

**JJ Churchill Ltd., Market
Bosworth**

**Preliminary Ecological Appraisal
Report (PEAR)**



Client:

JJ Churchill Ltd.

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1 EXECUTIVE SUMMARY

- i RammSanderson Ecology Ltd were commissioned by JJ Churchill Ltd. to undertake a Preliminary Ecological Appraisal to assess the potential ecological constraints to the proposed industrial development extension (hereafter referred to as the Scheme), located in Market Bosworth, Leicestershire.
- ii The land within the Scheme Boundary (hereafter referred to as the Site) is approximately 1.5ha in size and comprised mostly of industrial buildings, hard standing and scrub.

Ecological Feature	Potential to be affected by the Scheme	Further Surveys, Assessment or Mitigation Recommended?
Designated Sites	Yes – Site falls within Impact Risk Zone (IRZ) of statutory designated sites and proposals are of a type listed to present a risk regarding water supply.	Consultation with Natural England regarding the IRZ.
	Potential for construction to pollute the designated waterbodies/watercourses within the Study Area.	Pollution prevention measures detailed within a Construction Ecological Management Plan (CEMP).
Habitats	Yes – scrub and a large tree to the southern extent of the Site to be cleared to facilitate Scheme proposals.	Consider retention of tree or replace with at least two newly planted trees. Pollution prevention measures detailed within a CEMP.
Invasive Plants	Yes – potential for construction to cause spread of giant hogweed.	Biosecurity and invasive species control measures detailed within a CEMP. Treatment prior to works commencement.
Badger	Yes – potential for scrub clearance and construction activities to disturb active badger setts and for badgers to be harmed during the night whilst works are ongoing.	Pre-commencement check 3 months prior to start of works. Clearance of dense scrub under Ecological Clerk of Works (ECOW) supervision. Best practice followed. Detailed within a CEMP.
Bats	Yes – potential to disturb bats' foraging/commuting behaviour through artificial lighting.	If artificial lighting cannot be avoided, design a sensitive lighting strategy.
Otter and Water Vole	Yes – potential for otter and/or water vole to be harmed during the night whilst works are ongoing or natural nocturnal behaviour disturbed by artificial lighting.	Avoid night works and artificial lighting of the watercourses to the south. Follow best practice. Detailed within a CEMP.
Great Crested Newt (GCN)	Yes – potential to destroy terrestrial GCN habitat and potential to kill/injure individuals during construction.	eDNA survey of 6 waterbodies within 500m conducted during newt breeding season (April to June).
Reptiles	Slight risk of harm during scrub clearance.	ECOW to include reptiles within toolbox talk and potential refugia features carefully dismantled during clearance. Detailed within a CEMP.
Birds	Yes – potential to destroy active nests during scrub clearance.	Avoid nesting bird season (March to August, inclusive) or conduct a nesting bird check prior to scrub clearance. Detailed within a CEMP.

Ecological Feature	Potential to be affected by the Scheme	Further Surveys, Assessment or Mitigation Recommended?
Terrestrial Invertebrates	None.	N/A
Aquatic Invertebrates and Fish	Potential for pollution of habitat.	Pollution prevention measures detailed within a CEMP, as described for habitats/designated sites.
Other Notable Species	Potential to harm common toad or hedgehog during scrub clearance.	No specific mitigation required but ECoW to consider these species during supervision.

- iii A Biodiversity Impact Assessment was undertaken. Based on current proposed layouts, post-development, the Scheme would result in a net loss of approximately 36% in area-based habitats and no net change in linear based units (hedgerows/lines of trees/ditch).
- iv Recommendations for achieving biodiversity net gain include species-rich grassland creation/enhancement, green/brown roof creation, native mixed scrub creation, tree planting, and species-rich hedgerow planting. Other enhancements for biodiversity that could be delivered as part of the Scheme include bird nest box, bat roost box, and invertebrate 'hotel' provision.

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2 INTRODUCTION

2.1 Terms of Reference

- i RammSanderson Ecology Ltd (RS) were commissioned by JJ Churchill Ltd. to undertake an updated Preliminary Ecological Appraisal (PEA) further to the PEA undertaken in 2018 (RSE_1551_PEA_V1) to assess the potential ecological constraints to the proposed industrial development (hereafter referred to as the Scheme), located in Market Bosworth. Since the previous survey visit in 2018 the red line boundary has increased to encompass land within the client's ownership to the north. The land situated within the red line which encompasses the Scheme is hereafter referred to as the Site and is shown on Figure 1.
- ii The PEA has been undertaken with reference to current good practice¹ and forms part of the technical information commissioned by JJ Churchill Ltd. in connection with the Scheme. The results of the PEA are presented in this PEA report (PEAR), which addresses relevant wildlife legislation and planning policy as summarised in Appendix 1. The PEAR is consistent with the requirements of British Standard 42020:2013 *Biodiversity. Code of Practice for Planning and Development*.
- iii This PEAR is intended for advice in respect of Scheme design, site layout and / or site investigation. Further ecological surveys and / or ecological impact assessment (including detailed mitigation measures) may be required in connection with a planning application or to contribute to an Environmental Impact Assessment once the Scheme proposals have been finalised and any required surveys have been completed.

2.2 The Scheme

- i The Scheme is an extension of an industrial development. A new factory building with associated car parking and access is to be built on an area of currently vegetated habitat. This is to be located to the south of the current operational area, which currently contains several similar factory/warehouse buildings and car parking infrastructure. The Site Plan provided by the client is shown in Figure 2.

2.3 The Site

- i The Site is located off Station Road, in Market Bosworth, Nuneaton, Leicestershire, at Ordnance Survey national grid reference SK 39317 02982 and is 1.5 ha in size. The Site comprises a portion of existing industrial development to the north which is to be retained within the application, and a vegetated area to the south which is subject to proposed extension works. The southern section of the Site comprises of scrub, a hardstanding footpath, wet ditch and an oak tree (*Quercus sp.*). Boundary features include lines of trees, hedgerow and fencing. The Site is bounded by rural agricultural land to its east, south, and west, with small scale residential development to its north. The wider area consists largely of arable land.

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

2.4 Scope of the Preliminary Ecological Appraisal

- i This PEAR presents ecological information obtained during the following:
 - A desk-study undertaken on 03/03/23 and 20/03/23 to obtain records of designated sites, notable habitats² and protected and notable species³ up to 2km from the Site (the area covered by the desk study is hereafter referred to as the Study Area); and,
 - A walkover survey of accessible land within and adjacent to the Site (the area covered by the survey is hereafter referred to as the Survey Area) on 14/03/2023.
- ii The purpose of the PEAR is to provide a high-level ecological appraisal of the Site, specifically to:
 - establish baseline conditions and determine the presence of Important Ecological Features (IEF)⁴ (or those that could be present), as far as is possible;
 - to identify potential ecological constraints to the Scheme and make initial recommendations to avoid impacts on IEFs, where possible;
 - to identify requirements for mitigation, where possible, including mitigation measures that will be required and those that may be required (depending on results of further surveys or final scheme design);
 - to establish any requirements for more detailed surveys; and,
 - to identify any opportunities offered by the Scheme to deliver biodiversity enhancements.
- iii The methodology followed for undertaking the desk study and field surveys is detailed in Appendix 2.

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

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

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

3 BASELINE CONDITIONS, CONSTRAINTS AND RECOMMENDATIONS

3.1 Surveyor Competence

- i The walkover survey was led by Lauri Leivers BSc ACIEEM, whom has been a professional ecologist for seven years and has the required competencies (Chartered Institute of Ecology and Environmental Management) to undertake this type of survey. Lauri is a FISC level 3 botanist and holds licences for bats (class 1: 2022-10321-CL17-BAT) and great crested newts (class 2: 2018-37695-CLS-CLS)

3.2 Limitations to the Assessment

- i General limitations to undertaking desk and field-based assessments are provided in Appendix 2. Specific limitations to the assessment are detailed below:
- The update PEA was undertaken outside the main floristic season which is April – September. Surveys conducted outside of this time may under record botanical species and habitats of note. However, due to the types of habitats present in the survey area the time of year is not seen as a limitation to overall habitat classification in this instance. The previous survey undertaken in 2018 was carried out within the optimal floristic season.
 - The south-eastern part of the Site contained scrub with giant hogweed which was too dense and unsafe to be walked over and checked for presence of badger setts and field signs.

3.3 Designated Sites

3.3.1 Desk Study

- i Table 1 summarises the designated sites situated within the Study Area.

Table 1. Designated Sites within Study Area

Site Name	Designation	Location ⁵	Brief Description
Ashby Canal	SSSI ⁶	1.3km NW	Supports communities of aquatic and emergent plants that are representative of eutrophic standing water bodies in the English lowlands. The diversity of aquatic plants and invertebrates makes this one of the most important water bodies of its type in the East Midlands.
Ashby Canal, Market Bosworth	LWS ⁷ (Candidate)	0.1km W	Canal
Sedgemere, Market Bosworth	LWS (Potential)	40m W	Wet grassland
Stream along Nailstone/Carlton boundary	LWS (Candidate)	1km N	Small river or stream

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

⁶ SSSI – Site of Special Scientific Interest

⁷ LWS – Local Wildlife Site

Site Name	Designation	Location ⁵	Brief Description
Market Bosworth, Kyngs Golf Course Ponds and Tree	LWS (Candidate)	0.2km NE	5 ponds and 1 Oak Tree with girth estimated at >3.7m
Bosworth Marina wetland	LWS (Candidate)	0.3km NW	Recently created pond, formed as part of ecology compensation for construction of Marina. Noted for its water vole population.
Shenton, woodland East of railway	LWS (Potential:historic)	0.8km SE	Woodland
Grassland	LWS (Potential:historic)	1km N	Mesotrophic grassland
Market Bosworth, woodland S of Mill Covert	LWS (Potential:historic)	0.6km NE	Woodland
Ashby Canal, Welsboro Bridge to Deakin's Bridge	LWS (Potential:historic)	0.8km SW	Canal
Market Bosworth, Friezeland Farm pool	LWS (Potential:historic)	0.7km NW	Pond
Marsh/rough grassland	LWS (Potential:historic)	0.1km S	Swamp
Dismantled Railway	LWS (Potential:historic)	0.5km S	Grassland
Market Bosworth, Far Coton, pond between canal and railway	LWS (Potential:historic)	0.7km SW	Pond
Carlton, grassland	LWS (Potential:historic)	0.9km NW	Grassland

3.3.2 Constraints and Recommendations

- ii There is a single statutory designated site (Ashby Canal SSSI) within the Study Area, located approximately 1.3km to the northwest. It is designated for its eutrophic standing water and diversity of aquatic flora and invertebrates. As shown in Figure 3, the Site is surrounded by well-connected networks of waterbodies and watercourses. The SSSI section of the canal is linked to the Site via the LWS section, which is located approximately 100m to the west and which connects to the Site via ditches. In absence of mitigation, there is a risk of construction activities on Site polluting the network of watercourses, including the SSSI and LWS.
- iii The Site is located within Ashby Canal's Impact Risk Zone (IRZ). "Water supply - large infrastructure such as warehousing/industry where total net additional gross internal floorspace following development is 1000m² or more" is listed as a risk in this zone. The new proposed factory building has a ground floor Gross Internal Area (GIA) of 1628m². Therefore, further consultation between the Local Planning Authority (LPA) and Natural England (NE) is recommended to determine if the proposed development will have an adverse impact on the designated sites.
- iv There are 14 non-statutory designated sites within the study area, all of which are potential, candidate, or historic LWS. The closest of these is 'Sedgemere, Market Bosworth' LWS, which is a wet grassland approximately 40m to the west. An additional 8 LWS within the study area are noted for their wetland habitats. Others are noted for their grassland or woodland habitats. Whilst the industrial development is

- unlikely to impact any local habitats through increased visitor pressure, there is potential, as described above, for construction activities to pollute local watercourses and waterbodies in absence of mitigation.
- v Aside from the consultation with NE, it is recommended that pollution prevention measures are written into a Construction Ecological Management Plan (CEMP) and implemented throughout the construction process. These should follow Pollution Prevention Guidelines – Works and maintenance in or near water: PPG5 (Environment Agency, 2007), which includes measures to reduce the risk of silt and chemicals entering any of the nearby watercourses through the provision of spill kits and drip trays.

3.4 Habitats

3.4.1 Desk Study

- i Table 2 summarises the records of notable habitats and protected or notable flora⁸ (including veteran trees⁹) within the Study Area.

Table 2. Notable Habitats and Protected and Notable Flora within Study Area

Habitat/ Flora Feature	Reason for Conservation Interest	Location ¹⁰
Old Covert	Ancient woodland	1.8km SE
Market Bosworth, hedge 2	LWS (Potential)	0.1km E
Market Bosworth, Station Rd veteran ash	LWS (Candidate)	0.2km NE
Market Bosworth, Kyngs Golf Course Tree	LWS (Candidate)	0.2km NE
Market Bosworth, hedge 1	LWS (Potential)	0.3km SE
Silk Hill mature trees	LWS (Candidate)	1km NE
Lowland fens	Priority habitat	1.3km NE 2km NW
Deciduous woodland	Priority habitat	Closest 75m west of the Site; additional 59 parcels north, south, east, and west.
Wood-pasture and Parkland	May support ancient woodland, ancient trees, or veteran trees	1.4km E 1.5km E 1.8km E
Bluebell (<i>Hyacinthoides non-scripta</i>)	WCA (8) ¹¹	5 records closest record 100m W

⁸ For this assessment 'flora' includes vascular and non-vascular plants, fungi and lichens.

⁹ For this assessment the definition of a veteran tree is taken from Annex 2 of the National Planning Policy Framework (glossary): "A tree which, because of its great age, size or condition is of exceptional value for wildlife, in the landscape, or culturally."

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

¹¹ WCA (5) – Schedule 8 protected plants - Wildlife & Countryside Act (1981)

Habitat/ Flora Feature	Reason for Conservation Interest	Location ¹⁰
New Zealand pigmyweed (<i>Crassula helmsii</i>)	Invasive plant species – WCA (9) ¹²	2 records; closest record 36m N
Giant hogweed (<i>Heracleum mantegazzianum</i>)	Invasive plant species – WCA (9)	25 records; closest record 102m W
<i>Rhododendron ponticum</i>	Invasive plant species – WCA (9)	1 record, 102m W
Variegated yellow archangel (<i>Lamium galeobdolon</i> subsp. <i>Argentatum</i>)	Invasive plant species – WCA (9)	3 records; closest record 0.52km E
Canadian waterweed (<i>Elodea canadensis</i>)	Invasive plant species – WCA (9)	1 record, 0.61km SE
Giant rhubarb (<i>Gunnera tinctoria</i>)	Invasive plant species – WCA (9)	1 record, 0.98km E

3.4.2 Field Survey

- ii Summary descriptions of the habitats within the Survey Area are provided below in Table 3 and shown on Figure 4, with specific features highlighted by Target Notes (TNs).
Habitat types detailed are listed in order of the Phase 1 Habitat Survey Handbook (Joint Nature Conservation Committee, 2010). The species list provided in this report reflect only those taxa observed during the survey and are not an exhaustive list of all species that may be present, as the survey only provides a snapshot of the Site. The habitats on Site are also shown in 'UKHabs' methodology Figure 5.

¹² WCA (9) – Schedule 9 invasive non-native species - Wildlife & Countryside Act (1981)

Table 3: Habitats within Survey Area

Habitat	Description	Area/length (m ²)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
A2.1 Dense/continuous scrub	The Site contained dense scrub. There were two parcels to the east of the road and a parcel to the west of the road. Bramble (<i>Rubus fruticosus</i> agg.) was the dominant species throughout. The parcel to the west of the road also contained rarely occurring goat willow (<i>Salix caprea</i>) and elder (<i>Sambucus nigra</i>). The parcel to the northeast of the road also contained elder, ash (<i>Fraxinus excelsior</i>), hawthorn (<i>Crataegus monogyna</i>), blackthorn (<i>Prunus spinosa</i>), spear thistle (<i>Cirsium vulgare</i>), holly (<i>Ilex aquifolium</i>), and lords and ladies (<i>Arum maculatum</i>). The parcel of scrub to the southeast of the road was also dominated by bramble. Its understorey contained frequent mugwort (<i>Artemisia vulgaris</i>), occasional nettle (<i>Urtica dioica</i>), and rarely occurring teasel (<i>Dipsacus</i> sp.), rosebay willowherb (<i>Chamaenerion angustifolium</i>), and ash. Giant hogweed was also noted in this habitat (see Target Note 1, Figure 4).	2455	16	Of low botanical diversity, but native species add to biodiversity value of the Site. Of importance as a potential habitat for foraging bats, nesting birds, badger, refuge seeking herptiles, and other mammals. Lost within current proposals (Figure 6).	

Habitat	Description	Area/length (m ²)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
A2.2 Scattered scrub	The southern extent of the Site contained scattered scrub, to the west of the road. This extended along the boundaries to the west and east to where it joined lines of trees. Along the eastern boundary, species included dominant bramble with rarely occurring dog rose (<i>Rosa canina</i>). Along the western boundary, species included abundant hawthorn and elder, with frequent bramble. Species to the west of the road included bramble, hawthorn, ash, and goat willow.	1278	8	Of low botanical diversity, but native species add to biodiversity value of the Site. Of importance as a potential habitat for foraging bats, nesting birds, badger, refuge seeking herptiles, and other mammals. Lost within current proposals (Figure 6).	
J1.2 Amenity grassland	There was a small parcel of amenity grassland to the north of the Site. Species included dominant perennial ryegrass (<i>Lolium perenne</i>), abundant annual meadow grass (<i>Poa annua</i>) frequent moss species, occasional white clover (<i>Trifolium repens</i>) and dandelion (<i>Taraxacum</i> sp), and rarely occurring field speedwell (<i>Veronica agrestis</i>), groundsel (<i>Senecio vulgaris</i>), and daffodil (<i>Narcissus</i> sp.).	147	1	Of low botanical diversity but native species add to biodiversity value of the Site and may be used as a resource by invertebrates. Retained within current proposals (Figure 6).	

Habitat	Description	Area/length (m ²)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
J1.4 Introduced shrub	There was a small parcel of introduced shrub to the north of building 1, within the north of the red line boundary area. This included ornamentally planted species.	147	1	Of low ecological importance due to presence of non-native species. Of importance as a potential habitat for nesting birds. Retained within current proposals (Figure 6).	
J3.6 Buildings (and metal containers)	There were 5 buildings and several metal containers located within the northern extent of the red line boundary. These were warehouse and other industrial buildings and were mostly constructed of metal and brick.	4204	28	May offer suitable habitat for nesting birds or roosting bats but limited in opportunities. Retained within current proposals (Figure 6).	
J4 – Bare ground	There was a small parcel of bare ground in the northern section of the red line boundary. It was slightly vegetated with ephemeral and short perennial species, such as field speedwell, white clover, perennial ryegrass, and creeping bent grass (<i>Agrostis stolonifera</i>)	81	0.5	Of low botanical diversity but native species add to biodiversity value of the Site and may be used as a resource by invertebrates. Retained within current proposals (Figure 6).	

Habitat	Description	Area/length (m ²)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
J6 – Hard standing	Hard standing dominated the northern half of the red line area and was present as a road within the Site, between the scrub areas.	7053	46	Of negligible ecological importance. Mostly retained within current proposals (Figure 6).	
A3.1 Broadleaved scattered trees – line of trees	Lines of trees were present along sections of the east and west boundaries. These generally contained young specimens, but some larger trees were present. The line along the eastern boundary contained abundant hawthorn and oak (<i>Quercus sp.</i>), frequent blackthorn, occasional dog rose and ivy (<i>Hedera helix</i>), and rarely occurring silver birch (<i>Betula pendula</i>). The line along the western boundary contained oak, blackthorn, goat willow, sycamore (<i>Acer pseudoplatanus</i>), and hawthorn.	171	N/A	Trees generally of high ecological importance; increase connectivity in the landscape; of importance as potential habitat for roosting, foraging, and commuting bats, nesting birds, and commuting and refuge seeking mammals and herptiles. Lines of trees retained within current proposals (Figure 6).	

Habitat	Description	Area/length (m ²)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
A3.1 Broadleaved scattered trees – deciduous trees	Deciduous trees were present across the Site. Several trees were present on the eastern extent of the northern boundary and to the east of B5. Species included goat willow, horse chestnut (<i>Aesculus hippocastanum</i>), sycamore, hornbeam (<i>Carpinus betulus</i>), and cherry (<i>Prunus avium</i>).	N/A	N/A	Trees generally of high ecological importance; increase connectivity in the landscape; of importance as potential habitat for roosting, foraging, and commuting bats, nesting birds, and commuting and refuge seeking mammals and herptiles. Scattered deciduous trees mostly retained within current proposals except for a single large mature tree to the south (Figure 6).	
J2.1.2 Intact species-poor hedgerow	A species-poor hedgerow formed the western extent of the northern boundary. It was less than 1.5m tall x 1.5m wide, with no gaps.	42	N/A	A Priority habitat nationally and within the Leicester LBAP. Increases connectivity within the landscape. Of importance as potential habitat for nesting birds; commuting and foraging bats, commuting and refuge seeking mammals and herptiles. Retained within current proposals (Figure 6).	

Habitat	Description	Area/length (m ²)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
J2.6 Ditch	A ditch was present along the southern boundary of the Site. It contained some water and was noted to be polluted with litter. There had been high levels of precipitation prior to the survey so this ditch may not be wet all year round.	32	N/A	Ecologically valuable and is a medium distinctiveness habitat regarding BIA and provides a connectivity route for fauna such as herptiles and riparian mammals. Also, potential to provide commuting routes for terrestrial phase amphibians or mammals if/when dry. Retained within current proposals (Figure 6).	
J2.4 Fence	Security fencing was present in the operational industrial portion of the Site, forming boundaries between the Site and the surrounding land to the east and west. A fence also separated the operational portion of the Site from the vegetated extent in the south. This was generally in a good condition and was high (over 6 feet) with no gaps.	403	N/A	May act as a dispersal barrier for terrestrial mammals. Mostly retained/replaced within current proposals.	

3.4.1 Constraints and Recommendations

- i Most of the habitats on Site are to be retained within current proposals. Those with ecological value to be lost are scrub (dense and scattered) and a single large tree.
- ii Whilst the scrub is of low botanical diversity and dominated by bramble, it mostly contains native species so, compared to the hard standing which dominates the Site, it is of some biodiversity value. It provides a potential habitat for species such as foraging bats, nesting birds, herptiles, terrestrial invertebrates, badger, and small mammals.
- iii However, it also contains giant hogweed, which reduces its biodiversity value; it makes up only approximately 20% of the Site's area, and it is not unique within the landscape. Therefore, the loss of this scrub habitat to facilitate the development will not be detrimental to local biodiversity, but it is recommended that it is replaced with native species planting elsewhere as part of the Scheme.
- iv Trees are generally of high ecological value and provide habitat for species such as nesting birds, roosting bats, and invertebrates. It is recommended that proposed Site plans are reconsidered to retain the large tree towards the south if possible. If this is not possible, it should be replaced by at least two newly planted trees.
- v Due to the relatively small scale of the development, it is not likely that construction will damage any local Priority terrestrial habitats, such as veteran trees, important hedgerows, or woodland. During the walkover, a stream was noted to the south of the Site and fast flowing streams are a priority habitat on Leicester's LBAP. As discussed in Section 2.3.2, there are networks of watercourses surrounding the Site and it is recommended that pollution prevention measures are implemented during construction.
- vi A Schedule 9 (WCA, 1981) invasive non-native plant species (giant hogweed) was recorded on Site and to the south of Site during the walkover. Whilst the majority of stands were dead on Site indicating previous treatment, active green stands were identified and are indicated by TN1 on the phase 1 plan (Figure 4). This should be treated and removed before any works are to commence to prevent the further spread of this species. This species is also hazardous to health so should be prioritised for removal and treated with care. It should be confirmed as dead during an updated walkover prior to vegetation removal. Removal of dead giant hogweed should be undertaken by a suitably qualified contractor and treated as controlled waste. Strict biosecurity protocols must be adhered to during works such as cleaning tools and wheel/track washes of plant and vehicles before leaving affected areas of Site and before being taken off Site. Detailed methodology should be included within a CEMP and adhered to throughout construction.
- vii In addition, the desk study highlighted records of several invasive non-native plant species in close vicinity to the Site (Table 2). Therefore, it is recommended that strict biosecurity measures are implemented during Site clearance. To avoid their spread, the above protocols will also apply to any other invasive non-native species identified on Site.

3.5 Badger

3.5.1 Desk Study

- i There are 21 recent records of badger within the Study Area. The closest of these records is within 0.5km of the Site boundary and is functionally linked to the Site via wooded habitat.

3.5.2 Field Survey

- i No evidence of badger presence was recorded within the Survey Area, however, scrub was too dense in places to be searched.
- ii The scrub to the southern extent of the Site has suitability to support badger populations and is well connected to the wider landscape. Badgers could use this area for sett building, foraging, or commuting.

- iii However, this area of scrub is likely more disturbed, for example by heavy vehicles and plant associated with the industrial area, than other areas of scrub and woodland in the locality, so is less likely to be selected as a main sett building location. Nevertheless, foraging badgers are likely present in the southern extent of the Site at night.

3.5.3 Constraints and Recommendations

- i In absence of mitigation, scrub clearance risks disturbing any active badger setts amongst it and construction activities generally risk disturbing any active setts within 30m of the Site boundary. Additionally, there is a risk of harm to any badgers utilising the Site during the night whilst construction is ongoing.
- ii A pre-commencement check for badger setts and evidence in the construction area and the surrounding 30m is recommended within the three months prior to the start of works. Clearance of dense scrub should be supervised throughout by an Ecological Clerk of Works (ECoW) to establish absence of setts. If a sett were encountered, works would cease until a period of camera monitoring confirms its status and appropriate mitigation can be implemented.
- iii Additionally, best practice guidance should be implemented during the construction phase to reduce risks to individuals passing through the Site. This involves measures such as installing mammal ladders into open excavations, capping off pipes, and keeping fuel and chemicals locked away.
- iv A CEMP and a Precautionary Method of Works (PMW) document should be produced and adhered to, detailing the mitigation measures for badger.

3.6 Bats

3.6.1 Desk Study

- i There are over 60 records of bat species (brown long-eared bat, pipistrelle species, myotis species, and nyctalus species) within the Study Area. The closest records are of brown long-eared bat and common pipistrelle roosts, approximately 30m west.
- ii There are also 4 records of granted European Protected Species Licences (EPSL) for bat species within the Study Area, for brown long-eared bat and common pipistrelle.

3.6.2 Field Survey

- i A detailed assessment of the bat roosting potential of the features on Site was beyond the scope of the survey but the buildings were scoped for Potential Roost Features (PRFs).
- ii All of the buildings were of negligible potential to support roosting bats, owing to their general design and lack of internal niches. Any features noted would be suitable for solitary, transient, opportunistic individuals only.
- iii The trees on Site were immature and lacking in the size and maturity to develop PRFs. The tree to the south of the Site within the scrub was viewed from the north, south and western aspects and no PRFs were noted.
- iv The scrub, trees, and hedgerow provide moderately suitable habitat for foraging and commuting bats (Collins 2016), which are likely present on the Site at night. However, this habitat is not unique within the landscape, so it likely represents only one of many resources used by local populations; the canal and railway lines to the west are likely utilised more heavily by local bat populations compared with the habitat on Site since these represent high suitability habitat (Collins 2016).

3.6.3 Constraints and Recommendations

- i The existing buildings will not be directly impacted by the Scheme and construction activities are likely to be restricted to over 50m away from these buildings. Therefore, risks to bats roosting in buildings are negligible and further survey and mitigation is disproportionate.

- ii Most of the trees on the Site will also be retained and unimpacted by construction activities. However, as discussed within Section 2.4.1, the tree to the south amongst the dense scrub is to be removed during clearance. This tree should be retained if possible; as it matures, it could become a resource for roosting bats. However, currently, it does not contain any PRFs so its removal will not impact any roosting bats.
- iii If any of the trees within the Site or adjacent to the Site require pruning or delimbing works, further assessment will be required.
- iv Loss of the scrub habitat to the south of the Site is unlikely to have a significant negative impact on bats through loss of foraging resource or fragmentation of the landscape, so further bat activity surveys are disproportionate. However, it is recommended that additional artificial night lighting is avoided in this area since this can disturb bats' normal behaviour. If artificial lighting is required for security or safety purposes, a sensitive lighting strategy should be designed and implemented, including measures such as motion sensors and strategic positioning away from the woodland.

3.7 Otter and Water Vole

3.7.1 Desk Study

- i Ashby Canal is located between 100m and 250m west of the Site (Figure 3) and may be suitable for otter holt / water vole burrow building, as a commuting route, or as a foraging resource. However, as a canal, it is likely it is heavily disturbed by recreation, reducing the likelihood of holts being present.
- ii There are 3 recent records of otter within the Study Area. The closest of these records is associated with Ashby canal approximately 100m to the west of the Site boundary. It is likely this record was a sighting rather than a holt.
- iii There are 9 recent records of water vole within the Study Area. The closest of these records is likely associated with Bosworth Marina wetland LWS which is approximately 350m northwest of the Site boundary.
- iv

3.7.2 Field Survey

- i No evidence of otter or water vole was identified during the walkover. The Site does not contain any permanent aquatic habitat, however, the ditch to the south is ephemerally wet so may sometimes provide commuting opportunities. Additionally, the scrub has suitability as terrestrial refuge for these species. The woodland habitat to the south of the Site also has suitability as a terrestrial habitat.
- ii Ditch D10 is located adjacent to the southern boundary of the Site and ditches (D3 and D4, Figure 3) are located within 100m of the southern boundary of the Site. These ditches may be suitable as a commuting route or foraging resource for these species. Where surveyed within 100m, the banks were not developed enough to be suitable for holt/burrow building. Also, whilst noted to be wet during the survey, this followed a period of heavy precipitation, and it is likely these are ephemeral wet ditches rather than permanent features. This further reduces the likelihood of them supporting breeding otter or water vole.
- iii It is unknown if the other ditches/drains within 250m of the Site (D2 and D5 - Figure 3) hold water and have suitability for otter and water vole but it is likely these are agricultural ditches of similar construction to the ones discussed above.

3.7.3 Constraints and Recommendations

- i There is a small chance of otter holts and water vole burrows being present along the canal's bank and the stream, between 100 and 250m of the Site, i.e. the distance at which otter holts can be disturbed by construction works. Whilst the banks may be suitable, it is likely the canal is heavily disturbed by recreational activity, including boats and dog walking, reducing the likelihood of these cryptic species breeding in this area. Additionally, between the Site boundary and the canal, there is active long-term construction associated

with the railway. This further reduces the likelihood of otters breeding in this area. Moreover, any otters that do breed in this area would be habituated to these levels of disturbance so further construction associated with this development would be highly unlikely to cause disturbance to these individuals. Therefore, the risks of disturbing otter or water vole in their holts/burrows as a result of the development is negligible and further surveys are disproportionate.

- ii It is possible that otter and water vole use the canal, and potentially the stream and ditches within 100m of the Site, for foraging and commuting activities. The woodland habitat to the south of the Site may also be utilised by these species. Due to the cryptic nature of these species and the availability of alternative habitat, it is highly unlikely these species are present within the terrestrial habitats on Site.
- iii If additional artificial night lighting is required on the southern extent of the Site, there is a risk of disturbance of otters' natural commuting or foraging behaviour if light pollution is great.
- iv It is recommended that night working is avoided, and any artificial night lighting installed to the south of the Site is located away from the watercourses. Best practice guidelines, as described for badger in Section 2.5.3 should be implemented to protect individuals which may pass through the Site. Pollution prevention guidelines, as described in Section 2.3.2, should also be adhered to, and will minimise degradation of riparian mammals' aquatic habitat.

3.8 Great Crested Newt

3.8.1 Desk Study

- i There are 24 recent records of great crested newts (GCN) within the Study Area. The closest of these records is located approximately 70m north of the Site boundary and is likely associated with pond 10 (Figure 3).
- ii As shown in Figure 3, a total of 23 water bodies are present within 500m of the Site. Ashby Canal has been screened out of further assessment because it is a flowing watercourse and is therefore unsuitable for GCN¹³. A total of 15 further water bodies are screened out of requiring further assessment as there are major barriers¹⁴ to GCN movement between the waterbody and the Site, in the form of a main road (Station Road) with dropped kerbs and grates.

3.8.2 Field Survey

- i The scrub, lines of trees, and hedgerow within the site boundary provide suitability for commuting, foraging and refuge seeking terrestrial phase GCN. The dense scrub may also provide opportunities for GCN hibernation.
- ii Habitat Suitability Index (HSI) survey has confirmed D1 as having low potential as a breeding site for amphibians (Table 4). This ditch was connected to the adjacent arable field and is likely used for drainage purposes. Whilst D1 held small pools of water during the walkover, the vegetation structure was typical of an ephemeral ditch, likely drying during the GCN breeding season, and the water was likely due to the recent period of heavy rainfall. Due to these factors, it was scoped out of further consideration as a potential GCN breeding habitat.

¹³ Great crested newts do not generally like running water, though they will inhabit very slow-flowing watercourses such as backwaters, ditches and canals.

¹⁴ The following constitute major barriers to dispersal and are unlikely to be traversed by great crested newts: rivers and larger brooks; main roads such as A-roads, motorways or any other road with high traffic volume (i.e. high traffic volume during the night when great crested newt are more likely to be dispersing/commuting) and/or high kerbs and gullies; and major urban infrastructure including extensive areas of hardstanding and buildings and dense networks of minor roads with little green space.

- iii Ditches D2, D3 and D4 also appeared to be connected to arable land use and therefore likely ephemeral, and are not likely to support breeding GCN, however these could not be accessed at the time of the survey to fully determine their suitability.
- iv At the time of survey, the extent of D10 adjacent to the site, and therefore visible, was dry and therefore scoped out of further consideration due to its lack of suitability to support breeding GCN.
- v Three ponds (P1, P11 and P12) are located within 500m of the boundary, all of which had functionally connectivity to the Site and were not beyond significant barriers to dispersal and are therefore scoped in for further consideration.

Table 4: Habitat Suitability Index (HSI) Results

Feature	Description	Location	HSI Score	Photograph
Ditch D1	Shallow, wet ditch, holding small pools of water with ephemeral species within.	Along the southern boundary of the site.	0.42 (Poor)	

3.8.3 Constraints and Recommendations

- i As there are suitable terrestrial habitats on site, it is recommended that P1, P11 and P12 are subject to HSI and eDNA surveys to determine suitability and presence/likely absence of GCN and inform the requirement for further survey work/ mitigation.
- ii As D2, D3, D4 and the full extent of D10 could not be accessed at the time of survey, it is recommended that these are subject to an HSI survey to determine suitability for breeding GCN and inform the requirement for further survey work.

3.9 Common Species of Reptile

- i 'Common species of reptile' refers to common lizard, slow worm, adder and grass snake. The Site is located outside of the known range of smooth snake and sand lizard and these species are not considered in this report.

3.9.2 Desk Study

- i There are 6 recent records of grass snake within the Study Area. The closest of these records is approximately 100m west of the Site boundary and likely associated with the canal.

3.9.3 Field Survey

- i No reptiles or reptile evidence was encountered during the survey.
- ii The scrub has suitability for refuge seeking and foraging reptiles, particularly slow worm or common lizard. However, given the cryptic nature of reptiles and the availability of less disturbed habitat in the locality, it is unlikely that the Site is utilised by reptiles on a regular basis, or forms core habitat for them locally.

3.9.4 Constraints and Recommendations

- i Clearance of the scrub is highly unlikely to have an adverse effect on the favourable conservation status of any local reptile populations since there is ample, more suitable, habitat in close proximity to the Site.
- ii Given the low likelihood of reptile presence on Site, further survey is disproportionate. However, it is recommended that the ECoW present (as mentioned in section 2.5.3) during the scrub clearance makes works operatives aware of the potential presence of reptiles via a toolbox talk and is trained to safely move any reptiles encountered during the clearance. If any features suitable for reptile refuge, such as rubble piles or corrugated sheeting, are discovered during the scrub clearance, these should be dismantled or moved using hand tools only. This should be detailed with a CEMP and adhered to during Site clearance.

3.10 Birds (including barn owl)

3.10.1 Desk Study

- i There are recent records for 32 notable¹⁵ bird species within the Study Area.
- ii These include 4 species listed on Annex I of the EC Birds Directive 1994, 9 species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), 18 Species of Principal Importance (SPI), 16 species on the Conservation Concern 5 (BoCC5) Red list (Stanbury, 2021) and 10 species on the BoCC5 Amber list. The records also include 5 species of bird that are priority species in Leicester listed on the Leicester BAP (2016 – 2026).

3.10.2 Field Survey

- i There were no features on Site suitable to support individually notable birds. There were also no features noted beyond the boundaries in which birds liable to disturbance could nest.
- ii The scrub, trees and hedgerow are suitable habitat for a range of nesting bird species. The ornamental shrubs and buildings may also offer some opportunities for nesting. However, given the small scale of the Site and the availability of alternative habitat in the locality, it is unlikely the habitats on Site support any notable populations or form a core resource for breeding or wintering birds.

3.10.3 Constraints and Recommendations

- i Clearance of the scrub is highly unlikely to have an adverse effect on the favourable conservation status of any local bird populations since there is ample alternative suitable habitat in close proximity to the Site.
- ii There is, however, a risk that scrub clearance could destroy active nests. To avoid this, it should be timed to avoid the main bird nesting season (March to August, inclusive). If this is not possible, scrub clearance should be preceded by a nesting bird check by a suitably qualified ecologist. If active nests are discovered, working restrictions would be put in place until chicks had fledged. The exact details of this recommendation would be detailed within a CEMP and adhered to during construction.

¹⁵ Notable bird species are taken as those listed: on Annex I of the EC Birds Directive (2009/147/EC); on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); as Species of Principal Importance (SPI) for the Conservation of Biodiversity in England listed in Section 41 of the Natural Environment and Rural Communities Act 2006; as Red or Amber in the Birds of Conservation Concern (BoCC) 4 (Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015). Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708-746); bird species or groups listed under the Leicester BAP.

3.11 Terrestrial Invertebrates

3.11.1 Desk Study

- i There are 26 recent records of notable¹⁶ terrestrial invertebrates within the Study Area, comprising 9 species of moth, all of which were Principal species. The closest of these records is cinnabar moth, approximately 100m west the Site boundary.

3.11.2 Field Survey

- i No notable invertebrates were recorded during the walkover.
- ii The scrub to the south has suitability as a refuge habitat and foraging resource for a range of terrestrial invertebrates. Additionally, the plant species within the trees, grassland, and hedgerow provide a foraging resource.

3.11.3 Constraints and Recommendations

- i The scrub habitat is not unique within the locality so is unlikely to represent a core resource or be the sole habitat for a population of notable invertebrates. Its loss is therefore not likely to impact the favourable conservation status of any notable invertebrates and further survey or mitigation is disproportionate.
- ii However, it is recommended that the development incorporates diverse native species planting to increase resource availability for a range of terrestrial invertebrate species.

3.12 Aquatic Invertebrates (including White-clawed Crayfish) and Fish

3.12.1 Desk Study

- i There are no recent records of notable¹⁷ aquatic invertebrates (including white-clawed crayfish) or fish within the Study Area.
- ii There is a recent record of signal crayfish approximately 0.7km to the north-west, likely associated with the canal. It is very rare that white-clawed crayfish persist alongside signal crayfish, which are an invasive non-native species, therefore, this species is highly likely to be absent from this watercourse.

3.12.2 Field Survey

- i A wet ditch (D1) was located within the south of the Site and D10 was located to the south of the Site. These were scoped out as they were unsuitable for white clawed crayfish due to the lack of niches for refuge seeking and high levels of silt.
- ii It is unknown whether waterbodies or watercourses in the Study Area are suitable for other notable aquatic invertebrates or fish since this was beyond the scope of the survey, however it is highly unlikely that the development proposals would impact them

¹⁶ Notable terrestrial invertebrates are taken as principal species for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006; any invertebrate listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); any invertebrate listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended); any invertebrate listed in the IUCN Invertebrate Red Data Book (1991); and any invertebrate listed under Leicester BAP.

¹⁷ Notable aquatic invertebrates are taken as principal species for the conservation of biodiversity under Section 41 of the Natural Environment and Rural Communities Act 2006; any invertebrate listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); any invertebrate listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended); any invertebrate listed in the IUCN Invertebrate Red Data Book (1991); and any invertebrate listed under Leicester BAP.

3.12.3 Constraints and Recommendations

- i As discussed in Section 2.3.2, the Site is well connected to a network of waterbodies and watercourses. As such, there is a risk of pollution to aquatic habitats during construction in absence of mitigation, and measures to reduce this risk this should be followed.

3.13 Other Notable Species

3.13.1 Desk Study

- i There are 13 recent records of other notable species¹⁸ within the Study Area.
- ii There are 7 records of common toad, the closest of which was approximately 100m west.
- iii There are 4 records of hedgehog, the closest of which was approximately 220m south-east.
- iv There are 2 records of brown hare, the closest of which was approximately 290m north-west.

3.13.2 Field Survey

- i There are no aquatic habitats on Site to support breeding common toad. However, the waterbodies within 500m may support this species, therefore, toads may utilise the scrub on Site as terrestrial habitat. It is likely this species is present on Site, at least transiently, but is it unlikely the Site supports any large populations.
- ii The scrub on Site is also suitable habitat for hedgehog refuge seeking and foraging. There may also be opportunities for this species to hibernate in the denser areas. It is likely this species is present on Site, at least transiently, but is it unlikely the Site supports any large populations.
- iii Whilst the scrub on Site also has some suitability for refuge seeking brown hare, the arable land adjacent to the eastern border of the Site is more suitable for this species. It is unlikely this species is present on Site, except on rare occasions.

3.13.3 Constraints and Recommendations

- i Loss of the scrub habitat on Site is unlikely to be detrimental to the favourable conservation status of any notable species since it is not unique within the locality and the loss is relatively small scale.
- ii However, clearance of scrub risks harming or killing common toads or hedgehogs residing within. During the ECoW supervision, as described within 2.5.3, these species should be considered. If individuals are encountered, they should be carefully moved or allowed to disperse of their own accord. If large numbers of these species are encountered, works should cease, and further mitigation should be considered.

¹⁸ Notable species are taken as principal species for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006; any species listed in an IUCN Red Data Book; and any other species listed under the Leicester BAP that are not referred to in previous sections of the report.

4 BIODIVERSITY IMPACT ASSESSMENT

- i A high-level¹⁹ biodiversity impact assessment (based on the current Scheme details) has been undertaken for the Scheme. This involves making a comparison between the biodiversity value of habitats present within the Site prior to development (i.e. the 'baseline') and the predicted biodiversity value of habitats following the completion of the Scheme (i.e. 'post development'). The comparison is undertaken in terms of 'biodiversity units', with a 'biodiversity metric' providing the mechanism to allow biodiversity values to be calculated and compared.
- ii The biodiversity value of the Site is as follows:
- 5.46 units of Area based habitats;
 - 0.77 units of Linear based habitats; and,
 - 0.13 units of River based habitats (i.e. the ditch).
- iii Post development (Figure 7), the Scheme would result in the following:
- A loss of 1.94 units of Area based units. This equates to a 35.52% loss;
 - No change of Linear based units. This equates to a 0% loss/gain; and,
 - No change of 0.13 units of River based units. This equates to a 0% loss or gain.
- iv The assessment is based on the proposed Scheme details, as summarised in Section 1 and does not include any additional potential compensation or enhancements, which is detailed in Section 4 of this report below.
- v The methodology for undertaking the assessment is provided in Appendix 2. Full details on the assessment calculations are provided in Appendix 3.

On-site baseline	Habitat units	5.46
	Hedgerow units	0.77
	River units	0.13
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	3.52
	Hedgerow units	0.77
	River units	0.13
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	-35.52%
	Hedgerow units	0.00%
	River units	0.00%
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-1.94
	Hedgerow units	0.00
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-35.52%
	Hedgerow units	0.00%
	River units	0.00%
Trading rules Satisfied?	No - Check Trading Summary ▲	

¹⁹ High level refers to the fact that Scheme proposals including landscaping and any required ecological mitigation are not finalised at this stage of the assessment.

5 OPPORTUNITIES FOR ENHANCEMENTS

- i This section highlights opportunities for providing ecological enhancements, based on the current Scheme details. These are high level opportunities and would need to be developed in greater detail once further surveys have been completed and the Scheme proposals, such as detailed areas of habitat loss are confirmed.

5.1 Biodiversity Net Gain

- i The Scheme would result in an approximate loss of 36% Area biodiversity units. To offset these losses, and potentially achieve a net gain the following could be delivered as part of the Scheme:
- Given the context of the Site, i.e. its high levels of footfall and industrial usage, good condition wildflower meadows are unfeasible. However, the existing amenity grassland to the north and the newly created grassland to the south could be sown with a species-rich seed mixture that tolerates amenity management.
 - Incorporating a native species-rich green or brown roof on the new building would highly increase the likelihood of securing an on-Site gain in habitat units.
 - Replacement of the introduced shrub to the north with a native mixed scrub mix. This would be small in scale but prioritising native species, such as dogwood and hawthorn, would increase the biodiversity value of the Site.
 - Planting native tree species across the Site, such as on the newly created grassland to the south, would increase the biodiversity value of the habitats. Species such as cherry or rowan would be suitable in this context and would also provide a foraging resource for birds.
 - Planting native species-rich hedgerows along the Site's boundaries, such as the western boundary alongside the new grassland, would help to achieve a gain in linear based habitats. It would also help to increase landscape connectivity for protected species.

5.2 Other Enhancements

- i The following enhancements could be delivered for biodiversity as part of the Scheme, that don't contribute towards the calculation of biodiversity net gain but can still deliver significant improvements for biodiversity:
- Provision of bird nest boxes, suitable for a range of smaller common species. These would be best placed on retained trees to the edge of the Site, such as in the north.
 - Provision of bat boxes, suitable for crevice dwelling species. These would be best placed on retained trees to the edge of Site, away from artificial lighting.
 - Provision of invertebrate refugia ('hotels') in areas of native species planting, such as alongside grasslands, hedgerow, or amongst any retained areas of scrub.

6 CONCLUSION

- i This PEAR is based on a desk study and ecological surveys undertaken in March 2023, to assess the ecological constraints to the Scheme and to provide advice in respect of Scheme design, site layout and / or site investigation.
- ii The following further surveys, summarised in Table 5, are recommended to inform an Ecological Impact Assessment (EclA) to support the planning application, to determine further mitigation required, and to determine a requirement for EPSL.

Table 5: Summary of Recommendations

Ecological Feature	Recommendation	Timing
Designated sites	Consultation with NE regarding Ashby Canal SSSI Impact Risk Zone and water supply	No specific time constraints but early contact is advised.
Badger	Pre-commencement check	Within three months prior to scrub clearance.
Great crested newt	eDNA survey	Mid-April to June.
Birds	Pre-commencement check if nesting season cannot be avoided	Required within 24 hours of scrub clearance throughout March to August. Not required if scrub clearance conducted September to February.

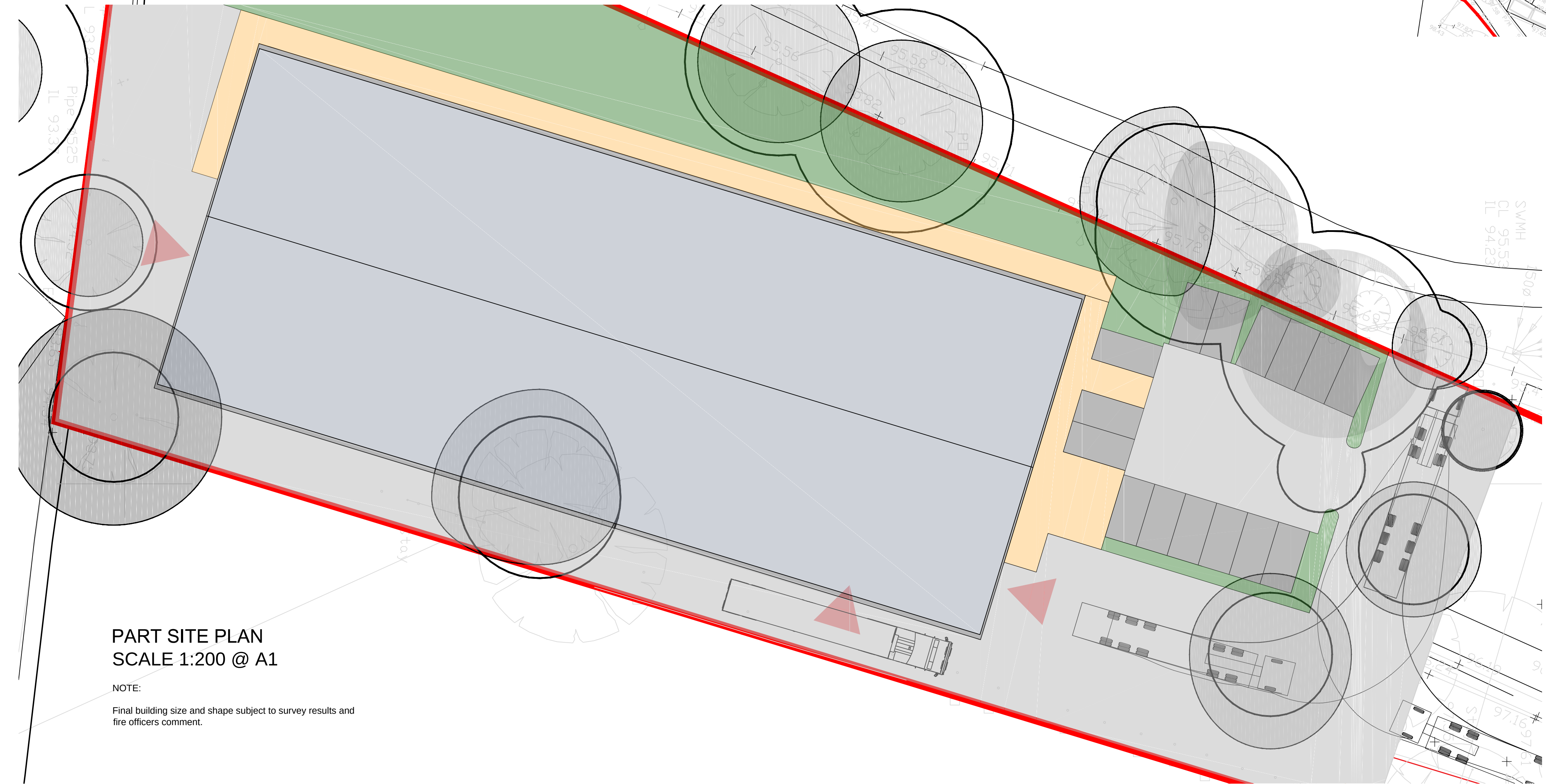
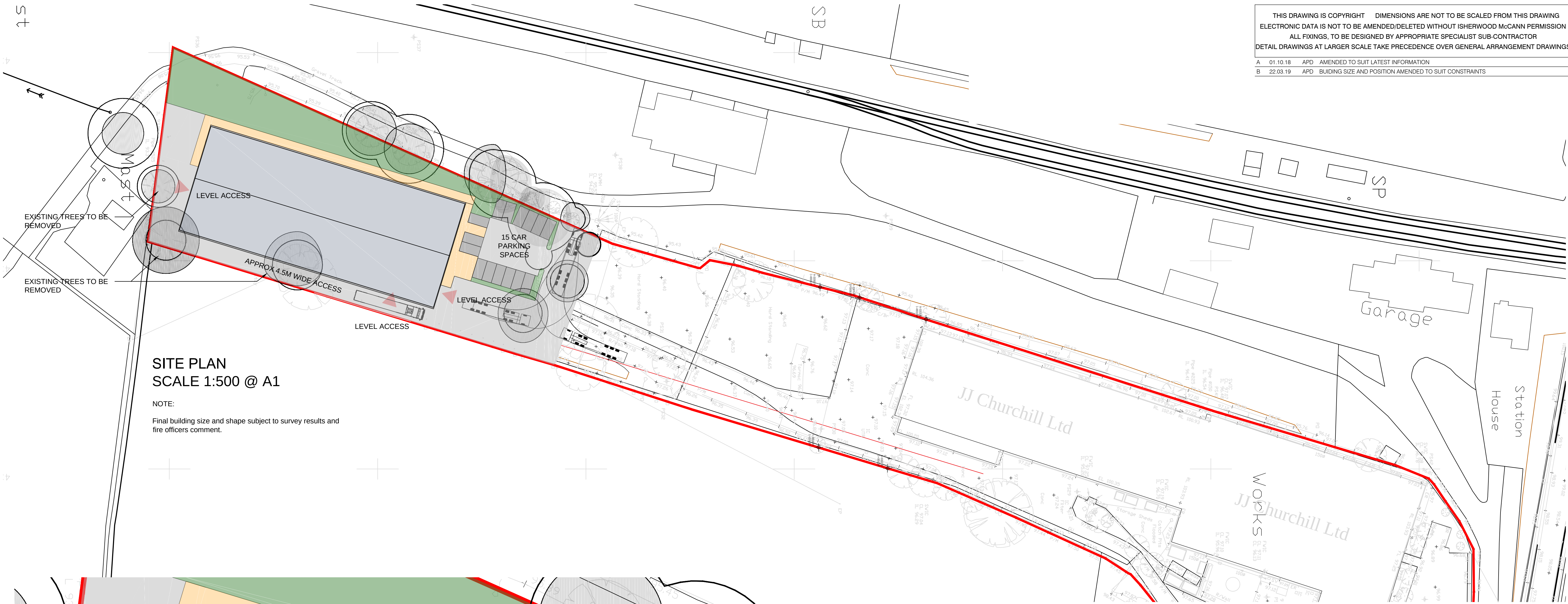
- iii The Scheme would result in an approximate loss of 36% Area biodiversity units, 0% Linear based biodiversity units, and 0% River biodiversity units. Recommendations for achieving biodiversity net gain include species-rich grassland creation/enhancement, green/brown roof creation, native mixed scrub creation, tree planting, and species-rich hedgerow planting.
- iv Other enhancements for biodiversity that could be delivered as part of the Scheme include bird nest box, bat roost box, and invertebrate 'hotel' provision.

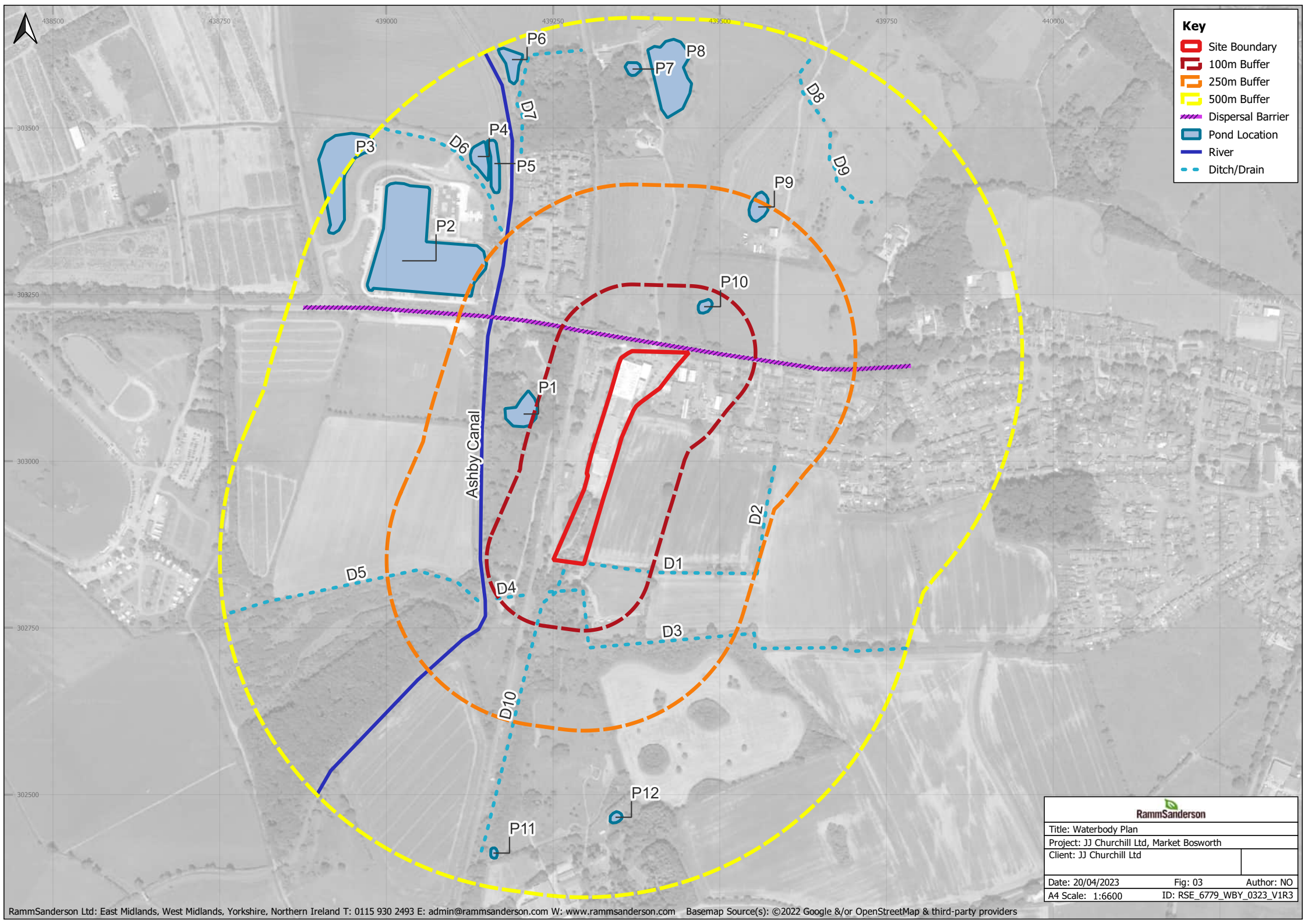
6.2 Re-Survey of Site

- i Due to the mobility of animals and the potential for colonisation of the Site, it is recommended that an updated ecological survey be undertaken prior to the redevelopment of this Site should this not occur within 12 months of the date of the field survey. This would not be required for the northern extent of the Site if this remains unimpacted by the development proposals but would focus on the southern extent.



		
Title: Site Context Plan		
Project: JJ Churchill Ltd, Market Bosworth		
Client: JJ Churchill Ltd		
Date: 15/03/2023	Fig:01	Author: NO
A4 Scale: 1:1600	ID: RSE_6779_STC_0323_V1R1	





Key

- Site Boundary
- 100m Buffer
- 250m Buffer
- 500m Buffer
- Dispersal Barrier
- Pond Location
- River
- Ditch/Drain

		
Title: Waterbody Plan		
Project: JJ Churchill Ltd, Market Bosworth		
Client: JJ Churchill Ltd		
Date: 20/04/2023	Fig: 03	Author: NO
A4 Scale: 1:6600	ID: RSE_6779_WBY_0323_V1R3	



Key

- Site Boundary
- A2.1 - Scrub - dense/continuous
- A2.2 - Scrub - scattered
- J1.2 - Cultivated/disturbed land - amenity grassland
- J1.4 - Introduced shrub
- J3.6 - Buildings
- J4 - Bare ground
- J6 - Hard Standing
- Metal Container Unit
- A3.1 - Broadleaved Parkland/scattered trees
- J2.1.2 - Intact hedge - species-poor
- DT - Deciduous Tree
- G2.1 - Wet Ditch
- J2.4 - Fence
- TN - Target Note
- TN1 - Giant Hogweed

P1 Code	Area	Percentage Of Area
A2.2	1277.97	8.32
CU	95	0.62
A2.1	2454.97	15.98
J3.6	4108.73	26.74
J4	81.48	0.53
J6	7052.92	45.9
J1.4	147.38	0.96
J1.2	146.92	0.96

P1 Code	Length	P1 Code	Length
A3.1	171	G2.1	31.88
J2.1.2	42		

P1 Code	Length	Boundary Area (m2) 15365
J2.4	403	

**RammSanderson**

Title: Phase 1 Habitat Plan

Project: JJ Churchill Ltd, Market Bosworth

Client: JJ Churchill Ltd.

Date: 14/04/2023 Fig:04 Author: RD

A4 Scale: 1:1800 ID: RSE_6779_PH1_0323_V1R3



Key

Red Line Boundary

Bramble scrub

Developed land; sealed surface

Introduced shrub

Mixed scrub

Modified grassland

Vacant/derelict land/ bareground

Ditches

Line of Trees (w1g6NE2)

Native Hedgerow (h2NE5)

Existing Large

Existing Medium



Title: BIA Baseline Habitat Plan

Project: JJ Churchill Ltd, Market Bosworth

Client: JJ Churchill Ltd.

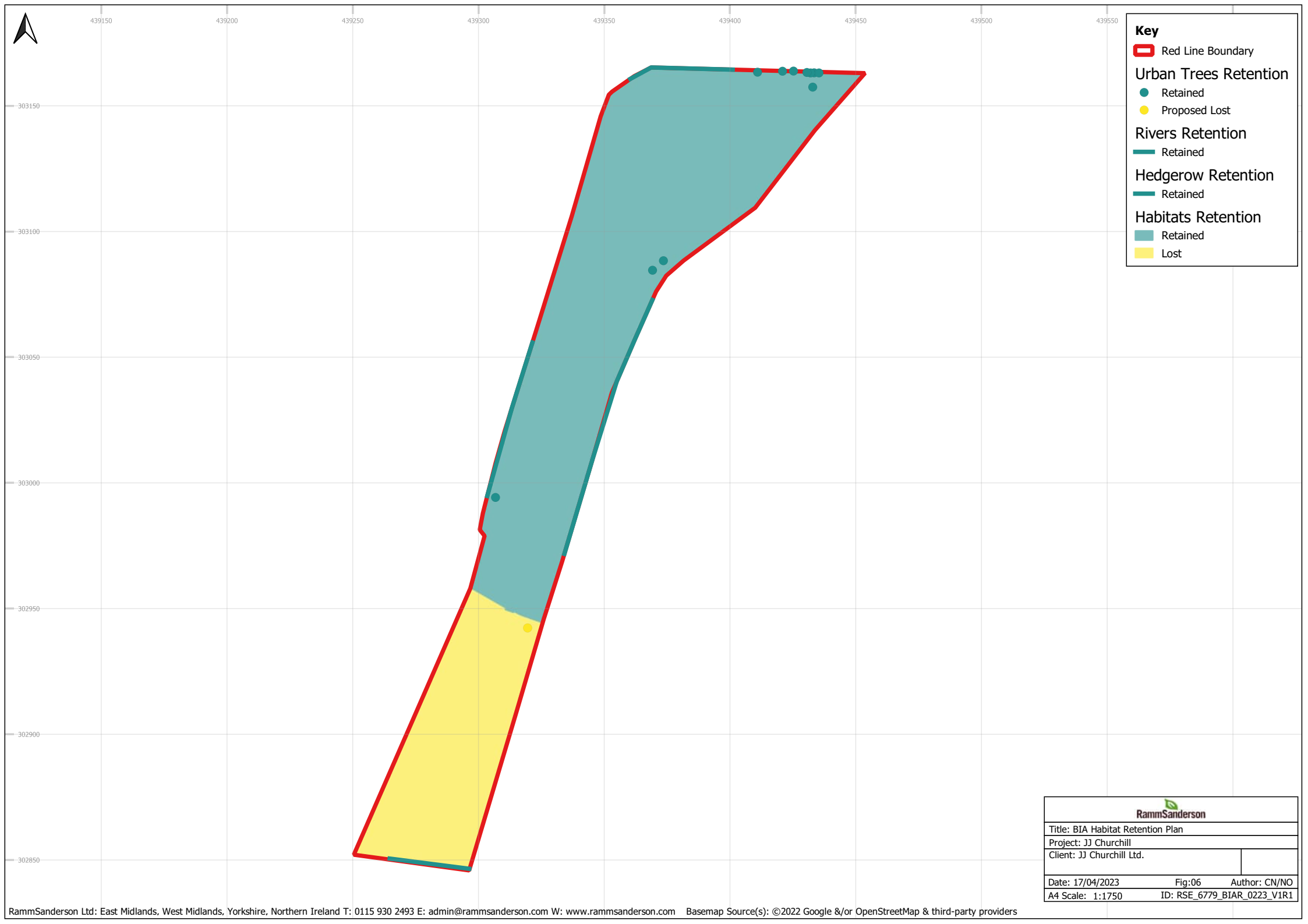
Date: 23/03/2023

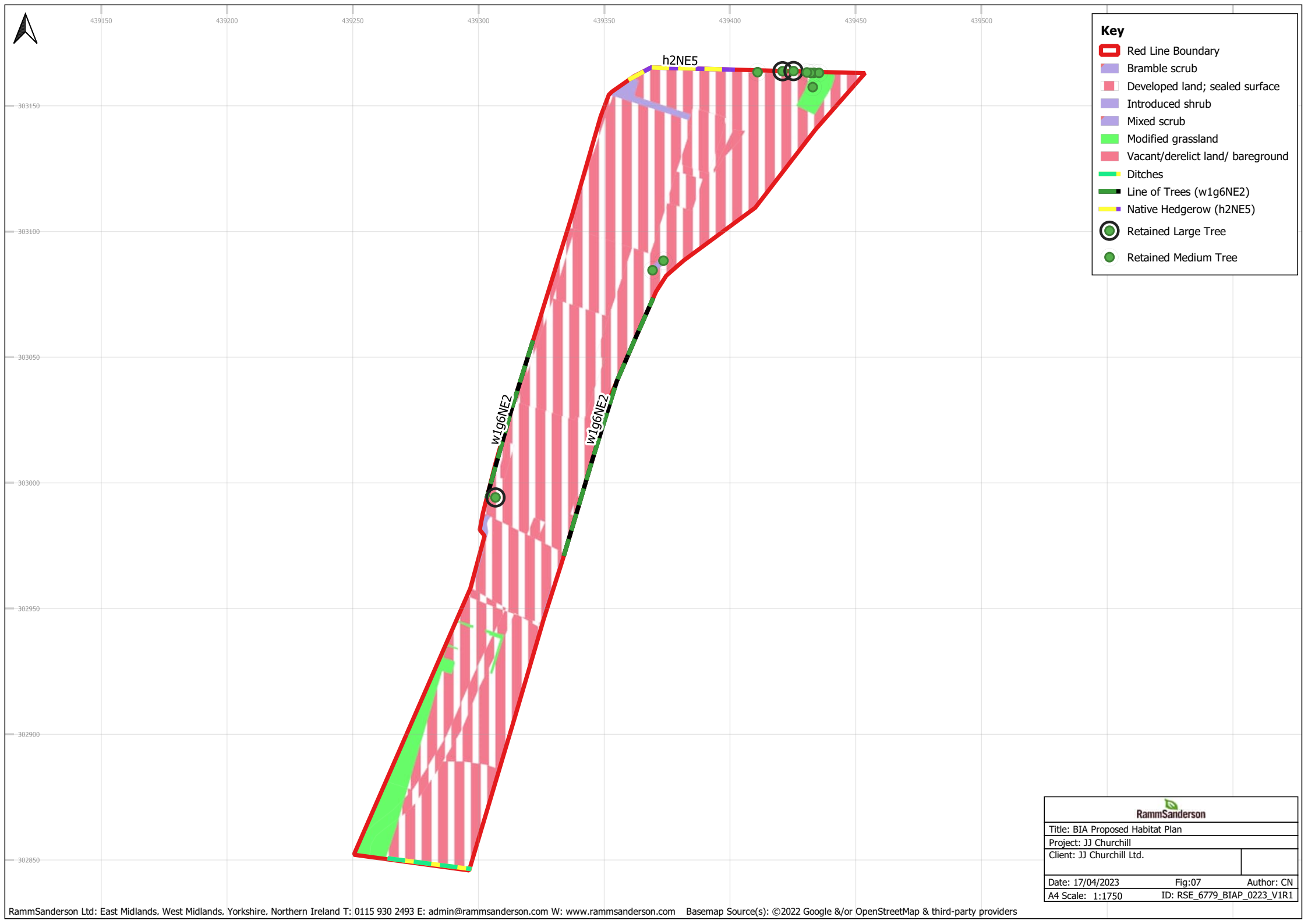
Fig: 05

Author: CN

A4 Scale: 1:1750

ID: RSE_6779_BIAB_0323_V1R1





		
Title: BIA Proposed Habitat Plan		
Project: JJ Churchill		
Client: JJ Churchill Ltd.		
Date: 17/04/2023	Fig:07	Author: CN
A4 Scale: 1:1750	ID: RSE_6779_BIAP_0223_V1R1	

8 REFERENCES

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APPENDIX 1: RELEVANT LEGISLATION AND PLANNING POLICY

The UK is no longer a member of the European Union (EU). EU legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation. EU legislation which applied directly or indirectly to the UK before 11.00 p.m. on 31 December 2020 has been retained in UK law as a form of domestic legislation known as 'retained EU legislation'.

The Secretary of State for the Environment, Food and Rural Affairs and Welsh Ministers have made changes to parts of the Conservation of Habitats and Species Regulations 2017 (referred to as the 2017 Regulations) so that they operate effectively. Most of these changes involve transferring functions from the European Commission to the appropriate authorities in England. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant and are now referred to as The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (the 2019 Regulations).

Designated Sites

Sites of Special Scientific Interest

Under the Wildlife and Countryside Act 1981 (as amended), it is an offence to carry out or permit to be carried out any operations likely to damage the Site of Special Scientific Interest (SSSI). These operations are listed in the SSSI notification.

Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate consent under S.28 of the Wildlife and Countryside Act 1981 (as amended), before undertaking operations likely to damage a SSSI.

Locally Designated Sites

Local Wildlife Sites are sites with 'substantive nature conservation value'. They are defined areas, identified and selected for their nature conservation value, based on important, distinctive and threatened habitats and species within a region.

They are usually selected by the relevant Wildlife Trust, along with representatives of the local authority and other local wildlife conservation groups.

The LWS selection panel, select all sites that meet the assigned criteria, unlike SSSIs, which for some habitats are a representative sample of sites that meet the national standard. Consequently, many sites of SSSI quality are not designated and instead are selected as LWSs. Consequently, LWSs can be amongst the best sites for biodiversity.

Protected Species

Bats / Otter / Great Crested Newt

These species, known as European Protected Species, are protected under Regulation 43 of the 2017 Regulations as amended by the 2019 Regulations. This makes it an offence to deliberately capture, injure or kill an animal; deliberately disturb an animal; or damage or destroy a breeding site or resting place used by an animal.

Deliberate capture or killing is taken to include "accepting the possibility" of such capture or killing. Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong.

Where development works are at risk of causing one or more of the offences listed above, a mitigation licence from Natural England can be obtained to facilitate the works that would otherwise be illegal.

These species are also protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb an animal in such a place.

Lower levels of disturbance not covered by the Conservation of Habitats and Species Regulations 2017 remain an offence under the Wildlife and Countryside Act 1981 although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.

Water Vole

Water voles are protected under the Wildlife and Countryside Act 1981 (as amended). There are no licensing purposes that explicitly cover development or other construction activities which could have an impact on water voles.

When development work is proposed in or near an area which is either known to or likely to contain water voles, then the developer will need to implement suitable mitigation to prevent impacts to water voles. The preferred mitigation option is to leave water voles in situ, with the development works adopting avoidance measures through redesign of the proposals.

Where impacts cannot be avoided, operations aimed at displacing water voles from a development site are now no longer covered by the “incidental result of an otherwise lawful action” defence in the Wildlife and Countryside Act 1981 (as amended). Displacement of water voles now needs to be undertaken under a licence.

In England, small scale (limited to continuous lengths of bank not exceeding 50 m) displacement of water voles can be carried out at certain times of the year (February to April) for the purposes of conservation under a Class Licence by a registered person. For larger scale displacements or displacements outside of this period, displacement can be undertaken under a site-specific conservation licence.

Where it is considered that the best outcome for water voles is capture and translocation to a different location then this action is considered by Natural England to be outside the scope of the defence as the intentional capture of water voles is unlikely to be considered ‘incidental’. In these circumstances there may be genuine grounds for issuing a conservation licence for the purpose of translocating the water vole population to suitable alternative habitat.

Nesting Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended), with some species afforded greater protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the protection from killing or taking that all birds receive, Schedule 1 birds and their young must not be disturbed at the nest.

There are no licensing purposes that explicitly cover development activities affecting wild birds.

White-clawed Crayfish

White-clawed crayfish are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is illegal to take or to sell white-clawed crayfish.

White-clawed crayfish is a species under major threat of global extinction and is referred to in various biodiversity related policy²⁰. Several organisations involved in works on rivers or other water bodies have general legal

²⁰White-clawed crayfish is listed under the following: as a “priority” species of conservation importance under Section 41 of the Natural Environment and Rural Communities Act (2000); and listed in Leicester BAP.

obligations²¹ to take the presence of white-clawed crayfish into account when issuing permissions to undertake works.

Common Species of Reptile (common lizard, slow worm, grass snake and adder)

Common species of reptile are protected against intentional killing and injury under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). There is no requirement for a licence where development works affect common species of reptiles. Instead, Natural England (English Nature, 2004) advise that where reptiles are present, they should be protected from any harm that might arise during the development works through appropriate mitigation.

Badger

Badgers and their setts are protected under the Protection of Badgers Act 1992 (as amended). This makes it an offence to wilfully kill, injure or take a badger; or intentionally or recklessly damage, destroy or obstruct access to a badger sett or disturb a badger in its sett.

It is not illegal to carry out disturbance activities near setts that are not occupied, i.e. those that do not show signs of current use.

Where required, licences for development activities involving disturbance or sett interference or closure are issued by Natural England. Licences for activities involving watercourse maintenance, drainage works or flood defences are issued under a separate process.

When assessing the requirement for a licence in respect of development, Natural England (Natural England, 2009) state that badgers are relatively tolerant of moderate levels of noise and activity around their setts, and that a low or moderate level of apparent disturbing activity at or near to badger setts does not necessarily disturb the badgers occupying those setts.

Licences are normally not granted from December to June inclusive (the badger breeding season) because dependent cubs may be present within setts.

Species and Habitats of Principal Importance for the Conservation of Biodiversity

Section 40 of the Natural Environment & Rural Communities Act (NERC) 2006 sets out the duty for public authorities to conserve biodiversity in England.

Habitats and species of principal importance for the conservation of biodiversity are identified by the Secretary of State for England, in consultation with Natural England, are referred to in Section 41 of the NERC Act for England. The list, known as the 'England Biodiversity List', of habitats and species can be found on the Natural England web site.

The 'England Biodiversity List' is used as a guide for decision makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006 to have regard to the conservation of biodiversity in England when carrying out their normal functions. The habitats and species on the List, are material considerations of planning, where present on an application site.

Hedgerows

Under The Hedgerow Regulations, 1997, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. In general, permission will be required before removing hedges that

²¹ Under the Water Resources Act 1991 and the Land Drainage Act 1991 there is a requirement to consider the presence of notable species such as white-clawed crayfish when the Environment Agency, Internal Drainage Board or other statutory agency is considering granting consent for proposed operations to a water course.

are at least 20 metres in length, over 30 years old and contain certain species of plant. The local planning authority will assess the importance of the hedgerow using criteria set out in the regulations.

Non-native Invasive Plant Species

Under the Wildlife and Countryside Act, 1981 (as amended), it is an offence to plant or otherwise cause these species to grow in the wild.

Any contaminated soil or plant material is classified as controlled waste and should be disposed of in a suitably licensed landfill site, accompanied by appropriate Waste Transfer documentation, and must comply with section 34 of the Environmental Protection Act 1990.

Planning Policy

National Planning Policy Framework, 2021

The National Planning Policy Framework (NPPF) (Department of Communities & Local Government, 2021) sets out the Government's planning policies for England and how these are expected to be applied by Local Authorities within their Local Development Frameworks (LDF).

Regarding the NPPF, the most pertinent paragraphs are:

8.c) "to protect and enhance our natural, built and historic environment, including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy"

174.d) "minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures"

179.b) "promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."

180.a) "if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused."

180.c) "development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁶³ and a suitable compensation strategy exists."

8.1 Local Planning Policy

- i The Hinckley & Bosworth Borough Council Local Development Framework Core Strategy was adopted in 2009.
- ii This document has no specific policies pertaining to biodiversity. However, objective 9 is to 'preserve and enhance natural habitats and biodiversity'. Additionally, Spatial objective 10: Natural Environment and Cultural Assets is as follows: "to deliver a linked network of green infrastructure, enhancing and protecting the borough's distinctive landscapes, woodlands, geology, archaeological heritage, and biodiversity and encourage its understanding appreciation, maintenance and development."

8.2 Local Biodiversity Action Plans

- i. The Leicester, Leicestershire and Rutland Biodiversity Action Plan (2016 – 2026) includes action plans for 19 habitat types and 16 species or species-groups.

- ii. Habitat types include woodlands, hedgerows and trees, wetlands and waterbodies, grasslands, and urban habitats such as roadside verges and built structures.
- iii. Species include birds such as barn owl and nightingale; bats; invertebrates such as black hairstreak and white clawed crayfish; plants such as black poplar; and terrestrial mammals, such as otter.

APPENDIX 2: METHODOLOGY

Desk Study

Background Records Search

The preliminary ecological assessment includes a desk study to obtain background records relevant to a Site and the Scheme. The data obtained provides contextual information for the scope of field surveys, to aid the evaluation of field survey results, and to provide supplementary information where complete field survey coverage is not possible.

The Study Area is dependent upon the nature, timing and scale of the Scheme, as well as the location of the Site and the surrounding landscape. These variables all contribute to what is referred to as the Zone of Influence (ZoI) of the Scheme, which is the area over which ecological features may be affected by biophysical changes because of the works and associated activities.

On 20/03/2023 the Leicestershire & Rutland Environmental Records Centre was contacted to obtain the following ecological data:

- Records of non-statutory designated sites within 2 km of the Site boundary;
- Records of legally protected and notable species (fauna and flora) within 2 km of the Site boundary, including Species of Principal Importance for the Conservation of Biodiversity listed under Section 41 of the Natural Environment & Rural Communities Act 2006 in the England Biodiversity List²².

The Multi-Agency Geographic Information for the Countryside (MAGIC) (www.magic.gov.uk) website was reviewed for the following information:

- Designated sites of nature conservation importance (statutory sites only) within 2km of the Site.
- Notable habitats within 2km of the Site, these being areas of ancient woodland and 'Habitats of Principal Importance for the Conservation of Biodiversity' included in the England Biodiversity List.

Great Crested Newt Pond Search

Ordnance Survey maps and the Where's the Path website (<https://wtp2.appspot.com/wheresthepath.htm>) have been used to identify the presence of water bodies within 500 m of the Site boundary, in order to help establish if the land within and immediately surrounding the Site could be used by great crested newts. This species can use suitable terrestrial habitat up to 500m from a breeding pond (English Nature, 2001), though there is a notable decrease in great crested newt abundance beyond 250 m from a breeding pond (Natural England, 2004).

Field Survey

The preliminary ecological assessment includes a walkover survey of the Survey Area (all land within the Site and adjacent accessible land to the south), broadly following the Phase 1 habitat survey methodology as set out in Joint Nature Conservation Committee guidance (Joint Nature Conservation Committee, 2010). This survey method records information on habitat types and is 'extended' to record any evidence of and potential for protected or notable species to be present. Plant names recorded during the survey follow (Stace, 2019).

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

²² Section 40 of the Natural Environment & Rural Communities Act 2006 requires that very public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. The Secretary of State has drawn up, in accordance with Section 41 of the Act and in consultation with Natural England, a list of habitats and species of principal importance for the conservation of biodiversity in England that is known as the England Biodiversity List

- **Badger:** the survey involves searching for signs of badger activity including setts, tracks, snuffle holes and latrines, following the methodology detailed in (Scottish Natural Heritage, 2018) and (Harris, 1989).
- **Bats:** the survey involves searching for potential roosting sites for bats within trees and structures (such as buildings, bridges or underground features such as mines) and categorising the potential of those trees or structures to support roosting bats (negligible to high, or confirmed roost), in accordance with Bat Conservation Trust (BCT) (Collins, J. (Eds.), 2016) guidance.
- **Otter:** the survey involves assessing the potential of watercourses and water bodies, and adjacent terrestrial habitat within the Survey Area to support otter, following RSPB (Ward, 1994) and (Chanin, 2003) guidance;
- **Water vole:** the survey involves assessing the potential of watercourses and water bodies within the Survey Area to support water vole, following The Mammal Society (Dean, 2016) guidance;
- **Birds:** the survey involves assessing the potential of habitats within the Survey Area to support breeding, wintering or migrating birds, either individually notable species or assemblages of both common and rarer species;
- **Great crested newt:** the survey involves assessing the potential of habitats within the Survey Area to support great crested newt, following English Nature (English Nature, 2001) and Froglife (Froglife, 2001) guidance;
- **Reptiles:** the survey involves assessing the potential of habitats within the Survey Area to support reptiles (adder, grass snake, common lizard and slow worm only), following Froglife (Froglife, 1999) and JNCC (Joint Nature Conservation Committee, 2003) guidance;
- **Notable species of invertebrate:** the survey involves assessing the potential of habitats within the Survey Area to support notable species of invertebrates, both terrestrial and aquatic (including white-clawed crayfish);
- **Protected or Notable species of plants:** the survey involves recording protected or notable plant species;
- **Other notable species:** the survey involves assessing the potential of habitat within the Survey Area to support other Notable Species, such as hedgehog, brown hare, or common toad;
- **Non-native invasive plant species:** the survey involves recording evidence of the presence of invasive plants listed on (Wildlife and Countryside Act, 1981 (as amended)) and subject to strict legal control.

Tree and Building Bat Roost Suitability Assessment

Buildings, trees and other structures were graded as to their suitability for supporting roosting bats using (Collins, J. (Eds.), 2016), an extract of which is provided interpreted in the table below.

Table 6: Criteria for bat roost potential assessment of buildings and trees

Roost Potential	Description	Surveys Required (Buildings)	Surveys Required (Trees)
Confirmed roost	Evidence of roosting bats found during initial daytime inspection.	3 – including 1 dawn as a minimum	3 – including 1 dawn as a minimum
High *	Structures with one or more features suitable for bat roosting, with obvious suitability for larger numbers of bats.	3 – including 1 dawn as a minimum	3 – including 1 dawn as a minimum
Moderate	Structure with one or more potential roost sites that could be used due to size, shelter and protection but unlikely to support a roost of high conservation status.	2– including 1 dawn as a minimum	2– including 1 dawn as a minimum

Roost Potential	Description	Surveys Required (Buildings)	Surveys Required (Trees)
Low	Structure with one or more potential roosting sites used by individual bats opportunistically. Insufficient space, shelter or protection to be used by large numbers of bats.	1 Survey	Precautionary Mitigation Approach, some instances may require further survey
Negligible	No or negligible features identified that are likely to be used by roosting bats	None	None

Biodiversity Accounting

The biodiversity net gains assessment involves making a comparison between the biodiversity value of habitats present within the Site prior to a development (i.e. the 'baseline') and the predicted biodiversity value of habitats following the completion of the Scheme (i.e. 'post development'). The comparison is undertaken in terms of 'biodiversity units', with a 'biodiversity metric' providing the mechanism to allow biodiversity values to be calculated and compared.

The metric assesses and generates separate outputs for area-based habitats and linear based habitats (with rivers reported separately to other habitats like hedgerows). A development cannot claim to achieve net gain until biodiversity net gains are predicted across all area-based, linear based and river based habitats.

The calculation for area-based and linear (non-river) habitats calculates biodiversity units as follows:

- Before Works = Distinctiveness Score x Condition Assessment x Area/Length x connectivity x strategic significance
- After Works = ((Distinctiveness Score x Condition Score x Area/ Length x connectivity x strategic significance) / Time to Target Condition) / Difficulty of Creation/Restoration

The five factors are determined as set out below:

- Distinctiveness Score – High, Medium or Low, based on UK habitat classifications.
- Condition Score – Good, Fairly good, Moderate, Fairly poor or Poor, based on habitat condition assessment.
- Area/Length – hectares (ha)/ length (km) of habitat type.
- Connectivity – High, Medium and Low.
- Strategic significance – High (Within area formally identified in local strategy), Medium (Location ecologically desirable but not in local strategy) and Low (Area/compensation not in local strategy/ no local strategy).
- Time until target condition – time period (in years) until the target condition will be achieved.
- Difficulty of creation/restoration – a score applied to account for risk associated with creating/restoring different types of habitat.

Limitations

The aim of a desk study is to help characterise the baseline context of a proposed development and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular habitats or species does not necessarily mean that the habitats or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the proposed development.

An ecological survey represents a 'snapshot' in time of the ecological condition of a Site. The ecological character of a Site can change substantially throughout both the course of a year, and from year to year impacting on the extent and quality of habitats potential to support protected species.