are included in the 'Habitats Regulations' (see below). In addition, the Wildlife and Countryside Act 1981 is no longer relevant to EPS in Scotland or Northern Ireland, which instead are afforded full protection by the 'Habitats Regulations' (see below).

In addition to EPS, species commonly found on development sites include water voles (*Arvicola amphibius*) and widespread species of reptiles: common lizard (*Zootoca vivipara*); slow-worm (*Anguis fragilis*); grass snake (*Natrix helvetica*); and adder (*Vipera berus*). These four reptile species receive partial protection, which prevents the intentional or deliberate killing and injuring of reptiles or offering them for sale.

Section 14(2)[9] states that it is an offence to plant or otherwise cause to grow any plant in the wild at a place outside its native range.

There is no provision within the Act for derogation licences to be issued for the purposes of development, although Section 10 provides a defence in cases that may be considered to be: *"the incidental result of a lawful operation and could not reasonably have been avoided"* if certain conditions are met.

Section 16(i) of the Act does make provision for derogation licences to be issued *"for the purposes of preserving public health or public … safety"*. For confirmation of this, it would be appropriate to consult the relevant statutory nature conservation body (SNCB)[10].

[9] In Scotland, as amended by Section 14 of the Wildlife and Natural Environment (Scotland) Act 2011.

[10] SNCBs are - in England: Natural England; in Wales: Natural Resources Wales; in Scotland: NatureScot; in Nortern Ireland: Department of Agriculture, Environment and Rural Affairs (DAERA).

The Conservation of Habitats and Species Regulations (Habitat Regulations) 2017
https://www.legislation.gov.uk/uksi/2017/1012 England and Wales

The Habitats Regulations 2017 consolidated the various amendments made to the 1994 Habitat Regulations, which were developed to implement the Birds Directive and Habitats Directive (see above) at a national level, though this consolidation only applies in England and Wales. As noted above, in Scotland and in Northern Ireland, the original versions of the Regulations in each region have been retained and amended to include protections for EPS that were initially provided under the WCA (or its equivalent).

The Regulations (as amended) provide for the designation and protection of the national site network (formerly 'Natura 2000 sites'), the adaptation of planning and other controls for those sites, and the protection of EPS (listed on Schedules 2 and 5).

The 2017 Regulations (England and Wales, Reg. 43) deems it an offence to:

a) deliberately capture, injure or kill a wild animal of a EPS,
b) deliberately disturb wild animals of any such species,
c) deliberately take or destroy the eggs of such an animal, or
d) damage or destroy a breeding site or resting place of such an animal.

For the purposes of paragraph (b), disturbance of animals includes in particular any disturbance which is likely to:

a) impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
b) to affect significantly the local distribution or abundance of the species to which they belong.

There are also restrictions on transport, possession and sale.

The Habitats Regulations 1994 which apply in Scotland with a number of amendments, provide full protection to EPS without recourse to the WCA[11].

The legislation in Northern Ireland is similar to Scotland in that the protection for EPS has been transferred to the Conservation (Natural Habitats, & c.) Regulations (NI) 1995 (as amended).

It is possible to obtain a derogation licence from the relevant SNCB[10] to permit activities which would otherwise contravene the regulations above, including for development purposes, when certain conditions are met. Failure to satisfy the Regulations and obtain a licence where required could result in prosecution and lead to fines and possible imprisonment.

To meet the requirements in Regulation 63(1) [48(1) of the 1994 Regulations in Scotland], an HRA is required (see note in previous section).

Currently (2021), all EPS are also listed on Schedule 5 of the WCA (outlined above), as it applies in England and Wales, though only some clauses of the WCA apply (Section 9 4(b), (c) and 5). EPS often encountered on development sites include GCN (*Triturus cristatus*), all species of bats, dormice (*Muscardinus avellanarius*) and otters (*Lutra lutra*).

[11] https://www.nature.scot/professional-advice/protected-areas-and-species/protected-species/legal-framework/habitats-directive-and-habitats-regulations/european-protected

Countryside and Rights of Way Act 2000
https://www.legislation.gov.uk/ukpga/2000/37

The Countryside and Rights of Way (CRoW) Act 2000 provides for public access on foot to certain land types, amends the law for public rights of way, increases protection for SSSIs, and strengthens wildlife enforcement legislation. It applies only in England and Wales.

The Natural Environment and Rural Communities (NERC) Act 2006; The Environment (Wales) Act 2016
https://www.legislation.gov.uk/ukpga/2006/16

The Natural Environment and Rural Communities (NERC) Act 2006, Section 40 requires that any public body or statutory undertaker in England must have regard to the purpose of conservation of biological diversity in a manner that is consistent with the exercise of their normal functions. This may include enhancing, restoring or protecting a population or a habitat. The intention is to help ensure that biodiversity becomes an integral consideration in the development of policies, and that decisions of public bodies work with the grain of nature and not against it. In Wales, a similar duty has been moved to Section 6 of the Environment (Wales) Act 2016.

As part of this duty, statutory undertakers must have regard to the list of habitats and species which are of principal importance for the purpose of maintaining and enhancing biodiversity. For England, the duty to compile such a list is captured under Section 41 of the NERC Act; in Wales, under Section 7 of the Environment (Wales) Act. The lists for England are accessible online via the National Archive[12]; for Wales via https://www.biodiversitywales.org.uk/.

The Hedgerows Regulations 1997
https://www.legislation.gov.uk/uksi/1997/1160/made

The Hedgerows Regulations 1997 provide protection for 'important' hedgerows for which replanting is not a substitute. The 'importance' of a hedgerow depends upon several archaeological, wildlife and landscape criteria (which are outlined in the Regulations). The regulations deem it an offence to remove an 'important hedgerow' without prior notification to the relevant local planning authority.

Protection of Badgers Act 1992
https://www.legislation.gov.uk/ukpga/1992/51

Badgers and their setts are protected under the Protection of Badgers Act 1992 (England, Wales and Scotland). The key part of this legislation in relation to the proposed development are in Section 3, which deems it an offence to:

a) damage a badger sett or any part of it;
b) destroy a badger sett;
c) obstruct access to, or any entrance of, a badger sett;
d) disturb a badger when it is occupying a badger sett,
e) intend to do any of those things or be reckless as to whether those actions would have any of the consequences listed above.

12 https://webarchive.nationalarchives.gov.uk/ukgwa/20140712055944/http:/www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx

Derogation licences may be obtained from the relevant SNCB[10] under Section 10 of the Act for the purpose of development, to permit activities which would otherwise be unlawful.

Note: there are additional provisions relating to badgers under the WCA Section 11 (Prohibition of certain methods of killing or taking wild animals).

The Wild Mammals (Protection) Act 1996
https://www.legislation.gov.uk/ukpga/1996/3

All wild mammals are protected by The Wild Mammals (Protection) Act 1996 (as amended). This makes it an offence to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal.

Invasive Alien Species (Enforcement and Permitting) Order 2019
(https://www.legislation.gov.uk/uksi/2019/527/contents/made)

The Invasive Alien Species (Enforcement and Permitting) Order applies principally in England and Wales and the UK's offshore marine area, but also controls imports and exports from the UK (including Scotland and Northern Ireland). It lists species of concern which cannot be imported, kept, bred/grown, transported, sold, used, allowed to reproduce, or released into the environment. This Order replaces some elements relating to invasive species in the Wildlife and Countryside Act 1981 (as amended).

National, regional and local policy and guidance of relevance

Planning policy relating to ecology and nature conservation is set out below.

National Planning Policy Framework 2021
Access via: https://www.gov.uk/government/publications/national-planning-policy-framework--2

The National Planning Policy Framework (NPPF) sets out the Government's planning policy in England at the national level. It does not contain specific policies for nationally significant infrastructure projects, which are determined in accordance with the decision-making framework in the Act and relevant National Policy Statements for major infrastructure, as well as any other matters that are relevant (which may include the NPPF). Section 15 (paragraphs 174-188) of the NPPF specifies the requirements for conserving and enhancing the natural environment through the planning and development process to minimise impacts on habitats and biodiversity.

Planning Practice Guidance
Accessed via: https://www.gov.uk/government/collections/planning-practice-guidance

The Planning Practice Guidance is a web-resource to support the NPPF, including guidance for Environmental Impact Assessments (https://www.gov.uk/guidance/environmental-impact-assessment) and the Natural Environment (https://www.gov.uk/guidance/natural-environment). The guidance for the Natural Environment explains key issues in implementing the NPPF to protect and enhance the natural environment, including local requirements. The guidance outlines what evidence needs to be taken into account in preparing planning applications to identify and map local ecological networks. It also outlines how biodiversity can be taken into account in preparing a planning application.

Government's 25-Year Environment Plan 2018
Accessed via: https://www.gov.uk/government/publications/25-year-environment-plan

The Government's 25-Year Environment Plan 2018 sets out how the UK Government intends to improve the natural health of the UK through improving land, air and water quality, as well as setting out how the effects of climate change will be tackled. The plan promotes the creation or restoration of wildlife-rich habitat outside the protected site network and seeks to recover threatened, iconic or economically important species of animals, plants and fungi, and where possible to prevent human induced extinction or loss of known threatened species in England. The plan sets out a number of goals and corresponding policies that look at managing land sustainably, improving and enhancing landscapes and biodiversity for both marine and terrestrial environments, improving resource efficiency and reducing waste and pollution, whilst also examining the UK's contribution to improving the global environment.

APPENDIX B – NOTEWORTHY SPECIES RECORDS

Table 5 displays noteworthy species records that are located within 1 km of the site boundary. These species records were obtained from Environmental Records Information Centre North East. The scientific and common names for species are given as well as their level of designation. A glossary defining abbreviations used in the table is given in Table 6, Appendix C. If a species is not included in the table below it does not necessarily mean the species is absent from the search area, but that data-holding organizations do not have records of it in these locations.

Table 5 Noteworthy species records within 1 km of the site boundary

Scientific name	Common name	Designation	Most Recent	Within 100m	Within 1km
Plants					
Hottonia palustris	Water-violet	GB RDB(VU), ENG BSBI RDB(VU)	**2005**		*
Meconopsis cambrica	Welsh poppy	NS	**2016**		*
Pedicularis palustris	Marsh lousewort	GB RDB(VU), ENG BSBI RDB(VU)	**1996**		*
Ranunculus flammula	Lesser spearwort	GB RDB(VU), ENG BSBI RDB(VU)	**1992**		*
Invertebrates					
Acronicta rumicis	Knot grass	S41	**1969**		*
Adscita statices	Forester	S41	**1936**		*
Aglais polychloros	Large tortoiseshell	WCA5 – only inc in Appendix	**2008**		*
Arctia caja	Garden tiger	S41	**1967**		*
Bombus (Thoracombus) ruderarius	Red-shanked Carder-bee	S41	**1953**		*
Bombus (Thoracombus) sylvarum	Shrill carder bee		**1915**		*
Chiasmia clathrata	Latticed heath	S41	**2012**		*
Coenonympha pamphilus	Small heath	S41	**2006**		*
Crambus uliginosellus	Marsh grass-veneer	Notable:B	**1877**		*
Erynnis tages	Dingy skipper	S41, GB RDB(VU)	**2006**		*
Hepialus humuli	Ghost moth	S41	**2003**		*
Lasiommata megera	Wall	S41	**2006**		*
Satyrium w-album	White-letter hairstreak	WCA5, S41, GB RDB(EN) – only inc in Appendix	**2003**		*
Scotopteryx chenopodiata	Shaded broad-bar	S41	**2011**		*
Spilosoma lubricipeda	White ermine	S41	**2003**		*
Timandra comae	Blood-vein	S41	**2014**		*
Fish					
Anguilla anguilla	European eel	S41, OSPAR	**2011**		*
Amphibians					
Bufo bufo	Common toad	WCA5, S41 – only inc in Appendix	**2010**		*

Scientific name	Common name	Designation	Most Recent	Within 100m	Within 1km
Lissotriton vulgaris	Smooth newt	WCA5 – only inc in Appendix	**2010**		*
Rana temporaria	Common frog	WCA5 – only inc in Appendix	**2012**		*
Triturus cristatus	Great crested newt	EPS(Sch2), WCA5, S41	**2012**	*	*
Birds					
Acanthis cabaret	Lesser redpoll	S41, Red	**2006**		*
Accipiter nisus	Sparrowhawk	Amber	**2013**		*
Acrocephalus schoenobaenus	Sedge warbler	Amber	**2017**		*
Actitis hypoleucos	Common sandpiper	Amber, GB RDB(VU)	**2011**		*
Alauda arvensis	Skylark	S41, Red	**2013**		*
Alcedo atthis	Kingfisher	WCA1.1	**2017**		*
Anas crecca	Teal	Amber	**2012**		*
Anas penelope	Wigeon	Amber	**2010**		*
Anas platyrhynchos	Mallard	Amber	**2013**		*
Anas strepera	Gadwall	Amber	**2011**		*
Anser albifrons	White-fronted goose	Red, GB RDB(CR)	**2017**		*
Anser albifrons subsp. albifrons	European greater white-fronted goose	Red, GB RDB(CR)	**2013**		*
Anser albifrons subsp. flavirostris	Greenland greater white-fronted goose	Red, GB RDB(CR)	**2012**		*
Anser anser	Greylag goose	WCA1.2, Amber	**2011**		*
Anser brachyrhynchus	Pink-footed goose	Amber	**2017**		*
Anser fabalis subsp. rossicus	Tundra bean goose	GB RDB(VU)	**2017**		*
Anthus pratensis	Meadow pipit	Amber	**2020**		*
Apus apus	Swift	Red, GB RDB(EN)	**2013**	*	*
Asio flammeus	Short-eared owl	Amber, GB RDB(EN)	**2012**		*
Aythya ferina	Pochard	Red, GB RDB(EN)	**2017**		*
Aythya marila	Scaup	WCA1.1, S41, Red, GB RDB(EN)	**2017**		*
Branta leucopsis	Barnacle goose	Amber	**2017**		*
Calcarius lapponicus	Lapland bunting	WCA1.1, Amber, GB RDB(VU)	**2006**		*
Carduelis cabaret	Lesser redpoll	S41, Red	**2013**		*
Carduelis cannabina	Linnet	S41, Red	**2020**		*
Carduelis flammea	Redpoll	Amber, GB RDB(CR)	**2010**		*
Chloris chloris	Greenfinch	Red, GB RDB(EN)	**2013**		*
Cinclus cinclus	Dipper	Amber	**2020**		*
Circus aeruginosus	Marsh harrier	WCA1.1, Amber	**2010**		*
Columba oenas	Stock dove	Amber	**2013**		*
Columba palumbus	Woodpigeon	Amber	**2013**	*	
Corvus frugilegus	Rook	Amber	**2013**	*	*
Coturnix coturnix	Quail	WCA1.1, Amber	**2013**		*
Cuculus canorus	Cuckoo	S41, Red, GB RDB(VU)	**2020**	*	*
Cygnus columbianus	Bewick's swan	WCA1.1, S41, Red, GB RDB(CR)	**2013**		*
Cygnus cygnus	Whooper swan	WCA1.1, Amber, GB RDB(EN)	**2013**		*
Delichon urbicum	House martin	Red, GB RDB(VU)	**2013**		*
Emberiza calandra	Corn bunting	S41, Red	**2012**		*

Scientific name	Common name	Designation	Most Recent	Within 100m	Within 1km
Emberiza citrinella	Yellowhammer	S41, Red	**2013**		*
Emberiza schoeniclus	Reed bunting	S41, Amber	**2021**		*
Falco columbarius	Merlin	WCA1.1, Red, GB RDB(EN)	**2007**		*
Falco peregrinus	Peregrine	WCA1.1	**2013**		*
Falco subbuteo	Hobby	WCA1.1	**2012**		*
Falco tinnunculus	Kestrel	Amber, GB RDB(VU)	**2013**		*
Fringilla montifringilla	Brambling	WCA1.1	**2017**		*
Gallinago gallinago	Snipe	Amber	**2010**		*
Gallinula chloropus	Moorhen	Amber, GB RDB(VU)	**2010**	*	*
Haematopus ostralegus	Oystercatcher	Amber	**2008**		*
Larus argentatus	Herring gull	S41, Red, GB RDB(EN)	**2011**		*
Larus canus	Common gull	Amber	**2010**		*
Larus fuscus	Lesser black-backed gull	Amber	**2013**		*
Larus marinus	Great black-backed gull	Amber, GB RDB(EN)	**2011**		*
Larus ridibundus	Black-headed gull	Amber, GB RDB(VU)	**2010**		*
Linaria cannabina	Linnet	S41, Red	**2006**		*
Locustella naevia	Grasshopper warbler	S41, Red	**2017**		*
Motacilla cinerea	Grey wagtail	Amber	**2020**		*
Motacilla flava	Yellow wagtail	S41, Red	**2020**		*
Muscicapa striata	Spotted flycatcher	S41, Red	**2020**	*	*
Numenius arquata	Curlew	S41, Red, GB RDB(EN)	**2013**		*
Numenius phaeopus	Whimbrel	WCA1.1, Red, GB RDB(CR)	**2007**		*
Oenanthe oenanthe	Wheatear	Amber	**2017**		*
Passer domesticus	House sparrow	S41, Red	**2014**		*
Passer montanus	Tree sparrow	S41, Red, GB RDB(VU)	**2017**	*	*
Perdix perdix	Grey partridge	S41, Red, GB RDB(VU)	**2021**	*	*
Philomachus pugnax	Ruff	WCA1.1, Red, GB RDB(CR)	**2012**		*
Phoenicurus ochruros	Black redstart	WCA1.1, Amber, GB RDB(EN)	**2010**		*
Phoenicurus phoenicurus	Redstart	Amber	**2009**		*
Phylloscopus trochilus	Willow warbler	Amber	**2013**		*
Plectrophenax nivalis	Snow bunting	WCA1.1, Amber, GB RDB(EN)	**2008**		*
Podiceps cristatus	Great crested grebe	GB RDB(VU)	**2010**		*
Poecile montana	Willow tit	S41, Red, GB RDB(EN)	**2017**		*
Prunella modularis	Dunnock	S41, Amber	**2013**		*
Pyrrhula pyrrhula	Bullfinch	S41, Amber	**2013**		*
Saxicola rubetra	Whinchat	Red	**2012**		*
Scolopax rusticola	Woodcock	Red, GB RDB(VU)	**2009**		*
Strix aluco	Tawny owl	Amber	**2008**		*
Sturnus vulgaris	Starling	S41, Red, GB RDB(VU)	**2013**		*
Sylvia communis	Whitethroat	Amber	**2013**	*	*
Tringa ochropus	Green sandpiper	WCA1.1, Amber, GB RDB(EN)	**2011**		*

Scientific name	Common name	Designation	Most Recent	Within 100m	Within 1km
Troglodytes troglodytes	Wren	Amber	**2014**	*	*
Turdus iliacus	Redwing	WCA1.1, Amber, GB RDB(CR)	**2013**		*
Turdus philomelos	Song thrush	S41, Amber	**2013**		*
Turdus pilaris	Fieldfare	WCA1.1, Red, GB RDB(CR)	**2013**		*
Turdus viscivorus	Mistle thrush	Red, GB RDB(VU)	**2012**		*
Tyto alba	Barn owl	WCA1.1	**2012**		*
Vanellus vanellus	Lapwing	S41, Red, GB RDB(EN)	**2013**		*
Mammals					
Arvicola amphibius	European water vole	WCA5, S41, GB RDB(EN)	**2000**		*
Erinaceus europaeus	West European hedgehog	S41, GB RDB(VU)	**2020**	*	*
Lepus europaeus	Brown hare	S41	**2021**	*	*
Lutra lutra	European otter	EPS(Sch2), WCA5, S41	**2019**	*	*
Meles meles	Eurasian badger	BA	**2018**		*
Micromys minutus	Harvest mouse	S41	**2010**		*
Mustela putorius	Polecat	S41	**2009**		*
Myotis spp.	Unidentified myotis species	EPS(Sch2), WCA5	**2011**		*
Myotis daubentonii	Daubenton's bat	EPS(Sch2), WCA5	**2006**		*
Myotis mystacinus	Whiskered bat	EPS(Sch2), WCA5	**2003**		*
Nyctalus noctula	Noctule bat	EPS(Sch2), WCA5, S41	**2006**		*
Pipistrellus spp.	Unidentified pipistrelle species	EPS(Sch2), WCA5	**2011**		*
Pipistrellus nathusii	Nathusius's pipistrelle	EPS(Sch2), WCA5	**2010**		*
Pipistrellus pipistrellus	Common pipistrelle	EPS(Sch2), WCA5	**2013**	*	*
Pipistrellus pygmaeus	Soprano pipistrelle	EPS(Sch2), WCA5, S41	**2013**		*
Vespertilionidae spp.	Unidentified simple nosed bat species	EPS(Sch2), WCA5	**2010**		*

APPENDIX C – ABBREVIATIONS

Table 6 displays abbreviations of protected species legislation.

Table 6: Glossary of abbreviations used in this report

Code	Full Title	Explanation
Amber	Amber list	Amber listed species have a population status in the UK of medium conservation concern.
BAP	Biodiversity action plan	A plan that identifies threats to significantly important species and habitats, and sets out targets and actions to enhance or maintain biodiversity.
DA	The Deer Act 1991	All wild deer with the exception of Muntjac (*Muntiacus reevesi*) and Chinese Water deer (*Hydropotes inermis*) are protected by a closed season.
ENG BSBI RDB	A Vascular Plant Red List for England	A list published in 2014 by the Botanical Society of Britain and Ireland of the red list status of plants in England. Measured against standardised IUCN criteria.
ENG BSBI RDB(CR)	Critically endangered	A BSBI Red List designation for species at an extremely high risk of extinction.
ENG BSBI RDB(EN)	Endangered	A BSBI Red List designation for species at a very high risk of extinction.
ENG BSBI RDB(VU)	Vulnerable	A BSBI Red List designation for species at high risk of extinction.
EPS (Sch 2)	European protected species (Schedule 2)	European protected species of animals, listed on Schedule 2 of The Conservation of Habitats and Species Regulations 2017.
EPS (Sch 5)	European protected species (Schedule 5)	European protected species of plants, listed on Schedule 5 of The Conservation of Habitats and Species Regulations 2017.
GB RDB	Red data book species	Species identified in one of the UK Red Data 2001.
GB RDB(CR)	Critically endangered	An IUCN Red List designation for species at an extremely high risk of extinction.
GB RDB(EN)	Endangered	An IUCN Red List designation for species at a very high risk of extinction.
GB RDB(VU)	Vulnerable	An IUCN Red List designation for species at high risk of extinction.
HAP	Habitat action plan	A plan that identifies threats to a priority habitat and sets out targets and actions to enhance or maintain that habitat.
IUCN	International Union for Conservation of Nature and Natural Resources	A worldwide partnership and conservation network to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.
LBAP	Local biodiversity action plan	A plan that identifies threats to locally important species and habitats, and sets out targets and actions in Species Action Plans and Habitat Action Plans to enhance or maintain biodiversity at the county or regional level.
Notable	Scarce and threatened invertebrates	Invertebrate species which are estimated to occur within the range of 16 to 100 10km squares but subdivision into Notable A and Notable B categories is not possible as there is insufficient information available).
Notable: A	Scarce and threatened invertebrates	Taxa which do not fall within Red Data Book categories but which are none-the-less uncommon in Great Britain and thought to occur in 30 or fewer 10km squares of the National Grid or, for less well-recorded groups, within seven or fewer vice-counties.
Notable: B	Scarce and threatened invertebrates	Taxa which do not fall within Red Data Book categories but which are none-the-less uncommon in Great Britain and thought to occur in between 31 and 100 10km squares of the National Grid or, for less-well recorded groups between eight and twenty vice-counties.
NN	Nationally notable	Designation for invertebrate taxa that are thought to be notably important in the UK.
NR	Nationally rare	Species in 15 or fewer hectads in Great Britain.
NS	National scarce	Species in 16-100 hectads in Great Britain.
OSPAR	OSPAR	Species listed on The Convention for the Protection of the Marine Environment of the North-East Atlantic

Code	Full Title	Explanation
Red	Red list	Red listed species have a population status in the UK with high conservation concern.
SAP	Species action plan	A plan that identifies threats to significantly important species, and sets out targets and actions to prevent losing that species to extinction.
S41	Species of principal importance	Species of Principal Importance in England under The Natural Environment and Rural Communities (NERC) Act (2006)
UKBAP	UK biodiversity action plan	A plan that identifies threats to locally important species and habitats, and sets out targets and actions in species action plans and habitat action plans to enhance or maintain biodiversity in the UK.
WCA	The Wildlife and Countryside Act 1981 (as amended)	Containing 4 Parts and 17 Schedules, the Act covers protection of wildlife (birds, and some animals and plants), the countryside, National Parks, and the designation of protected areas, and public rights of way.
WCA1	Schedule 1 of The Wildlife and Countryside Act 1981 (as amended)	This Schedule lists birds protected by special penalties at all times, but virtually all wild birds have some protection in law. Acts which are prohibited for all wild birds (except derogated 'pest' species) include intentional killing, injuring or taking; taking, damaging or destroying nests in use or being built; taking or destroying eggs; possessing or having control of (with certain exceptions but including live for dead birds, parts or derivative); setting or permitting certain traps, weapons, decoys or poisons. Selling, offering or exposing for sale, possessing or transporting for sale any live wild bird, egg or part of an egg or advertising any of these for sale, or dead wild bird including parts or derivatives are also prohibited. Many birds must be formally registered and ringed if kept in captivity. Schedule I WCA birds are additionally protected from intentional or reckless disturbance while building a nest, or when such a bird is in, on or near a nest containing eggs or young, or intentional or reckless disturbance of dependent young.
WCA5	Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	Schedule 5 animals are protected from intentional killing, injuring or taking; possessing (including parts or derivatives); intentional or reckless damage, destruction or obstruction of any structure or place used for shelter or protection; selling, offering or exposing for sale, possessing or transporting for the purpose of sale (alive or dead, including parts or derivatives). Protection of some species is limited to certain Sections of the Act (*e.g.* S9(1), S9(4a), S9(4b), S9(5)).
WCA8	Schedule 8 of The Wildlife and Countryside Act 1981 (as amended)	Plants and fungi protected from intentional picking, uprooting, destroying, trading (including parts or derivatives), *etc*.

APPENDIX D – TARGET NOTES

The locations of the following botanical target notes are shown in Figure 6.1.4.

Table 7: UKHab Target Notes

TN	Grid Reference	Notes
1	NZ 28992127	Scrub dominated by Hawthorn with occasional Blackthorn and young Ash trees. There is a large clearing of semi-improved grassland which appeared to have originated from a native wildflower seed mix.
2	NZ 29492147	The northernmost tributary to the River Skerne on/bordering the site. A very minor watercourse in between two hedges. No vegetation other than tall herbs and rare Soft-rush and Brooklime.
3	NZ 30012132	Tributary to the River Skerne, a small stream surrounded by grassland, mixed scrub and wet woodland. Species in the margins of the tributary included Great Willowherb, Common Nettle, Meadowsweet, Common Valerian, Water Figwort, Wild Angelica and Hard Rush. The woodland and scrub include Ash, Hawthorn, Dog-rose, Gorse and Bramble with the ground flora comprising several common woodland herbs including Broad Buckler-fern. The grassland was moderately species-rich and referable to MG6 *Lolium perenne-Cynosurus cristatus* grassland. Graminoid species included Perennial Rye-grass, Crested Dog's-tail, Sweet Vernal-grass, Yorkshire-fog, Cock's-foot and Field Wood-rush. Forbs included Pignut, Common Mouse-ear, Common Sorrel and Lesser Celandine.
4	NZ 30622188	A small pond with lots of common, marginal vegetation merging into grassland dominated by Soft-rush and then False Oat-grass with Hawthorn scrub.
5	NZ 29982050	The southernmost tributary to the River Skerne on the site. A very shallow, flowing stream with steep buddy banks covered in scrub to the west but with an open centre and scattered Gorse scrub, a large mature Hybrid Crack-willow and marginal vegetation consisting of Brooklime, Water-cress, Creeping Buttercup, Hard-rush, Soft-rush, Great Willowherb and Floating Sweet-grass. The scrub is mostly Hawthorn and there is a species-poor 'wildflower' strip to the north dominated by common grasses such as False Oat-grass, Cock's-foot and Yorkshire-fog.
6	NZ 31122099	Other mixed woodland planted along drainage ditch/tributary to Newton Beck. Semi-mature to mature tree species include Ash, Wild Cherry, Silver Birch, Beech, Sycamore, Field Maple, Sitka Spruce, Scots Pine, and larch. The understorey includes Hawthorn, Elder, Blackthorn, Holly and Bramble. Ground flora mixed with Common Nettle, Cleavers and Ivy, but also Wood Avens, Primrose, Bluebell and daffodils (*Narcissus* sp.). The woodland merges into a tall (*c.*5 m) and wide (*c.*3 m), species-poor section of gappy, Hawthorn hedge with Elder and Dog-rose where the cable route will presumably cross.
7	NZ 31882198	A partly neglected hedge dominated by Hawthorn and Blackthorn with young Ash trees and a 1-metre-deep ditch which was slightly wet at the time of the survey. There is a moderately species-rich ground flora with a few fern species including Broad Buckler-fern, Male-fern and Hart's-tongue Fern.
8	NZ 32052237	A heavily managed (1.5x1.5 m) but species-rich Hawthorn hedge which also includes Dog-rose, Blackthorn, Holly, Gooseberry, Wych Elm, Hazel, Bramble and several semi-mature to veteran Ash trees. There is a roadside ditch to the north but the ground flora appeared moderately species-poor with Bramble, Rosebay Willowherb, Common Nettle, Cleavers, Wood Avens, Cow Parsley and Hogweed.
9	NZ 33792075	A section of the cable route appearing to cross Byers Gill where it is mostly covered with rose, Bramble and Hawthorn scrub with woodland dominated by Hybrid Crack-willow. Similar woodland is present along Little Stainton Beck to the east, though Ash and Sycamore are also common, and the scrub is largely managed as a tall, dense hedge dominated by Blackthorn.
10	NZ 34252202	Wet area in field with snipe flushed at the time of the survey. It was dominated by Hard Rush with Creeping Buttercup, Yorkshire-fog, Brooklime, Jointed Rush (*Juncus cf. articulatus*), Soft-rush, Floating Sweet-grass, a willowherb (*Epilobium* sp.) and the moss, *Calliergonella cuspidata*.
11	NZ 34292190	Very minor, unvegetated pond less than 1 metre deep.
12	NZ 34322189	Species-rich hedge with mature Ash trees, north of a wet ditch. It was c.3 m tall and 2 m wide at the time of the survey with several woody species including Blackthorn,

TN	Grid Reference	Notes
		Hawthorn, Ash, Holly, Dog-rose, Sycamore and Hazel. The ground flora did not appear to be as species-rich.
13	NZ 34242162	Wet, species-poor set aside (with a snipe flushed at the time of the survey). It was a mix of rank grassland with Timothy, Cock's-foot, Perennial Rye-grass and Creeping Bent and damp mown grassland with Yorkshire-fog, Creeping Bent, Broad-leaved Dock and Spear Thistle.
14	NZ 36192181	Species-rich Hawthorn hedge with mature Ash and Pedunculate Oak trees, c.1-1.8 m tall and 1.5-2.5 m wide. Species include Spurge-laurel (*Daphne laureola*), Elder, a rose (*Rosa* sp.), Gooseberry, an elm (*Ulmus* sp.), Blackthorn and Sycamore. The ground flora was species-poor with Cleavers and Common Nettle (more rarely with Garlic Mustard and Wood Avens).
15	NZ 36232212	Semi-improved and short but variable grassland. Graminoid species include Yorkshire-fog, Cock's-foot, Perennial Rye-grass, Crested Dog's-tail, Sweet Vernal-grass, Common Bent, Red Fescue, and Floating Sweet-grass and Soft-rush where wet closer to the beck. Forbs include Dandelion, Meadow Buttercup, Creeping Buttercup, Lesser Celandine, Common Mouse-ear, Hogweed, Pignut, Broad-leaved Dock and Common Sorrel.
16	NZ 36442236	A part of Bishopton Beck where Himalayan Balsam was seen in the field. The beck itself is variable but usually shallow and *c.*3 m wide with aquatic and marginal vegetation including Reed Canary-grass, Himalayan Balsam, Branched Bur-reed, Brooklime, *Callitriche* species (a Water-starwort) and Great Willowherb. The banks are either sparsely vegetated (shaded by trees and scrub) or dominated by tall herbs. The trees and scrub include young to mature Hybrid Crack-willow, Sycamore, Hawthorn and Elder.
17	NZ 36722064	Himalayan Balsam found just south of the proposed cable route along Bishopton Beck.
18	NZ 37992125	A several metre strip of Sunflowers at the side of an arable field.
19	NZ 39382143	An almost impenetrable but gappy, young, scrubby woodland along the cable route. Ash is most dominant with Hybrid Crack-willow, Alder, Silver Birch and Pedunculate Oak. The dense understorey contains Blackthorn, hawthorn, Dog-rose, Bramble and Hazel.
20	NZ 39462143	A seasonally wet, shallow pond with Bulrush, Hard Rush, Reed Canary-grass and young Grey Willow. It is surrounded by rank, rough, semi-improved grassland which is wet in places and there is dense Broad-leaved Dock and Common Nettle on the banks.
21	NZ 29512031	Himalayan balsam growing along wet footpath
22	NZ 41062224	Rough grassland and scrub surrounding an open sparsely vegetated area of ballast
23	NZ 41092205	Dense scrub, with openings and areas of edge habitat

The locations of the following animal target notes are shown in Figure 6.1.5.

Table 8: Animal Target Notes

AN	Grid Reference	Species	Feature	Notes
1	NZ 29632098	Otter	Suitable Habitat	Minor culverted watercourse emerging at bridge.
2	NZ 30312083	Reptile	Suitable Habitat	Sections of longer grass around field margins may be suitable for reptiles.
3	NZ 32742072	Reptile	Suitable Habitat	Patch of rough grassland, brash and scrub.
4	NZ 32912056	Reptile	Suitable Habitat	Small patch of rough grassland, tall ruderal, scrub and compost heap.
5	NZ 32852050	Reptile	Suitable Habitat	Tussock grassland and scrub suitable for reptiles on woodland edge and field margin.
6	NZ 33122053	Reptile	Potential Hibernacula	Large brash pile in hedgerow.
7	NZ 33411989	Reptile	Potential Hibernacula	Log pile on woodland edge.
8	NZ 33712021	GCN	Suitable Habitat - Waterbody	Pond may be suitable for GCN but little terrestrial vegetation and isolated.
9	NZ 33232098	Reptile	Suitable Habitat	Area of tall ruderal and scrub suitable for reptile between fence boundary and woodland.

AN	Grid Reference	Species	Feature	Notes
10	NZ 33582102	GCN	Suitable Habitat - Waterbody	Pond suitable for GCN - limited terrestrial habitat surrounding it, potentially isolated.
11	NZ 34152106	Mammal	Burrow	Mammal burrow at base of tree likely used by rabbit and fox.
12	NZ 33812146	GCN	Suitable Habitat - Waterbody	Small waterbody with no aquatic vegetation, unlikely to be suitable as a GCN breeding pond particularly when considering isolation.
13	NZ 33952187	Reptile	Suitable Habitat	Isolated patch of ruderal grasses and plants, possibly suitable for reptiles.
14	NZ 33882204	Reptile	Suitable Habitat	Area of longer grass and log piles, possibly suitable for reptiles.
15	NZ 34292190	GCN	Unsuitable Habitat - Waterbody	Drainage water body, unsuitable for GCN - no aquatic vegetation.
16	NZ 34682175	Reptile	Suitable Habitat	Muck heap.
17	NZ 35442152	GCN	Suitable Habitat - Waterbody	Two large newly created ponds with planted saplings.
18	NZ 35522158	GCN	Suitable Habitat - Waterbody	Pond heavily shaded by scrub. Almost no aquatic vegetation (*glyflu, desces*).
19	NZ 36112109	Reptile	Suitable Habitat	Isolated patch of tussocky grassland and scrub.
20	NZ 36612178	Reptile	Reptile - Potential Hibernacula	Brash pile in corner of field.
21	NZ 37022201	Bat	Potential Roost - Building	Small collapsed stone building suitable for bats in the missing mortar, also suitable for nesting wrens.
22	NZ 37412212	Reptile	Potential Hibernacula	Pile of rocks and soil.
23	NZ 37562204	GCN	Unsuitable Habitat - Waterbody	Water filled drainage pond, no aquatic vegetation and looks fairly polluted - unsuitable for GCN, dry in August.
24	NZ 36972259	Otter	Spraint	Possible lay-up sites all along river.
25	NZ 37302267	Reptile	Potential Hibernacula	Piles of rocks, dead wood, rough grassland and scrubby hedge.
26	NZ 37902104	Reptile	Suitable Habitat	Rough grassland.
27	NZ 39372143	Reptile	Suitable Habitat	Dense young planted woodland with openings.
28	NZ 39372142	GCN	Suitable Habitat	Dense young planted woodland with openings.
29	NZ 39702167	Reptile	Suitable Habitat	Dead wood within ash, cherry, salfra woodland, young eucalyptus plantation (rough grassland), rough wet grassland planted with saplings and stream to north.
30	NZ39382142	GCN	Suitable Habitat	Young broadleaved Woodland, several areas flooded creating ephemeral pond and wet ditch features. Unlikely to be suitable for GCN breeding, most likely wet due to heavy rainfall July/August 2023
31	NZ39462143	GCN	Suitable Habitat - Waterbody	Ephemeral pond, likely to be dry under normal conditions. Shallow water present following recent heavy rain. Looks to become seasonally wet, surrounding grassland also very wet and boggy.
32	NZ39472140	Reptile	Suitable Habitat	Tall herb and mixed scrub adjacent to ditch
33	NZ39472146	Reptile	Suitable Habitat	Suitable basking place open area of ballast in rough grassland area.
34	NZ39492146	Otter/water vole	Suitable Habitat	Flowing drain (Letch Beck) riparian habitat suitable for otter & Water Vole
35	NZ40992187	Bat	Potential Roost - Bridge	Road Bridge, single arch brick. Moderate potential, small gaps between bricks, missing mortar. One larger feature on Eastern supporting buttress, visible void. Potentially reachable with endoscope.

The locations of the following GLTA target notes are shown in Figure 6.1.6. In Table 9 below, the prefix 'T' used in the tree references (Tree Ref.) refers to singular trees whilst 'G' refers to groups of trees (more than 1). 'PRF' stands for potential roost feature and 'Suitability' refers to the tree's level of suitability to support roosting bats. The 'Safety' column refers to whether the tree(s) were determined to be safe or unsafe to climb.

Table 9: Bat Ground Level Tree Assessment Target Notes

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
T1	NZ 29372139	*Fraxinus excelsior*	Ivy plating	Moderate	Unsafe	Semi-mature ash with vegetation/ivy cover and crevices present between trunk and vegetation.
T2	NZ 29412143	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash with cavity in trunk where branches have broken off. Various knotholes and cracks, gaps in wood and bark.
G3	NZ 29532149	*Fraxinus excelsior*	Flaking Bark	Moderate	Unsafe	Three dead trees, lots of splits in wood and bark, hollow branches. One fallen into field with cavities in its branches. Knotholes in the two still standing.
G4	NZ 29572152	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Line of four trees beyond hedgerow, knotholes in all.
T5	NZ 29612154	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Unsafe	Mature ash with cavity in trunk, branches broken off and cracks in dead branch and underneath bark.
G6	NZ 29652149	*Fraxinus excelsior*	Flaking Bark	Moderate	Safe	Two mature ash, one either side of point. Both with broken branches and cracks in bark.
T7	NZ 29682206	*Fraxinus excelsior*	Ivy plating	Low	Safe	Mature ash with ivy cover.
T8	NZ 29532141	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Semi-mature ash with broken branches and cracks in bark.
T9	NZ 29582135	*Fraxinus excelsior*	Wound	Low	Safe	Mature ash with broken branches and flaking bark and wood.
T10	NZ 30082145	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with various knotholes and broken branches.
T11	NZ 30132143	*Fraxinus excelsior*	Ivy plating	Moderate	Unsafe	Semi-mature ash with ivy cover next to stream.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
G12	NZ 30142147	*Fraxinus excelsior*	Wound	Moderate	Unsafe	Two mature trees - one with broken branches and knotholes, one with large cracks and gaps under bark.
G13	NZ 30162143	*Fraxinus excelsior*	Ivy plating	Moderate	Unsafe	Group of mature trees next to road with ivy cover, one with broken limb.
T14	NZ 29332104	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Mature sycamore with west and east facing knotholes.
T15	NZ 29522124	*Fraxinus excelsior*	Wound	Moderate	Unsafe	Mature ash with large cavity in trunk, gaps under bark and rotten inside stem.
G16	NZ 29612132	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Two mature sycamore either side of track. Knotholes in both.
G17	NZ 29692121	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Six large trees in a group - sycamore and ash. Ivy cover on three. Knotholes and broken branches present.
T18	NZ 29742123	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with multiple cracks in bark, dead branches and large knotholes.
G19	NZ 29782124	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Unsafe	Two mature ash next to watercourse. Small cracks in branches and knotholes present.
G20	NZ 29862128	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Safe	Four mature trees along road, various broken branches.
T21	NZ 29882133	*Fraxinus excelsior*	Flaking Bark	Low	Safe	Mature ash with some broken branches and lifting bark.
G22	NZ 29952134	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Two mature ash trees with various knotholes, broken branches and ivy cover.
G23	NZ 29972129	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Pair of mature ash trees next to stream with various knotholes.
G24	NZ 30012136	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Three ash at fence with multiple knotholes and broken branches.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
G25	NZ 30042132	*Fraxinus excelsior*	Ivy plating	Moderate	Unsafe	Approximately seven trees either side of track with ivy cover and/or cracks in bark. Ivy cover on trees other side of track from boundary.
G26	NZ 30092138	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Group of mature trees either side of track with cracks and knotholes.
G27	NZ 29582102	*Acer pseudoplatanus*	Ivy plating	Low	Unsafe	Eight semi-mature sycamore and ash with ivy cover, otherwise seem to be in good condition.
T28	NZ 29602099	*Acer pseudoplatanus*		Moderate	Safe	Dying ash snapped with some regrowth. PRF in dead stem.
G29	NZ 29612098	*Acer pseudoplatanus*	Ivy plating	Low	Safe	Overhanging mature trees appear to be in good condition but covered in thin layer of ivy.
G30	NZ 29652098	*Pinus spp.*		Low	Safe	Small area of woodland with low potential, lots of pine.
G31	NZ 29622093	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Line of mature trees along fence line with knotholes and cracks in bark on broken limbs.
T32	NZ 29642095	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Mature tree with knotholes and cracks in bark.
T33	NZ 29692098	*Fraxinus excelsior*	Ivy plating	Low	Unsafe	Mature ash with ivy cover.
G34	NZ 29702102	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Unsafe	Very broken mature ash trees with lots of cracks and features.
G35	NZ 29762109	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Safe	Line of trees along fence with cracks in trunk, broken branches and knotholes.
G36	NZ 29812114	*Acer pseudoplatanus*		Moderate	Safe	Line of trees along fence with various features.
T37	NZ 29842116	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Broken branches and knotholes.
T38	NZ 29912126	*Fraxinus excelsior*		Low	Unsafe	Mature ash broken/dead at top.
T39	NZ 29672088	*Fraxinus excelsior*	Subsidence / Helical /	Moderate	Safe	Large broken branch, various holes and cracks.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
			Shearing crack			
T40	NZ 29722081	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Mature tree with knotholes and broken branches. Other trees along fence line also with some features.
T41	NZ 29852099	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash within hedgerow with knotholes.
G42	NZ 29882103	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Three semi-mature ash along hedgerow with knotholes and cracks in stem.
T43	NZ 29992103	*Fraxinus excelsior*		Moderate	Unsafe	Mature ash next to pylon.
G44	NZ 29892086	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Two mature ash trees in field with various features including knotholes and broken/dead branches.
G45	NZ 29892079	*Acer pseudoplatanus*	Tear-out	Moderate	Safe	Mature sycamore and ash along fence. Sycamore has big knotholes and broken branches.
G46	NZ 29812072	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	One ash and one sycamore, both mature with features such as knotholes, deadwood, gaps between bark and broken branches.
G47	NZ 29772071	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Three mature ash along ditch with various knotholes, broken branches and cracks in bark.
T48	NZ 29782068	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Two stemmed mature ash with multiple features including multiple broken branches and gaps in bark.
T49	NZ 29802065	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature multi stemmed ash over ditch with knotholes and broken ends of branches, dead branch further up.
T50	NZ 29842059	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Two semi-mature stemmed ash over ditch with multiple knotholes and hawthorns nearby

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
						with cracks in branches.
T51	NZ 29862056	*Acer pseudoplatanus*	Knot-hole	Moderate	Unsafe	Dead/dying sycamore over ditch with dead wood, cracks, holes, broken branches and holes in stem.
G52	NZ 29892051	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Three mature trees with knotholes over ditch outside of boundary. Also dead tree stump with cracks.
T53	NZ 29922050	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash in fence line with broken branches.
T54	NZ 29982051	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Mature ash over stream with knotholes and dead branches.
T55	NZ 30002053	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Mature ash over stream with large cavity in trunk and additional knotholes and cracks higher up.
G56	NZ 30042055	*Crataegus monogyna*		Low	Unsafe	Various hawthorns and broken trees along stream with potential features.
T57	NZ 30162065	*Salix fragilis*	Knot-hole	Moderate	Unsafe	Mature tree over ditch with features on all limbs including knotholes, broken branches and cracks/gaps in bark.
G58	NZ 29862047	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Three mature ash along fence line and ditch. Cavity in trunk, multiple knotholes and broken branches.
G59	NZ 29852043	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Five mature ash trees along boundary with multiple features including dead branches, knotholes and lifting bark.
G60	NZ 29842037	*Fraxinus excelsior*		Moderate	Unsafe	Pair of mature ash trees over ditch with multiple features.
T61	NZ 29842033	*Fraxinus excelsior*		Moderate	Unsafe	Mature ash over ditch.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
G62	NZ 30002015	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Two mature ash along fence line, both with large broken limbs and knotholes.
T63	NZ 30082024	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with large crevice in trunk and knotholes.
T64	NZ 30112028	*Populus* Other	Flaking Bark	Moderate	Safe	Mature tree with multiple broken/dead branches and cracks in bark and deadwood.
G65	NZ 30112028	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Line of mature trees including ash, sycamore and poplar, multiple knotholes in most trees.
T66	NZ 30122025	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature trees within group in corner of field with multiple knotholes, deadwood, cracks and holes.
G67	NZ 30172021	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Three dying ash along fence. Two very broken, one with snapped limbs.
T68	NZ 30202019	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with broken branches, knotholes and gaps in bark.
G69	NZ 30232016	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Three mature ash along boundary with multiple features in all including large knotholes in stem and limbs. Appear to lead into cavities from ground observation.
T70	NZ 30272015	*Fraxinus excelsior*	Compression-fork / Double-leader	Moderate	Safe	Semi-mature ash with gap between two stems pressed together.
G71	NZ 30212038	*Fraxinus excelsior*		Moderate	Unsafe	Two dying trees along fence with rotting/dead trunks, lots of cracks and cavities.
T72	NZ 30232041	*Fraxinus excelsior*	Knot-hole	Low	Safe	Mature ash with multiple dead branches and cracks in bark.
G73	NZ 30272041	*Fraxinus excelsior*	Flaking Bark	Moderate	Safe	Two mature ash trees along fence

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
						line with multiple knotholes and a dead branch.
T74	NZ 30322037	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with knotholes in branches.
T75	NZ 30422048	*Fraxinus excelsior*		Moderate	Safe	Broken/dead trunk in middle facing upwards but some gaps are sheltered.
T76	NZ 30562073	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Safe	Mature ash with deadwood where limb has broken and large cavity in base of trunk.
T77	NZ 29982121	*Fraxinus excelsior*	Flaking Bark	Low	Safe	Mature ash with broken branches and cracks in bark.
G78	NZ 30012118	*Fraxinus excelsior*		Moderate	Safe	Multiple semi-mature ash along fence with features.
T79	NZ 30062114	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Two mature stemmed ash with large cavity in trunk and knotholes and cracks in bark.
T80	NZ 30092111	*Fraxinus excelsior*		Low	Safe	Mature ash with broken branches.
T81	NZ 30122108	*Fraxinus excelsior*		Moderate	Safe	Ash with big crevice in trunk.
G82	NZ 30152105	*Fagus sylvatica*		Moderate	Safe	Group of 13 mature trees - beech, ash and sycamore.
T83	NZ 30112089	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with various knotholes and potential features on all sides.
G84	NZ 30252084	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Safe	Four mature ash trees along fence line with various features in all. Dead branches and cracks in 3rd tree along from stream.
G85	NZ 30292080	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Eight mature ash along ditch/boundary with various knotholes and cracks/broken branches.
G86	NZ 30312084	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Unsafe	Line of trees along bank over ditch with dead branches and cracks.
G87	NZ 30382098	*Acer pseudoplatanus*	Knot-hole	Moderate	Unsafe	Three semi-mature trees above ditch, one tree further along fence with knotholes in dead

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
						limb and cracked branches.
G88	NZ 30402101	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Unsafe	Line of mature trees along fence line/ditch with lots of broken limbs and large cavity in trunk.
G89	NZ 30422103	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Line if mature ash trees along boundary with knotholes and/or cracks/dead branches in all.
T90	NZ 30482108	*Quercus robur*	Knot-hole	Moderate	Safe	Mature oak with dead branches, cracks and various knotholes.
G91	NZ 30482112	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Safe	Group of 10-15 mature trees including ash, oak and sycamore with various cracked branches, dead sections, failed limbs and knotholes.
T92	NZ 30592105	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Unsafe	Semi-mature ash with large cavity in trunk and knotholes further up.
T93	NZ 30122227	*Fraxinus excelsior*	Ivy plating	Low	Unsafe	Semi-mature ash over the road with ivy cover.
T94	NZ 30162229	*Fraxinus excelsior*	Ivy plating	Low	Unsafe	Semi-mature ash over the road with ivy cover.
G95	NZ 30192146	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Two mature ash trees either side of road with ivy cover, broken/dead limbs and knotholes.
T96	NZ 30262152	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Various ash and sycamore along each side, some with ivy cover, broken limbs and/or knotholes.
G97	NZ 30292154	*Fraxinus excelsior*	Ivy plating	Moderate	Safe	Multiple mature trees both sides of boundary, all with features including ivy cover, holes and cracks.
G98	NZ 30312164	*Salix fragilis*	Knot-hole	Moderate	Safe	Mature tree with cracks in branches, various knotholes in ash trees along boundary.
G99	NZ 30282180	*Fraxinus excelsior*	Wound	Moderate	Safe	Two ash and two sycamore trees

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
						near corner. Ash with cracks through bark and dead branches.
G100	NZ 30342182	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Two sycamore with broken branches and knotholes.
G101	NZ 30392183	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Safe	Semi-mature sycamore and ash with knotholes, deadwood, gaps in bark and broken branches.
T102	NZ 30462167	*Salix caprea*	Subsidence / Helical / Shearing crack	Moderate	Unsafe	Mature tree next to stream with broken/dead branches.
G103	NZ 30502167	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Three mature ash trees either side of track with various knotholes and broken branches.
G104	NZ 30592173	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Seven mature trees along boundary (both sides of track) all with knotholes and/or broken branches.
G105	NZ 30612183	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Five sycamore and ash along track, one dead tree stump. All with knotholes and/or dead/broken branches.
T106	NZ 30632190	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Unsafe	Tree next to pond with cracks in stem and bark, also has knotholes.
G107	NZ 30762182	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Four mature trees along boundary, other smaller trees in-between, various features in dead/broken branches and knotholes.
G108	NZ 30812186	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Unsafe	Three mature ash trees at edge of field, one dead tree in centre of field. Features on all trees including large cracks where limbs are lost, various knotholes and areas of deadwood.
T109	NZ 30882188	*Fraxinus excelsior*	Subsidence / Helical /	Moderate	Safe	Mature ash with large cracks/holes and possible

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
			Shearing crack			features in dead limb.
G110	NZ 30922190	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Line of ash and willow along fence. Multiple features on all including multiple knotholes, broken limbs, deadwood and possible cavities.
G111	NZ 30982193	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Three mature ash trees on fence line with various knotholes, broken limbs and deadwood.
G112	NZ 31052197	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Seven+ mature trees with various knotholes, cracks and broken limbs.
G113	NZ 31082198	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Multiple mature ash trees along fence with various knotholes.
G114	NZ 31152202	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Safe	Line of mature ash along fence, one completely snapped and the rest with broken limbs, cracks and knotholes.
G115	NZ 31242215	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Two ash, one dead with cavities in trunk, one with knotholes and other features.
G116	NZ 31282220	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Five semi-mature ash in corner, knotholes in multiple trees and cavity in bottom of one tree.
T117	NZ 31152222	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with two knotholes on southern side.
T118	NZ 30582245	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash over the road with knotholes.
G119	NZ 30592244	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature trees along road, all with knotholes.
G120	NZ 30632245	*Fraxinus excelsior*		Moderate	Unsafe	Semi-mature trees along road (both sides), all with potential features.
T121	NZ 30652247	*Fraxinus excelsior*		Moderate	Unsafe	Mature ash over the road with multiple features.
T122	NZ 30692246	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash over the road with multiple knotholes

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
						and crack facing the field.
G123	NZ 30792245	*Fraxinus excelsior*		Moderate	Unsafe	Semi-mature trees over the road, multiple features in both and one further east on road.
T124	NZ 30842245	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with multiple knotholes.
T125	NZ 30922243	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with knotholes and dead branch.
G126	NZ 31002244	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature trees, both at lay edges full of knotholes and broken branches.
T127	NZ 31162245	*Fraxinus excelsior*		Low	Unsafe	Semi-mature ash with dead branches.
T128	NZ 31242243	*Quercus robur*		Low	Unsafe	Semi-mature oak with lots of dead wood.
T129	NZ 31392240	*Acer pseudoplatanus*	Knot-hole	Moderate	Unsafe	Semi-mature tree with multiple knotholes.
T130	NZ 31442238	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with multiple knotholes and tear-out.
T131	NZ 31472238	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with multiple knotholes.
T132	NZ 31532237	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash with large cavity, tear-outs and knotholes.
G133	NZ 31692232	*Quercus robur*		Moderate	Unsafe	Group of semi-mature trees along road with dead features and cavities.
T134	NZ 30682090	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with knotholes, broken branch and deadwood.
G135	NZ 30782042	*Quercus robur*	Knot-hole	Moderate	Safe	Four mature trees in corner of farmyard – oak and ash. Large cavity in ash. Both trees dead/broken at top.
T136	NZ 30802047	*Fraxinus excelsior*		Moderate	Safe	Mature tree in fence line with holes throughout trunk.
T137	NZ 30852060	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with various knotholes.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
G138	NZ 30852070	*Quercus robur*		Moderate	Safe	Four mature trees along fence line – oak and ash. Broken branches and deadwood at top of oak.
G139	NZ 30922081	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Two mature ash trees along fence line with knotholes in branches.
G140	NZ 30972091	*Crataegus monogyna*	Flaking Bark	Low	Unsafe	Various dead hawthorns along fence line with lifting bark and cracks in deadwood.
T141	NZ 31002096	*Fraxinus excelsior*	Flaking Bark	Low	Safe	Mature ash in fence line with broken sections. Also various smaller dead trees in fence line.
T142	NZ 31062047	*Acer pseudoplatanus*	Knot-hole	Low	Safe	Mature tree with knothole.
G143	NZ 31192065	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Safe	Three mature ash trees at fence line, broken branches on one and various knotholes.
T144	NZ 31232068	*Acer pseudoplatanus*	Flaking Bark	Low	Unsafe	Fallen dead sycamore on fence line with lots of gaps where trunk snapped and gaps in bark.
G145	NZ 31242072	*Quercus robur*	Ivy plating	Low	Safe	Strip of woodland including pine, oak and silver birch with lots of ivy cover and areas of dense understory. No features visible from field.
G146	NZ 31192078	*Fraxinus excelsior*	Flaking Bark	Moderate	Safe	Three mature ash trees on edge of woodland strip. All moderate potential with cracks in bark and broken branches.
T147	NZ 31142087	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash on edge of woodland strip with various dead branches and knotholes.
T148	NZ 31132092	*Fraxinus excelsior*		Moderate	Safe	Mature ash with various dead branches.
G149	NZ 31252092	*Acer pseudoplatanus*	Knot-hole	Low	Safe	Four semi-mature trees with several knotholes.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
T150	NZ 31322100	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mod-high potential mature ash with south-west facing heart-shaped knothole on upper/inner limb at junction with trunk and south-west facing hole on other side.
G151	NZ 31332104	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Two semi-mature trees with knotholes.
G152	NZ 31472101	*Fraxinus excelsior*		Moderate	Safe	Two mature ash with snapped trunks and several potential features. Also multi-stem sycamore next to route with negligible potential.
T153	NZ 31752088	*Fraxinus excelsior*	Knot-hole	Low	Safe	Semi-mature ash with north-east facing knothole.
T154	NZ 31912089	*Salix fragilis*	Flaking Bark	Low	Safe	Semi-mature tree with several minor features including lifting bark and split dead branches.
T155	NZ 31942085	*Acer pseudoplatanus*		Moderate	Safe	Semi-mature tree with dead stem and hole.
T156	NZ 31952083	*Acer pseudoplatanus*	Knot-hole	Low	Safe	Semi-mature sycamore with a couple of east facing knotholes.
T157	NZ 32132090	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash with dead sections in trunk.
T158	NZ 32132090	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash with tear-out.
T159	NZ 32142087	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with knotholes.
T160	NZ 32152088	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with dead sections.
G161	NZ 31782230	*Fraxinus excelsior*	Woodpecker hole	Moderate	Unsafe	Mature trees in corner with woodpecker holes, knotholes and dead branches.
T162	NZ 31822230	*Quercus robur*		Low	Unsafe	Semi-mature oak with bird box and minor features.
G163	NZ 31892230	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	One mature sycamore and one ash, knotholes on both trees. Broken branch on sycamore.
T164	NZ 31932230	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash adjacent to road

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
						with knotholes, cavity in trunk and broken branches.
T165	NZ 32002232	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with large features including cavities and various broken branches.
G166	NZ 32022235	*Fraxinus excelsior*	Knot-hole	Low	Safe	Four mature trees along boundary on road.
G167	NZ 32062239	*Fraxinus excelsior*	Knot-hole	High	Safe	Multiple mature trees with cracks in stem, lifting bark, knotholes and broken branches.
T168	NZ 32202239	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash next to road with knotholes, broken branches and cracks in bark.
G169	NZ 32252238	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature trees with knotholes in both.
G170	NZ 32202223	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Mature ash with cavity in trunk and lots of cracks in bark and heart-wood. Knotholes and broken branches present in other mature trees in line.
T171	NZ 31842215	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with knotholes and broken branches.
T172	NZ 31752218	*Fraxinus excelsior*	Wound	Moderate	Safe	Mature ash with multiple knotholes, crevices and a dead branch towards top.
T173	NZ 31752214	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with multiple knotholes and dead branches.
T174	NZ 31742211	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Safe	Mature ash with various holes, cracks and broken branches.
G175	NZ 31742206	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Four mature ash trees along boundary with multiple knotholes and broken branches.
G176	NZ 31742196	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Multiple mature ash trees along boundary (both sides of road) with various knotholes, cracks and broken branches.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
G177	NZ 31762194	*Fraxinus excelsior*	Wound	Moderate	Safe	Group of 5 trees (ash and crack willow) with multiple knotholes, broken branches and pruning scars.
T178	NZ 32022212	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with dead branch and multiple knotholes.
T179	NZ 32062211	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Mature ash with large cavity up trunk, various crevices and PRFs.
T180	NZ 32092211	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with knotholes.
G181	NZ 32022190	*Quercus robur*		Moderate	Unsafe	Group of 15 trees - one dead, various features on others.
G182	NZ 32032186	*Quercus robur*	Knot-hole	Moderate	Safe	Three trees within hedgerow with dead branch, small holes in various branches and some flaking bark.
G183	NZ 32342190	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Three mature ash trees with multiple features on all.
G184	NZ 32402196	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Pair of ash trees with multiple knotholes and features.
G185	NZ 32452197	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Three mature ash trees with knotholes and dead branches on all.
G186	NZ 32642205	*Fraxinus excelsior*		Low	Safe	Low-negligible potential semi-mature ash and oak.
G187	NZ 32752206	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Four semi-mature ash with split limbs and knotholes.
G188	NZ 32882206	*Acer pseudoplatanus*	Tear-out	Moderate	Safe	Six mature trees in corner of field with multiple knotholes and broken branches.
G189	NZ 32882219	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Two mature trees in hedgerow, both with features.
T190	NZ 32882225	*Salix fragilis*		Moderate	Unsafe	Dead broken tree with possible features at split.
T191	NZ 32992200	*Salix fragilis*	Flaking Bark	Moderate	Safe	Area of trees including sycamore, crack willow and ash. One dead tree with cracks, flaking bark and holes.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
G192	NZ 33172218	*Acer pseudoplatanus*	Subsidence / Helical / Shearing crack	Moderate	Safe	Multiple mature trees along boundary with large cracks and rotten wood in stem. Features also in adjacent hawthorns.
G193	NZ 33152211	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Mature sycamore with features, broken/dead trees either side.
G194	NZ 33152208	*Crataegus monogyna*		Moderate	Safe	Various semi-mature hawthorns along boundary with broken branches and possible features.
G195	NZ 33142204	*Crataegus monogyna*	Subsidence / Helical / Shearing crack	Moderate	Safe	Pair of mature trees on boundary, one ash and one hawthorn. Both trees broken at top with cavities in trunk, gaps under bark and knotholes.
T196	NZ 33142200	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Mature tree with multiple features including broken branches, knotholes and cracks in bark/wood.
G197	NZ 33122192	*Quercus robur*	Knot-hole	Moderate	Safe	Group of trees (four mature, some smaller, one dead) with various features including knotholes and broken branches. Dead tree also has PRFs.
G198	NZ 33202188	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Multiple mature trees on the other side of the boundary with knotholes and cracks in bark.
T199	NZ 33182181	*Quercus robur*	Flaking Bark	Low	Safe	Mature oak with possible broken branches and lifting bark.
T200	NZ 33142175	*Quercus robur*	Subsidence / Helical / Shearing crack	Moderate	Safe	Mature oak with broken branches and lifting bark.
T201	NZ 33052189	*Quercus robur*	Knot-hole	Moderate	Safe	Mature oak with cavities in trunk and limbs and broken branches.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
T202	NZ 32992181	*Quercus robur*	Knot-hole	Moderate	Safe	Mature oak with broken branches, crevices and knotholes.
T203	NZ 32932173	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes in various places and broken branches.
T204	NZ 32142170	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Semi-mature sycamore with knotholes.
G205	NZ 32182170	*Fraxinus excelsior*	Wound	Moderate	Safe	Group of 12 trees with various features, one dead tree within group.
G206	NZ 32202168	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Multiple mature trees.
T207	NZ 32222167	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with knotholes.
G208	NZ 32282162	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Three semi-mature trees along fence line.
T209	NZ 32362158	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Mature sycamore with knotholes.
T210	NZ 32402156	*Acer pseudoplatanus*	Knot-hole	Moderate	Unsafe	Mature sycamore over ditch.
G211	NZ 32422155	Unknown	Flaking Bark	Moderate	Unsafe	Dead tree with various features.
T212	NZ 32422154	*Fraxinus excelsior*	Flaking Bark	Moderate	Unsafe	Dying ash over ditch.
G213	NZ 32412152	*Quercus robur*	Knot-hole	Moderate	Unsafe	Group of semi-mature trees in corner (oak and sycamore) with knotholes and dead branches.
T214	NZ 32452160	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash over ditch.
T215	NZ 32502165	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with knotholes.
T216	NZ 32542166	*Fraxinus excelsior*	Butt-rot	Moderate	Unsafe	Mature ash with butt-rot.
T217	NZ 32612162	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T218	NZ 32662159	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T219	NZ 32862159	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T220	NZ 32862157	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Mature ash with knotholes.
T221	NZ 32852156	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Mature ash with knotholes.
T222	NZ 32932154	*Quercus robur*	Knot-hole	Moderate	Safe	Mature oak with knotholes.
T223	NZ 32952153	*Quercus robur*	Flaking Bark	Moderate	Safe	Mature oak with flaking bark.
T224	NZ 32832152	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T225	NZ 32822151	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
T226	NZ 32822148	*Quercus robur*	Knot-hole	Moderate	Safe	Mature oak with knotholes.
T227	NZ 32812146	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
G228	NZ 32752138	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Mature ash with knotholes dying over ditch.
T229	NZ 32832137	*Acer pseudoplatanus*	Wound	High	Safe	Mature sycamore with wound.
T230	NZ 32742133	*Quercus robur*	Wound	Moderate	Safe	Mature oak with wound.
T231	NZ 32692123	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with wound just above stem in fork of tree.
T232	NZ 32802128	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with knotholes.
T233	NZ 32812127	*Fraxinus excelsior*	Butt-rot	Moderate	Unsafe	Mature ash with butt-rot.
T234	NZ 32822126	*Quercus robur*	Knot-hole	High	Safe	Mature oak with knotholes.
T235	NZ 32832126	*Fagus sylvatica*	Tear-out	High	Safe	Mature beech with tear-out.
T236	NZ 32862122	*Fagus sylvatica*	Knot-hole	Moderate	Safe	Mature beech with hole beneath small limb.
T237	NZ 32902126	*Fraxinus excelsior*	Weld	Moderate	Safe	Mature ash.
T238	NZ 32922115	Unknown	Desiccation-fissure	Moderate	Unsafe	Dead tree with flaking bark.
T239	NZ 32972117	*Fraxinus excelsior*	Wound	High	Safe	Mature ash with wound.
T240	NZ 32952106	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T241	NZ 33002109	*Acer pseudoplatanus*	Butt-rot	High	Safe	Mature sycamore with butt-rot.
T242	NZ 33022106	*Fraxinus excelsior*	Wound	High	Safe	Mature ash with a couple of wound features on low level.
T243	NZ 32602107	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash with cavity in trunk.
T244	NZ 32422104	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T245	NZ 32472105	*Acer pseudoplatanus*	Tear-out	Moderate	Unsafe	Semi-mature sycamore with cavity in trunk where limb has torn away.
T246	NZ 32492104	*Acer pseudoplatanus*		Low	Unsafe	Semi-mature sycamore with exposed dead heartwood throughout stem.
T247	NZ 32602097	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with two knotholes and one tear-out, all on same limb. Couldn't view other side due to no access.
T248	NZ 32412091	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with large dead section.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
G249	NZ 32412089	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Two semi-mature ash trees with dead sections and knotholes.
T250	NZ 32412085	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T251	NZ 32412082	*Fraxinus excelsior*	Flaking Bark	Moderate	Unsafe	Semi-mature ash over ditch.
T252	NZ 32412080	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Mature ash with knotholes.
G253	NZ 32412077	*Fraxinus excelsior*	Flaking Bark	Moderate	Unsafe	Mature ash over ditch.
T254	NZ 32412076	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Mature ash with knotholes over ditch.
G255	NZ 32422073	*Acer pseudoplatanus*	Tear-out	Moderate	Unsafe	Two mature trees over ditch, one sycamore.
G256	NZ 32432070	*Fraxinus excelsior*	Flaking Bark	Moderate	Unsafe	Semi-mature ash over ditch.
T257	NZ 32472066	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash over ditch.
T258	NZ 32492065	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Mature ash over ditch.
T259	NZ 32532080	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T260	NZ 32552084	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with knotholes.
T261	NZ 32562086	*Fraxinus excelsior*	Tear-out	High	Safe	Mature ash with tear-out.
T262	NZ 32612082	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T263	NZ 32632081	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with one knothole and one tear-out.
T264	NZ 32742077	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T265	NZ 32742075	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with knotholes.
T266	NZ 32702069	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with knotholes.
T267	NZ 32632053	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with two holes and one tear-out.
T268	NZ 32652052	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T269	NZ 32842050	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T270	NZ 32862051	*Fraxinus excelsior*	Butt-rot	High	Unsafe	Mature ash with butt-rot.
T271	NZ 33112053	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with knotholes.
T272	NZ 33142053	*Fraxinus excelsior*	Tear-out	High	Safe	Mature ash with two tear-outs, one on stem and one on limb.
T273	NZ 33152053	*Fraxinus excelsior*	Tear-out	High	Safe	Mature ash with three tear-outs.
T274	NZ 32992040	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
T275	NZ 32982040	*Fraxinus excelsior*	Butt-rot	High	Safe	Mature ash with butt-rot.
T276	NZ 32942036	*Fraxinus excelsior*	Transverse snap/snag	Moderate	Safe	Mature ash with snapped limb.
T277	NZ 32812013	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with knotholes.
T278	NZ 32872005	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T279	NZ 32921997	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T280	NZ 32961993	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with tear-out.
T281	NZ 33001989	*Fraxinus excelsior*	Butt-rot	Moderate	Unsafe	Mature ash with butt-rot.
T282	NZ 33011988	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with tear-out.
T283	NZ 33191975	*Fraxinus excelsior*	Wound	High	Safe	Mature ash with wound.
T284	NZ 33291978	*Fraxinus excelsior*		High	Safe	Mature ash with features on stem.
T285	NZ 33411987	*Fraxinus excelsior*	Weld	Moderate	Safe	Mature ash with weld.
T286	NZ 33461983	*Crataegus monogyna*	Wound	Moderate	Safe	Mature tree with wound.
T287	NZ 33471984	*Fraxinus excelsior*	Hazard beam	Moderate	Safe	Mature ash with hazard beam.
T288	NZ 33521977	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with tear-out and knothole present.
T289	NZ 33581980	*Quercus robur*	Desiccation-fissure	Moderate	Safe	Mature oak. May have more features, can't access other side.
T290	NZ 33662000	*Fraxinus excelsior*	Wound	High	Safe	Mature ash with wound, knothole and tear-out.
T291	NZ 33642003	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T292	NZ 33782045	*Fraxinus excelsior*	Wound	Moderate	Unsafe	Mature ash with wound.
T293	NZ 32882101	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with two knotholes.
T294	NZ 32982093	*Quercus robur*	Subsidence / Helical / Shearing crack	Moderate	Safe	Mature oak with cracked limb.
T295	NZ 33002091	*Acer pseudoplatanus*		Moderate	Unsafe	Semi-mature sycamore with feature on stem.
T296	NZ 33012090	*Quercus robur*	Knot-hole	Moderate	Safe	Mature oak with knotholes.
T297	NZ 33022089	*Acer pseudoplatanus*	Wound	Moderate	Safe	Mature sycamore with wound.
T298	NZ 33032086	*Acer pseudoplatanus*	Wound	Moderate	Unsafe	Dying sycamore with fallen limb.
T299	NZ 33042086	*Fraxinus excelsior*		High	Safe	Semi-mature ash with feature on stem.
T300	NZ 33122103	*Acer pseudoplatanus*	Weld	Moderate	Safe	Mature sycamore with weld on limb.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
T301	NZ 33142087	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with knotholes on limb.
T302	NZ 33152087	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with two knotholes.
T303	NZ 33332071	*Acer pseudoplatanus*	Knot-hole	High	Safe	Mature sycamore with knotholes.
T304	NZ 33332062	*Fraxinus excelsior*	Tear-out	High	Safe	Mature ash with two tear-outs.
T305	NZ 33452058	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T306	NZ 33342096	*Acer pseudoplatanus*	Weld	Moderate	Safe	Mature sycamore with weld.
T307	NZ 33382094	Unknown	Wound	Moderate		Stem with wound.
T308	NZ 33412090	*Quercus robur*	Hazard beam	Moderate	Safe	Mature oak with hazard beam.
G309	NZ 33412090	*Fraxinus excelsior*	Tear-out	Low	Safe	Mature ash with upwards facing tear-out, hence low status.
T310	NZ 33432086	*Acer pseudoplatanus*	Wound	Low	Safe	Semi-mature sycamore with wound on stem.
T311	NZ 33562077	*Quercus robur*	Tear-out	Moderate	Safe	Mature oak with two features - one knothole and one tear-out, both on east.
G312	NZ 33582077	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Mature ash and sycamore, features on both.
T313	NZ 33582076	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T314	NZ 33762077	*Acer pseudoplatanus*	Wound	Moderate	Safe	Mature sycamore with wound on stem.
T315	NZ 33772076	*Salix fragilis*	Weld	Moderate	Safe	Mature crack willow with weld.
T316	NZ 33842078	*Fraxinus excelsior*	Transverse snap/snag	Moderate	Safe	Mature ash with snapped limb.
T317	NZ 33852079	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with tear-out.
T318	NZ 33872082	Unknown	Flaking Bark	Moderate	Unsafe	Dead tree.
T319	NZ 33872082	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T320	NZ 33882082	*Fraxinus excelsior*	Tear-out	High	Safe	Mature ash with tear-out.
T321	NZ 33872084	*Fraxinus excelsior*	Tear-out	High	Unsafe	Mature ash with tear-out.
T322	NZ 33882087	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T323	NZ 33912084	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T324	NZ 33942086	*Crataegus monogyna*	Butt-rot	Moderate	Safe	Mature hawthorn with butt rot.
T325	NZ 33982088	*Fraxinus excelsior*	Woodpecker hole	High	Unsafe	Mature ash with woodpecker hole.
T326	NZ 34002088	*Salix fragilis*	Tear-out	Moderate	Safe	Mature crack willow with tear-out.
T327	NZ 34092089	*Salix fragilis*	Transverse snap/snag	Moderate	Safe	Mature crack willow with snapped limb.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
T328	NZ 34102090	*Salix fragilis*	Tear-out	Moderate	Safe	Mature crack willow with tear-out.
T329	NZ 34122091	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Mature sycamore with knotholes.
T330	NZ 34162092	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with tear-out.
T331	NZ 34162092	*Quercus robur*	Knot-hole	Moderate	Safe	Mature oak with knotholes.
T332	NZ 34172094	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with upwards facing tear-out on limb, unable to view where it goes.
T333	NZ 34182096	*Salix fragilis*	Tear-out	High	Unsafe	Mature crack willow with tear-out.
T334	NZ 34212095	*Salix fragilis*	Tear-out	Moderate	Unsafe	Mature crack willow with tear-out.
T335	NZ 34222095	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Mature sycamore with one knothole on the west and one tear-out on the south side.
T336	NZ 34222095	*Salix fragilis*	Wound	High	Unsafe	Mature crack willow with wound on limb.
T337	NZ 34242096	*Salix fragilis*	Butt-rot	High	Unsafe	Mature crack willow with butt rot.
T338	NZ 34262097	*Salix fragilis*	Tear-out	High	Unsafe	Mature crack willow with tear-out.
T339	NZ 34272098	*Salix fragilis*	Butt-rot	High	Unsafe	Mature crack willow with feature at apex of butt rot.
T340	NZ 34322096	*Salix fragilis*	Tear-out	High	Unsafe	Mature crack willow with multiple tear-outs overhanging a Brook.
T341	NZ 34302100	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with tear-out.
T342	NZ 34302101	*Fraxinus excelsior*	Tear-out	High	Safe	Mature ash with tear-out.
T343	NZ 34292103	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with tear-out.
T344	NZ 33842218	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knothole in stem.
T345	NZ 33842214	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes and splits.
T346	NZ 33842210	*Acer pseudoplatanus*	Ivy plating	Low	Safe	Mature sycamore with ivy cover.
T347	NZ 33842206	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Mature sycamore with multiple knotholes and callus rolls.
G348	NZ 33972219	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Two semi-mature trees along road, both with features including various knotholes and dead branches.
T349	NZ 34012218	*Acer pseudoplatanus*	Knot-hole	Moderate	Unsafe	Mature sycamore next to road with

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
						various dead branches and knotholes.
T350	NZ 34042218	*Fraxinus excelsior*		Moderate	Safe	Semi-mature ash with split in trunk and hole.
T351	NZ 34112217	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash on road with knotholes in limb.
T352	NZ 34152216	*Acer pseudoplatanus*		Moderate	Safe	Mature sycamore with callus roll on limb.
T353	NZ 34202216	*Acer pseudoplatanus*	Knot-hole	Moderate	Unsafe	Mature sycamore on road with knotholes in trunk.
T354	NZ 34232218	*Acer pseudoplatanus*	Knot-hole	Moderate	Unsafe	Mature sycamore on road.
T355	NZ 34002206	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Mature sycamore with multiple knotholes.
T356	NZ 34142208	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Mature sycamore with knotholes in stem.
T357	NZ 34142188	*Salix fragilis*	Subsidence / Helical / Shearing crack	Moderate	Unsafe	Hollowed out mature crack willow with cracks and crevices in bark and between sections.
T358	NZ 34262190	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes and split limbs.
T359	NZ 34272196	*Quercus robur*	Subsidence / Helical / Shearing crack	Moderate	Unsafe	Dead tree with various cracks and holes.
T360	NZ 34372192	*Quercus robur*	Knot-hole	Moderate	Safe	Mature oak with dead limbs, splits and knotholes.
T361	NZ 34422200	*Quercus robur*	Flaking Bark	Moderate	Safe	Mature oak with flaking bark on limb.
T362	NZ 34552200	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Semi-mature sycamore with knotholes.
T363	NZ 34542195	*Acer pseudoplatanus*	Knot-hole	Moderate	Safe	Semi-mature sycamore with multiple knotholes.
T364	NZ 34532189	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with cracks in bark and knotholes.
T365	NZ 34532187	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with pruning cut.
T366	NZ 34502187	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes on branches.
T367	NZ 34492186	*Quercus robur*		Moderate	Safe	Mature oak with split limb, callus roll and various other features.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
T368	NZ 34432181	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with large hole in stem.
T369	NZ 34412183	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes and splits in limb.
T370	NZ 34022167	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with tear-out between fork in larger and smaller limb.
T371	NZ 33912167	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T372	NZ 33842164	*Fraxinus excelsior*	Woodpecker hole	Moderate	Safe	Mature ash with woodpecker hole.
T373	NZ 34022159	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with two knotholes and one tear out, all on same aspect at same height but on different limbs.
T374	NZ 33832131	*Crataegus monogyna*	Transverse snap/snag	Moderate	Safe	Mature hawthorn with snapped limb.
T375	NZ 33832131	*Fraxinus excelsior*	Butt-rot	High	Unsafe	Mature ash with butt rot.
T376	NZ 33862131	*Fraxinus excelsior*	Tear-out	High	Safe	Mature ash with tear-out.
T377	NZ 33872130	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with two knotholes.
T378	NZ 33872129	*Fraxinus excelsior*	Flaking Bark	Moderate	Unsafe	Mature ash with flaking bark.
T379	NZ 33882128	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with multiple knotholes.
G380	NZ 33892125	*Salix fragilis*	Tear-out	Moderate	Safe	Two mature crack willow with features.
T381	NZ 33912115	*Salix fragilis*	Flaking Bark	Low	Safe	Mature crack willow with flaking bark.
T382	NZ 33932114	*Acer pseudoplatanus*	Tear-out	Moderate	Safe	Mature sycamore with upwards facing feature.
T383	NZ 33942111	*Fraxinus excelsior*	Butt-rot	Moderate	Unsafe	Mature ash with butt rot.
T384	NZ 33932110	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Semi-mature ash with tear-out, could not fully inspect due to dense vegetation.
T385	NZ 33952109	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with knothole.
T386	NZ 33952106	*Fraxinus excelsior*	Tear-out	High	Safe	Mature ash with tear-out.
T387	NZ 34092116	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T388	NZ 34152106	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with four knotholes on south side - three with moderate potential and one with high.
T389	NZ 34222123	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with tear-out.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
T390	NZ 34372126	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with tear-out.
T391	NZ 34382128	*Fraxinus excelsior*	Compression-fork / Double-leader	Moderate	Safe	Mature ash.
T392	NZ 34402132	*Quercus robur*	Knot-hole	Moderate	Safe	Mature oak with knotholes.
T393	NZ 34452138	*Fraxinus excelsior*	Wound	Moderate	Safe	Mature ash with wound.
T394	NZ 34462138	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with tear-out.
T395	NZ 34652150	*Quercus robur*	Subsidence / Helical / Shearing crack	Moderate	Safe	Mature oak with various dead branches, one with helical split.
G396	NZ 34762154	*Fraxinus excelsior*	Flaking Bark	Moderate	Safe	Group of six trees with various dead branches and splits in trees.
T397	NZ 34792155	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with multiple knotholes.
T398	NZ 34862159	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T399	NZ 34982153	*Quercus robur*	Knot-hole	Moderate	Unsafe	Semi-mature oak with multiple knotholes and tear-outs.
G400	NZ 35082146	*Fagus sylvatica*	Knot-hole	Moderate	Unsafe	Two mature beech with multiple features including dead sections and multiple knotholes.
T401	NZ 35192143	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with multiple knotholes.
T402	NZ 35322139	*Fraxinus excelsior*	Knot-hole	Low	Unsafe	Semi-mature ash with possible knotholes.
T403	NZ 35352140	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with multiple knotholes.
G404	NZ 35432133	*Fraxinus excelsior*		Moderate	Unsafe	Four semi-mature ash trees - one dead with features, other three with low potential.
T405	NZ 34902111	*Fraxinus excelsior*	Flaking Bark	Low	Unsafe	Semi-mature ash with flaking bark.
T406	NZ 35092111	*Quercus robur*	Wound	Moderate	Safe	Young oak with wound in west facing limb.
T407	NZ 35182114	*Quercus robur*		Moderate	Safe	Young oak with minor south facing features, may be able to rule out with torch.
T408	NZ 35192115	*Quercus robur*	Woodpecker hole	Moderate	Safe	Young oak with east facing woodpecker hole.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
T409	NZ 35292118	*Fraxinus excelsior*	Wound	Low	Safe	Semi-mature ash with large wounds but seemingly low potential.
T410	NZ 35312119	*Fraxinus excelsior*	Knot-hole	Low	Safe	Semi-mature ash with south-east facing knotholes and north facing wounds at top.
T411	NZ 35552106	*Fraxinus excelsior*		Moderate	Safe	Semi-mature ash with feature on limb.
G412	NZ 35552103	*Fraxinus excelsior*	Tear-out	High	Safe	At least six mature trees with moderate - high PRFs, can't conduct detailed inspection due to no land access.
T413	NZ 36072100	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
G414	NZ 36082101	*Fraxinus excelsior*	Ivy plating	Moderate	Safe	Mature ash with ivy cover.
T415	NZ 36102104	*Fraxinus excelsior*	Ivy plating	Moderate	Safe	Mature ash with ivy cover.
T416	NZ 36122108	*Fraxinus excelsior*	Ivy plating	Moderate	Safe	Mature ash with ivy cover.
T417	NZ 36022113	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with knotholes.
T418	NZ 36012113	*Fraxinus excelsior*	Subsidence / Helical / Shearing crack	Moderate	Safe	Mature ash with crack in limb.
T419	NZ 35882114	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with three knotholes - two high and one moderate potential, on west and north sides.
T420	NZ 35962134	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with ivy cover and knotholes.
T421	NZ 35982134	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Mature ash with multiple knotholes.
T422	NZ 36052131	*Fraxinus excelsior*	Ivy plating	Low	Unsafe	Mature ash with dead branches and ivy cover.
T423	NZ 36222131	*Acer pseudoplatanus*	Knot-hole	Moderate	Unsafe	Semi-mature sycamore with knotholes and bird boxes.
T424	NZ 36232133	*Aesculus hippocastanum*	Flaking Bark	Low		Semi-mature tree with flaky bark.
T425	NZ 35722168	*Fraxinus excelsior*		Low	Safe	Dying ash, main trunk is dead but has a couple of possible small eastern facing holes. Easily inspected with torch/ladder.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
T426	NZ 35892178	*Fraxinus excelsior*	Knot-hole	Low	Unsafe	Mature ash with a couple of small east facing knotholes.
T427	NZ 35922176	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Mature ash over the road with knotholes.
T428	NZ 35972175	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with knotholes.
T429	NZ 35962168	*Fraxinus excelsior*	Flaking Bark	Moderate	Unsafe	Semi-mature ash against road, dead.
T430	NZ 35972161	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash next to road.
T431	NZ 35992154	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with possible hole where limb has torn off and multiple knotholes.
G432	NZ 36062148	*Salix* (Unknown Hybrid)	Ivy plating	Low	Unsafe	Semi-mature willow with ivy cover.
G433	NZ 36062163	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Three semi-mature ash trees with multiple knotholes adjacent to stream.
G434	NZ 36092157	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash trees next to watercourse.
T435	NZ 36092153	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with ivy cover and broken branches.
T436	NZ 36202154	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash outside boundary with knotholes and broken branches.
G437	NZ 36352160	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Two semi-mature ash with one hollow trunk, multiple knotholes and crevices.
G438	NZ 36062176	*Fraxinus excelsior*	Ivy plating	Moderate	Unsafe	Semi-mature ash with ivy cover.
G439	NZ 36112180	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash trees with knotholes.
T440	NZ 36162181	*Fraxinus excelsior*	Wound	Moderate	Safe	Semi-mature ash with wound.
G441	NZ 36262181	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Two semi-mature ash and two oak, all with cracks, knotholes and other potential features.
T442	NZ 36102192	Unknown	Woodpecker hole	Moderate	Unsafe	Tree with woodpecker holes in remaining stump of dead limb.
G443	NZ 36122198	*Fagus sylvatica*	Knot-hole	Moderate	Unsafe	Three mature trees on field edge, one dead. Multiple potential features including knotholes and broken limbs.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
G444	NZ 36142202	Unknown	Knot-hole	Moderate	Unsafe	Three mature leaning trees on field edge with multiple knotholes and dead limbs.
T445	NZ 36132203	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash with potential features including tear-out and knotholes. Another tree is behind with dead section.
T446	NZ 36242205	*Fraxinus excelsior*	Wound	Moderate	Unsafe	Semi-mature ash with large dead section.
G447	NZ 36302219	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash over watercourse.
T448	NZ 36342218	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Twin stem semi-mature ash with various knotholes.
T449	NZ 36412233	*Alnus glutinosa*	Tear-out	Moderate	Unsafe	Semi-mature tree dying over watercourse.
T450	NZ 36462237	*Salix* (Unknown Hybrid)	Woodpecker hole	Moderate	Unsafe	Semi-mature willow over water.
G451	NZ 36552242	*Salix* (Unknown Hybrid)	Tear-out	Moderate	Unsafe	Group of semi-mature trees along the boundary on the other side of the stream over water, all with dead branches and farmer damage.
T452	NZ 36592240	*Salix* (Unknown Hybrid)	Tear-out	Moderate	Unsafe	Mature willow over water, dying.
G453	NZ 36722236	*Salix fragilis*	Flaking Bark	Moderate	Unsafe	Several mature willows with flaking bark, snapped limbs and woodpecker holes.
T454	NZ 36832239	*Salix fragilis*	Flaking Bark	High	Safe	Mature willow with large hole and flaking bark.
T455	NZ 36972260	*Salix fragilis*	Flaking Bark	Low	Safe	Semi-mature willow with flaking bark.
T456	NZ 36942270	*Salix fragilis*		High	Safe	Mature willow with large north facing holes in trunk.
T457	NZ 37122225	*Acer pseudoplatanus*		Low	Safe	Semi-mature sycamore with holes in damaged branch near top.
G458	NZ 37182206	*Fraxinus excelsior*		Low	Safe	Two semi-mature ash with a few minor features.
T459	NZ 37072203	*Fraxinus excelsior*	Knot-hole	High	Safe	Mature ash with knotholes.
G460	NZ 36972217	*Fraxinus excelsior*		Moderate	Safe	Two semi-mature ash each with large east-facing hole.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
G461	NZ 36842212	*Fraxinus excelsior*		Moderate	Safe	Two mature ash and three sycamore with several features.
T462	NZ 36602206	*Fraxinus excelsior*		Moderate	Safe	Semi-mature ash with two east-facing holes on each of two stems.
T463	NZ 36602201	*Fraxinus excelsior*		Moderate	Safe	Semi-mature ash with two holes.
G464	NZ 36612184	*Acer pseudoplatanus*	Knot-hole	Moderate	Unsafe	Three semi-mature trees other side of access track with knotholes, calluses and tear-outs.
T465	NZ 36612181	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash other side of access track with tear-outs
T466	NZ 36612180	*Acer pseudoplatanus*	Tear-out	Moderate	Unsafe	Semi-mature sycamore other side of access track with tear-outs.
T467	NZ 36632178	*Quercus robur*	Tear-out	Moderate	Unsafe	Mature oak with tear-out.
T468	NZ 36692179	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Dying ash with tear-out.
T469	NZ 36612176	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with knothole.
T470	NZ 36612173	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with knothole.
T471	NZ 36602163	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Dying ash with tear-out.
T472	NZ 36592157	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash close to wires.
T473	NZ 37502172	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Mature ash with knothole.
T474	NZ 37432169	*Fraxinus excelsior*	Tear-out	Low	Unsafe	Mature ash with tear-out.
T475	NZ 37192158	*Fraxinus excelsior*		Moderate	Safe	Mature ash.
T476	NZ 37182158	*Fraxinus excelsior*	Tear-out	High	Safe	Mature ash with tear-out.
G477	NZ 37172156	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash, can't see full extent due to access.
T478	NZ 36972161	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Semi-mature ash with knothole.
T479	NZ 36952160	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash with tear-out.
T480	NZ 37092154	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash over the road.
T481	NZ 36872141	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash over the road.
T482	NZ 36772139	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash over the road.
T483	NZ 36772098	*Populus xcanadensis*		Low	Unsafe	Mature poplar with snapped branches and dead sections.
T484	NZ 36902080	*Acer pseudoplatanus*	Wound	Low	Unsafe	Mature sycamore with wounds on lower branches.

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
T485	NZ 37122087	*Acer pseudoplatanus*	Wound	Low	Safe	Tree with small wound on eastern side.
T486	NZ 37312090	*Fraxinus excelsior*	Flaking Bark	Low	Safe	Young ash with peeling bark.
T487	NZ 37352093	*Populus xcanadensis*	Flaking Bark	Low	Unsafe	Poplar with peeling bark.
T488	NZ 37382091	*Populus xcanadensis*	Wound	Low	Unsafe	Semi-mature poplar with wound in eastern side.
T489	NZ 37522092	*Chamaecyparis lawsoniana*	Ivy plating	Low	Safe	Cypress with ivy cover.
T490	NZ 37592094	*Fraxinus excelsior*	Knot-hole	Low	Safe	Mature ash with north, west and south facing knotholes.
T491	NZ 37652096	*Fraxinus excelsior*		Moderate	Unsafe	Partly hollowed out semi-mature ash, all features below 5 m, could possibly climb/use ladders but may be rotten.
T492	NZ 37702098	*Fraxinus excelsior*		Moderate	Unsafe	Battered semi-mature ash tree, partly unsafe but some features safe to assess from field. Willow/poplar opposite - similar.
T493	NZ 37942104	*Fraxinus excelsior*		Moderate	Safe	Mature ash with several features.
T494	NZ 37942111	*Fraxinus excelsior*	Woodpecker hole	Moderate	Safe	Semi-mature ash with north facing woodpecker hole and peeling bark. Also a young ash with peeling bark and a mature ash not assessed from east but no obvious features.
G495	NZ 37932112	*Fraxinus excelsior*		Moderate	Safe	Two semi-mature trees, both with splits. Not fully assessed (no access granted).
G496	NZ 37982123	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Two semi-mature ash trees, one with large cavity through trunk, one with multiple knotholes and a dead branch.
T497	NZ 38052123	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash with cavity in trunk, dead sections and tear-out towards field.
G498	NZ 38622124	*Fraxinus excelsior*	Flaking Bark	Moderate	Unsafe	Mature ash with ivy cover and downward facing

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
						knothole, over the road.
T499	NZ 38702127	*Fraxinus excelsior*		Moderate	Unsafe	Semi-mature ash with holes in dead section.
G500	NZ 38832130	*Quercus robur*	Knot-hole	Moderate	Unsafe	Two semi-mature oaks, ivy cover on one and east facing knothole.
T501	NZ 38762146	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Semi-mature ash with multiple knotholes.
G502	NZ 38972139	*Acer pseudoplatanus*		Moderate	Unsafe	Multiple mature trees behind fence with dead branches and potential features.
T503	NZ 39042153	*Fraxinus excelsior*	Tear-out	Moderate	Safe	Mature ash with two large south facing tear-out wounds and broken limbs.
T504	NZ 39072151	*Acer pseudoplatanus*		Moderate	Unsafe	Dying sycamore with cavity in stem and features in branch.
G505	NZ 39242170	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	2 dead ash in Two hedgerow with multiple knotholes and dead branches.
T506	NZ 39252172	*Acer pseudoplatanus*	Knot-hole	Moderate	Unsafe	Semi-mature sycamore with knothole and tear-out facing field.
T507	NZ 39342175	*Aesculus hippocastanum*		Moderate	Unsafe	Mature tree with splits in trunk and large gaps in bark.
T508	NZ 39362176	*Aesculus hippocastanum*		Low	Unsafe	Mature tree with splits in trunk and gaps in bark.
T509	NZ 39502185	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	Mature ash with multiple knotholes.
G510	NZ 39642174	*Fraxinus excelsior*		Low	Unsafe	Semi-mature ash with snapped limb. Also two mature salfra by shallow, muddy culverted watercourse.
G511	NZ 39692161	*Fraxinus excelsior*	Ivy plating	Moderate	Unsafe	Two dead ash with ivy cover.
G512	NZ 39722162	*Fraxinus excelsior*	Woodpecker hole	Moderate	Safe	Mature ash with snapped limbs and woodpecker holes. Semi-mature oak with smaller holes to the south.
G513	NZ 40032162	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash with snapped limbs and knotholes. Also two negligible-low

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
						semi-mature ash trees to the west.
T514	NZ 40212170	*Fraxinus excelsior*		Low	Safe	Difficult to access tree - in hedge next to road.
G515	NZ 40252172	*Fraxinus excelsior*	Knot-hole	High	Safe	West-facing mature ash with two big knotholes. Also a mature oak with a few minor features including dead branches and knotholes.
G516	NZ 40312174	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Mature ash south-west on the other side of the road, difficult to access. South-east facing split down trunk and knotholes.
T517	NZ 40492179	*Fraxinus excelsior*	Flaking Bark	Low	Safe	Young ash with knothole by road to south, no obvious potential. Some features on low horizontal branch including snapped limb and peeling bark.
T518	NZ 40642177	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Semi-mature ash with tear-out.
T519	NZ 40902185	*Fraxinus excelsior*	Knot-hole	Low	Unsafe	Knot hole at c.4m south side of tree facing field. Feature within dead limb
T520	NZ 36332088	*Fraxinus excelsior*	Desiccation-fissure	Moderate	Unsafe	Extensive deadwood fissures and decay features.
G521	NZ 36332087	*Fraxinus excelsior*	Desiccation-fissure	Moderate	Unsafe	Dieing Ash, multiple deadwood features on limbs and stem, bark is fissured creating bark plates
T522	NZ 364720819	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	4 or 5 knot hole features, small hole surrounding tearout on underside of limb
T523	NZ 36482080	*Fraxinus excelsior*	Tear-out	Moderate	Unsafe	Tear out feature with woodpecker hole above, and large dead limb.
T524	NZ 36782072	*Fraxinus excelsior*	lightning strike damage	Moderate	Unsafe	Mature Ash, lightning strike damage.
G525	NZ 38762131	*Fraxinus excelsior*		Moderate	Safe	4 mature Ash within field, only visible from road

Tree Ref.	Grid Reference	Tree Species	PRF Type	Suitability	Safety	Notes
						but likely to be features present due to age of trees.
T526	NZ 38812133	*Fraxinus excelsior*	Knot-hole	Moderate	Unsafe	
T527	NZ 39632156	*Fraxinus excelsior*	Knot-hole	Moderate	Safe	Knot hole features facing south

CONFIDENTIAL APPENDIX E – BADGERS

As this Appendix contains sensitive information on the location and activity of badgers, it is not appended to this report and is instead provided as a standalone document with its distribution limited to relevant project staff, relevant councils, Natural England and the Badger Trust.

This Appendix contains Table 10 Badger Target Notes and Figure 6.1.7 Badger Map.