The Drax Power (Generating Stations) Order

Land at, and in the vicinity of, Drax Power Station, near Selby, North Yorkshire

Environmental Statement
Appendix 9.3 - Preliminary Ecological Appraisal

The Planning Act 2008
The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

Drax Power Limited

Drax Repower Project

Applicant: DRAX POWER LIMITED
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DISCLAIMER

This report was prepared in 2017 based on the project design, development parcels and project terminology contained within the Preliminary Environmental Information Report (PEIR).

All technical information contained within the report is still relevant and valid. See Figures 9.1, 9.2 and 9.3 of the Environmental Statement for updated versions of the figures contained within this document.

EXECUTIVE SUMMARY

WSP was instructed by Drax Power Limited to undertake a Preliminary Ecological Appraisal (PEA) in support of the preparation of a Development Consent Order (DCO) application under the National Infrastructure Planning regime. The Proposed Scheme will involve the construction and installation of two new gas turbines and exhaust stacks; installation of a new gas pipeline; derating and reuse of the existing steam turbine and cooling towers, and an additional Open Cycle Gas Turbine (OCGT) within the Drax Power Station Site. Drax Power Station is located at post code: YO8 8PH, National Ordnance grid reference: SE 66325 27585.

The Site comprises areas in the existing plant (the 'Power Station Site') and two potential routes for a new gas pipeline (the 'Pipeline Study Area'), extending approximately 3 km to the east / south-east of the Power Station. All habitats within a 100 m buffer zone around the Site (where access was available) were subject to an extended Phase 1 habitat survey in August and September 2017. A desk study was also undertaken to identify and assess existing ecological records.

Several statutory and non-statutory designated nature conservation sites were identified within 10 km of the Site. The nearest of which was the River Derwent at approximately 0.8 km from the site. Some of these designated sites will require consideration in the DCO application.

Habitats are present within the Site that have the potential to support protected species. These include bats, badger, otter, water vole, birds, reptiles and amphibians. Further survey is required to assess the potential impact of the Proposed Scheme on these species groups in order to support the DCO application process. The results of further surveys should be used to provide any necessary recommendations for impact avoidance, mitigation and enhancement such that a DCO application compliant with legislation and planning policy is produced.

Programme limitations mean that there is not scope to complete some seasonally restricted surveys prior to the intended submission of the DCO application to the Planning Inspectorate. Recommendations for engagement with consultees and for proactive delivery of ecological surveys have been made, in order to seek to address this potential limitation.

1 INTRODUCTION

1.1 Background

Project Background

1.1.1. WSP was instructed by Drax Power Limited to undertake a Preliminary Ecological Appraisal (PEA) of land within and adjacent to Drax Power Station (Yorkshire, YO8 8PH at National Ordnance grid reference SE 66162 27289) and two options for a gas pipeline extending east of the plant. The PEA was commissioned to provide information to support the preparation of a Development Consent Order (DCO) application under the National Infrastructure Planning regime.

1.1.2. Drax Power Limited intends to repower part of the existing Drax Power Station to run on natural gas. The Proposed Scheme will involve the construction and installation of two new gas turbines and exhaust stacks; installation of a new gas pipeline; derating and reuse of the existing steam turbine and cooling towers, and an additional Open Cycle Gas Turbine (OCGT) within the Drax Power Station Site.

Ecological Background

1.1.3. This PEA addressed areas within and adjacent to the power station, hereafter referred to as the 'Power Station Site' and two potential routes for a gas pipeline extending east of the plant (options 4 and 5), hereafter referred to as the 'Pipeline Study Area'. These areas are hereafter collectively referred to as 'the Site' and are shown on Figure 1, in Section 8.

1.1.4. Option 4, extends to approximately 3 km east of the plant ending adjacent to Rusholme Lane (National Ordnance grid reference SE 69864 26623) and option 5, extends to approximately 3 km south east of the plant ending adjacent to Brier Lane (National Ordnance grid reference SE 68736 25668).

1.1.5. Land use on the Power Station Site is dominated by buildings and hardstanding; in addition there are small areas of amenity grassland, scrub and semi-mature broadleaved woodland. The surrounding land and Pipeline Study Area comprises mainly arable farmland with areas of grazing pasture and mixed woodland.

Scope of Report

1.1.6. The purpose of this PEA is to provide initial information to inform option development and design and to identify further ecological work necessary to inform the forthcoming DCO application.

1.1.7. The brief for the PEA was:

- To provide baseline ecological information about the Site with particular reference to whether legally protected and/or notable sites, species or habitats are present or likely to be present.
- To provide recommendations to enable compliance with relevant nature conservation legislation and planning policy.
- To provide preliminary advice on the need (or otherwise) for avoidance, mitigation, compensation or enhancement measures and/or further ecological surveys.

Relevant Legislation and Policy

1.1.8. The appraisal has been compiled with reference to the following relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in England. The context and applicability of each item is explained as appropriate in the relevant sections of the report and additional details are presented in Appendix 1.

- The Conservation of Habitats and Species Regulations 2010 as amended (Habitats Regulations).
- The Wildlife and Countryside Act 1981 (as amended) (WCA).
- Countryside and Rights of Way Act 2000.
- The Natural Environment and Rural Communities (NERC) Act 2006.
- The Protection of Badgers Act 1992.
- The Wild Mammals (Protection) Act 1996.
- The UK Post-2010 Biodiversity Framework (2011-2020) (JNCC and DEFRA, 2012).
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services (DEFRA, 2011).
- UK Biodiversity Action Plan (UKBAP)[1].
- The National Planning Policy Framework (NPPF) 2012 (DCLG, 2012).
- Technical Advice Note 5; Nature Conservation and Planning 2009.
- Selby Local Biodiversity Action Plan, 2004.

[1] The UK BAP has now been replaced by the UK Post-2010 Biodiversity Framework, however, it contains useful information on how to characterise important species assemblages and habitats which is still relevant.

2 METHODS

Overview

2.1.1. This appraisal has been prepared with reference to current good practice guidance published by the Chartered Institute for Ecology and Environmental Management (CIEEM, 2013 and 2015), and Joint Nature Conservation Committee (JNCC, 2010); and guidance contained in the British Standard - Code of Practice for Biodiversity and Development BS42020:2013 (British Standards Institute (2013).

2.1.2. This PEA is based on the following data sources:

- An ecological desk study.
- A habitat survey.
- A protected/notable species assessment.

Desk Study

2.1.3. The desk study was undertaken in August 2017 and updated in October 2017 to review existing ecological baseline information available in the public domain and to obtain information held by relevant third parties. For the purpose of the desk study exercise, records were collated within various radii around Drax Power Station. This approach is consistent with current good practice guidance. To provide the baseline data for the ecological desk study, the following information was requested from North and East Yorkshire Ecological Data Centre:

- Presence of protected and notable species within 5 km of the Site.
- Presence of non-statutory designated sites and priority habitats within 2 km of the Site:
- Presence of statutory designated sites within 5 km.
- 10 km for Natura 2000 sites (Special Areas of Conservation (SAC) and Special Protection Areas (SPA)) of European importance and internationally designated Ramsar sites.

2.1.4. In addition, open source 1:25,000 Ordnance Survey mapping was used to identify any mapped water bodies and watercourses within 250 m of the Site.

2.1.5. The findings of the desk study have been incorporated within Section 4 of this report and further information documented in Appendix 2. Maps showing designated sites and priority habitats are shown in Figures 1 & 2, Section 8.

2.1.6. The ecological desk study was carried out by an ecologist with several years' experience of completing ecological desk studies of a similar nature.

Habitat survey

2.1.7. An extended Phase 1 habitat survey was carried out on multiple dates as access to land became available:

- The first site visit was conducted on two days between 7 and 9 August 2017 where the Power Station Site was surveyed.
- The second site visit was conducted on 14 September 2017 where the Pipeline Study Area was surveyed.

2.1.8. The two site visits covered the entirety of Drax Power Station and parts of the two pipeline options including boundary features. The areas that were not accessed are detailed in Figure 1, Section 8. A 100 m buffer around the two pipeline options was also surveyed to give an overview of habitats surrounding the Pipeline Study Area. This buffer zone was included within the red line boundary of the Site. The Phase 1 habitat survey was carried out by ecologists who are all members of CIEEM and are competent in Phase 1 habitat surveys.

2.1.9. Habitats were described and mapped following the standard Phase 1 habitat survey methodology (JNCC, 2010). Phase 1 habitat survey is a standard technique for classifying and mapping British habitats. The dominant plant species were recorded and habitats were classified according to their vegetation types. Where appropriate, consideration was given to whether habitats qualify, or could qualify, as a Habitat of Principal Importance following habitat descriptions published by the Joint Nature Conservation Committee (JNCC, 2008). Habitats were marked on a paper base map and were subsequently digitised using a Geographical Information System (GIS). Phase 1 habitat maps are shown in Figure 4, Section 8.

2.1.10. A list of plant species was compiled (Appendix 3), with relative plant species abundance estimated using the DAFOR scale[2]. The scientific names for plant species follow those in the New Flora of the British Isles (Stace, 2010) and are also listed in Appendix 3.

2.1.11. Target notes were made to provide information on specific features of ecological interest or habitat features too small to be mapped. These are included in Appendix 4.

2.1.12. Invasive non-native species listed on Schedule 9 of the WCA 1981 (as amended) which were evident during the Phase 1 habitat survey were also target noted. A full survey of the Site for all invasive non-native species is beyond the scope of this commission and was therefore not completed.

2.1.13. Data collected as part of this extended Phase 1 Habitat survey is suitable for use in retrospective biodiversity unit calculations, if required.

Protected Species Assessment

2.1.14. The potential for the Site to support legally protected and notable species was assessed using the desk study results and field observations from the habitat survey. The assessment of habitat suitability for protected and notable species was based on professional experience and judgement. This was supplemented by standard sources of guidance on habitat suitability assessment for key faunal groups including: birds (Gilbert et al., 1998 and Bibby et al., 2000), great crested newt (Gent & Gibson, 2003 and English Nature, 2001); reptiles (Froglife, 1999 and Gent & Gibson, 2003); bats (Collins, 2016 and Mitchell-Jones, 2004); badger (Harris

[2] The DAFOR scale has been used to estimate the frequency and cover of the different plant species as follows: Dominant (D) - >75% cover, Abundant (A) – 51-75% cover, Frequent (F) – 26-50% cover, Occasional (O) – 11-25% cover, Rare (R) – 1-10% cover., The term ‘Locally’ (L) is also used where the frequency and distribution of a species are patchy and ‘Edge’ (E) is also used where a species only occurs on the edge of a habitat type.

et al., 1991 and Roper, 2010); otter (Chanin, 2003) and water vole (Dean et al., 2016).

2.1.15. Where buildings on Site were considered to have suitability to support roosting bats, these were categorised and further surveys were recommended as described in Table 9.3.1 below.

Table 9.3.1 - Categorisation of suitability for buildings to support bats– modified from Collins (2016)

Category	Description
Confirmed Roost	Building with features confirmed to be used by roosting bats either by historic records (verified appropriately), or evidence recorded during survey.
High	The building exhibits a number of features suitable for use by roosting bats e.g. numerous roosting opportunities such as dark, enclosed roof voids with numerous access and egress points noted; has a high degree of connectivity with likely navigation routes; and is located within suitable foraging habitat.
Moderate	The building exhibits features suitable for use by roosting bats, such as internal and external cavities well insulated from external weather conditions, but is less than ideal in some way or has less access and egress points. It may be situated in less than ideal habitat, lacking suitable commuting corridors.
Low	The building may have some interest to roosting bats, e.g. external roosting features such as fascia or soffit boards, but is considered to be sub-optimal to the extent that bats would not be anticipated to use it.
Negligible	The building/tree lacks any features suitable for roosting bats.

Notes and Limitations

2.1.16. Every effort has been made to provide a comprehensive description of the Site; however, the following specific limitations apply to this assessment:

- Ecological survey data is typically valid for two years unless otherwise specified, for example if conditions are likely to change more quickly due to ecological processes or anticipated changes in management.
- A number of locations within the Site could not be accessed as they were on land to which access permission was not available. These areas are shown in Figure 1, Section 8. Observation from adjacent areas and aerial imagery was used to identify which habitats were likely to be present in these areas. This represents a limitation to the survey.
- The Phase 1 Habitat survey was carried out over three days, as such only a selection of all species that occur within the Site will have been recorded, due to seasonal differences in occurrence and distribution. The surveys, in combination with desk study information and application of professional judgement, is considered sufficient to identify those species or species groups

likely to require further consideration as the project progresses, and is in line with the Phase 1 habitat survey methodology.

- The extended Phase 1 habitat maps (Section 8) have been reproduced from field notes and plans. Whilst this provides a sufficient level of detail to fulfil the requirements of a PEA, the maps are not intended to provide exact locations of key habitats and are not suitable for scaling.
- A stand of plantation woodland within the Power Station Site (see Figure 1, Section 8) could not be completely surveyed due to surrounding chain link fencing, surveyors utilised binoculars and surveyed the perimeter of the woodland to provide as much information on the area as possible.

3 RESULTS

3.1 Desk Study

Statutory Designated Sites

3.1.1. The desk study identified eight statutory designated sites with one or more international designations (SAC, SPA and Ramsar) within 10 km of the Site and five statutory sites of national importance (SSSI, NNR, LNR) within 5 km. Descriptions of the sites are detailed in Tables 9.3.2 and 9.3.3 below. Locations of the sites are shown in Figure 2, Section 8.

Table 9.3.2. - Internationally designated statutory sites within 10 km of the Site

Site Name	Designation	Approximate Closest Distance and Orientation from Site		Description
		Power Station Site	Pipeline Study Area	
River Derwent	SAC, SPA, RAMSAR, SSSI	0.8 km to the north-east	1.1 km north-east	The Yorkshire Derwent is considered to represent one of the best British examples of the classic river profile. It supports diverse communities of aquatic flora and fauna, many elements of which are nationally significant. The river is also noted for its diversity of fish species. The riverine habitat also supports an excellent breeding bird community. During the winter the Lower Derwent is vital in maintaining internationally important population of Bewick's swans *Cygnus columbianus*.
Breighton Meadows	SSSI (Legally underpins the Lower Derwent Valley SAC)	5.00 km to the north	5.6 km to the north	Breighton Meadows is notified for its nationally and internationally important alluvial flood meadow plant community and its outstanding assemblage of breeding birds associated with lowland damp grasslands. Breighton Meadows forms part of the Lower Derwent Valley. These sites represent one of the most important examples of agriculturally unimproved specie-rich alluvial flood meadow habitat remaining in the UK. Breeding waders on site include snipe *Gallinago gallinago*, lapwing *Vanellus*

Site Name	Designation	Approximate Closest Distance and Orientation from Site		Description
		Power Station Site	Pipeline Study Area	
				vanellus, redshank *Tringa tetanus* and curlew *Numenius arquata*. Breeding wildfowl include shoveler *Anas clypeata*, mallard *Anas platyrhynchos* and teal *Anas crecca*. Other breeding birds include yellow wagtail *Motacilla flava* and reed- *Acrocephalus scirpaceus*, sedge- *Acrocephalus schoenobaenus* and grasshopper-warblers *Locustella naevia*.
Lower Derwent Valley	SAC, SPA, RAMSAR, NNR	5.1 km to the north-east	5.7 km north-east	The Lower Derwent Valley contains the greatest area of high-quality examples of lowland hay meadows than any other in the UK. The abundance of the rare narrow-leaved water-dropwort *Oenanthe silaifolia* is a notable feature with the presence of otter *Lutra lutra* also a qualifying feature. The site also comprises areas of wet and dry grassland, swamp and fen. The site is of outstanding importance for a diverse range of water birds throughout the year. In winter the site supports large numbers of swans, ducks and waders, as well as bittern, whilst in summer the floodplain holds breeding waders, corncrake *Crex crex* and spotted crake *Porzana porzana*.
Humber Estuary	SAC, SPA, RAMSAR	6.5 km to the east	3.0 km to the east	The Humber is the second-largest coastal plain estuary in the UK, and the largest coastal plain estuary on the east coast of Britain. Habitats within the Humber Estuary include Atlantic salt meadows and a range of sand dune types in the outer estuary, together with subtidal, extensive intertidal mudflats, glasswort beds and coastal lagoons. The estuary supports nationally important numbers of 22 wintering

Site Name	Designation	Approximate Closest Distance and Orientation from Site		Description
		Power Station Site	Pipeline Study Area	
				waterfowl and nine passage waders, and a nationally important assemblage of breeding birds of lowland open waters and their margins including nationally important numbers of bittern *Botaurus stellaris*, marsh harrier *Circus aeruginosus*, avocet *Recurvirostra avosetta* and bearded tit *Panurus biarmicus*. It is also nationally important for a breeding colony of grey seals *Halichoerus grypus*, river lamprey *Lampetra fluviatilis* and sea lamprey *Petromyzon marinus*, a vascular plant assemblage and an invertebrate assemblage.
Derwent Ings	SSSI, RAMSAR, SPA, NNR	7.3 km to the north	7.8 km to the north	The Derwent Ings represents one of the most important examples of agriculturally unimproved species-rich alluvial flood meadow habitat remaining in the UK and consists of a series of neutral flood meadows, fen and swamp communities and freshwater habitats lying adjacent to the River Derwent. In winter the Ings support internationally important concentrations of waterfowl (>20,000 individuals) together with nationally important numbers (>1% British wintering population) of Bewicks swan, teal, wigeon *Anas penelope*, mallard, pochard *Aythya farina*, golden plover *Pluvialis apricaria* and ruff *Philomachus pugnax*. Nationally important numbers of whimbrel *Numenius phaeopus* occur in late April and early May.
Skipwith Common	SAC, NNR	8.5 km to the north	8.0 km to the north	The northern Atlantic wet heath at Skipwith Common is the most extensive of its type in the north of England. There is a small population of marsh gentian

Site Name	Designation	Approximate Closest Distance and Orientation from Site		Description
		Power Station Site	Pipeline Study Area	
				Gentiana pneumonanthe. The wet heath is part of transitions from open water, fen, reed and swamp to European dry heaths and other habitats. The site has great ornithological and entomological importance.
Humberhead Peatlands	SAC, SPA, NNR	9.3 km to the south-east	7.6 km to the south-east	The site comprises the largest area of raised peat bog wilderness in lowland Britain. It has internationally important breeding sites for nightjar *Caprimulgus europaeus*. There is also a large population of adder *Vipera berus* on the Moors.
Thorne, Crowle and Goole Moor	SSSI, (Thorne Moor-SAC)	9.3 km to the south-east	7.6 km to the south-east	These moors form the largest extent of lowland raised mire in England. They support several nationally rare as well as local insects. There is also a large population of large heath butterfly *Coenonympha tullia*. This site is important for its breeding and wintering bird populations. Breeding species include, nightingale *Luscinia megarhynchos*, woodcock *Scolopax rusticola* and whinchat *Saxicola rubetra*, while teal, snipe, reed- and grasshopper warblers are associated with the wet heath and fen habitats. The breeding population of nightjars on the Moors is of national importance as its numbers regularly exceed 1% of the total British breeding population.

Table 9.3.3 - Nationally designated statutory sites within 5 km of the Site

Site Name	Designation	Approximate Closest Distance and Orientation from Site		Description
		Power Station Site	Pipeline Study Area	
Eskamhorn Meadows	SSSI	2.6 km to the south-east	1.3 km to the north-east	This is a nationally important site for species-rich neutral grassland. In addition, small numbers of curlews and lapwing breed in the meadows.
Barlow Common	LNR	3.0 km to the north-west	3.6 km to the north-west	This site was previously used for tipping ballast and has since been reclaimed. It has a mosaic of woodland, wetland, reed beds and four large ponds. Two of the ponds attract wild fowl and migrating waders. 140 species of birds have been recorded on site. The colonised tip supports over 200 species of plants. This rich flora supports diverse invertebrates including 21 species of butterfly including meadow brown *Maniola jurtina* and common blue *Polyommatus icarus*.
Barn Hill Meadows	SSSI	6.0 km to the north- east	3.5 km to the north- east	This site comprises seven fields lying the flood plain of the Old Derwent. It is an herb-rich, unimproved neutral grassland boarded by hedgerows and ditches which form an integral component of the site. This area was traditionally managed for

Site Name	Designation	Approximate Closest Distance and Orientation from Site		Description
		Power Station Site	Pipeline Study Area	
				hay. The site is considered to be recovering unfavourably.
Sugar Mill Pond	LNR	6.1 km to the south	4.5 km to the south	This former brickworks and sugar refinery situated next to the Aire and Calder Navigation canal comprises two small lakes. Mature trees enclose the site from the surrounding farmland and open meadows. Approximately 70 species of resident birds have been recorded including barn owl *Tyto alba*. Water vole *Arvicola amphibius* and grass snake *Natrix natrix* have also been seen on the site.
Howden Marsh	LNR	7.2 km to the east	4.2 km to the north- east	The site is an old fenland marsh much of which has never been drained. It is particularly rich in water beetles and has a population of water vole.

3.2 Non-Statutory Designated Sites

3.2.1. The desk study identified four non-statutory designated sites within 2 km of the Site. These sites include three Sits of Importance for Nature Conservation (SINC) and one candidate Local Wildlife Site (LWS). The Disused Railway Embankment SINC has now been deleted by the North Yorkshire SINC Panel but is still included in this study as it may still be of ecological value. This site may also still be referenced by local councils within their local development plan and for conservation purposes. Details of these sites are outlined in Table 9.3.4 below.

Table 9.3.4 - Non-statutor designated sites within 2 km of the site

Site Name	Designation	Approximate Closest Distance and Orientation from Site		Description
		Power Station Site	Pipeline Study Area	
Brockholes	SINC	1.9 km to the south-east	0.9 km to the north-east	A wetland area.
Meadow East of Orchard Farm	SINC	1.9 km to the north west	-	An area of neutral grassland.
Disused Railway Embankment	Deleted SINC	0.8 km to the east	Less than 0.1 km to the north	The site is composed of secondary scrub, tall ruderal, young broadleaved woodland and acid grassland. The North Yorkshire SINC Panel have deleted the SINC but it may still be considered by local authorities when determining planning applications and in the discharge of their statutory functions.
Barmby-on-the-Marsh	Candidate LWS	1.7 km to the east	1.1 km to the north	

Ancient Woodland and Habitats of Principal Importance

3.2.2. Two areas of ancient woodland were identified within 5 km of the Site. These are Staynor Wood, an ancient and semi-natural woodland which is located 3.9 km north-west of the Site and Kerrick Spring Wood, an ancient replanted woodland which is located 3.4 km south-west of the Site.

3.2.3. Six Habitats of Principal Importance (HPI) were identified within 1 km of the Site. These include traditional orchards, mudflats, lowland fens, lowland mixed deciduous woodland, coastal and flood plain grazing marsh, rivers and ponds. The closest HPI to the Site is lowland mixed deciduous woodland which is located within the red line boundary. Each HPI and ancient woodland parcel is displayed in Figure 3, Section 8.

Protected and Notable Species Records

3.2.4. A total of 76 records of protected and notable species were found within 5 km of the Site. This includes 50 birds, 13 terrestrial mammals (including bats), five invertebrates, four amphibians, three plants, and one reptile. A list of protected and notable species records and their legal/conservation status can be found in Appendix 2.

3.3 Extended Phase 1 Habitat Survey

Overview

3.3.1. The Site consists of a mosaic of habitats, ranging from arable farmland and semi-improved grassland to the bankside habitats of the River Ouse. Small woodland copses, tree lines, hedgerows, areas of scrub and grassland margins along fields provide connectivity for wildlife across parts of the Site. The Power Station Site itself is predominately hardstanding, infrastructure and buildings with some areas of arable land, mixed woodland, semi-improved grasslands and amenity grassland.

3.3.2. The following account summarises the findings of the Phase 1 habitat survey and associated protected and notable species assessment. The habitat types in the Phase 1 habitat survey are mapped in Figure 4, Section 8.

3.3.3. A description of the dominant and notable species, and the composition of each habitat is provided below and an indicative species list is provided in Appendix 3. Target notes are provided in Appendix 4 and photographs in Appendix 5. Alpha-numeric codes used in this section refer to the JNCC Phase 1 habitat survey classification (JNCC, 2010). The order of the habitat descriptions below reflects their ordering in the Phase 1 habitat survey manual and does not reflect habitat importance.

Power Station Site

3.3.4. The Power Station Site is divided into nine Development Parcels where works are proposed (Development Parcels A to H). Each Development Parcel is described below. Figure 1 in Section 8 shows the locations of these sections and Figure 4 shows the Phase 1 habitats. Photographs of the habitats are shown in Appendix 5.

3.4 Development Parcel A

3.4.1. This parcel is outside of Drax Power Station, immediately east of New Road. The habitats are mapped on Figure 4 and part of the area is shown in Photographs 1 & 2, Appendix 5. The following habitats were present:

A1.1.1 Broadleaved Woodland (semi-natural)

3.4.2. An area of semi-mature trees to the south of the parcel, alongside Carr Lane. Dominated by English oak (*Quercus robur*). Alder (*Alnus glutinosa*) was also present with occasional Scots pine (*Pinus sylvestris*).

A3.3 Parkland/Scattered Trees (mixed)

3.4.3. Semi-mature trees south of Carr Lane, dominated by English oak with frequent Scots pine, abundant ash (*Fraxinus excelsior*) and occasional alder.

C3.1 Tall Ruderal

3.4.4. Two areas of tall ruderal were present either side of Carr Lane to the south of the field. Rosebay willowherb (*Chamaenerion angustifolium*) was dominant north of the road, whereas common ragwort (*Senecio jacobaea*) was dominant south of the road. Broad-leaved dock (*Rumex obtusifolius*), cock's foot (*Dactylis glomerata*) and tufted-hair grass (*Deschampsia cespitosa*) were also present.

G1 Standing Water (wet ditch)

3.4.5. Culverted drainage ditches running along the field to the west and south. Cock's foot dominated while common nettle (*Urtica dioca*) was abundant and bramble (*Rubus fruticosus* agg.), ribwort plantain (*Plantago lanceolata*) and meadowsweet (*Filipendula ulmaria*) occurred frequently.

J1.1 Cultivated/Disturbed Land (arable)

3.4.6. Large arable field bordered by hedgerows and drainage ditches. The crop had been harvested at the time of survey.

J2.1.1 Intact Hedge (native species-rich)

3.4.7. A hawthorn (*Crataegus monogyna*) dominated hedgerow bordering the arable field to the east. Hazel (*Corylus avellana*) occurred frequently and there were occasional English oak and elder (*Sambucus nigra*) trees.

J2.2.2 Defunct Hedge (species-poor)

3.4.8. This hedgerow bordered the field to the west and was also dominated by hawthorn. Hazel was abundant and a rose species (*Rosa* sp.) and elm species (*Ulmus* sp.) were also present.

3.5 Development Parcel B

3.5.1. This parcel comprises areas to the north of Drax Power Station both within and outside its boundaries. The habitats are mapped on Figure 4 and part of the area is shown in Photograph 3, Appendix 5. The following habitats were present:

A1.1.2 Broadleaved Woodland (plantation)

3.5.2. A fenced woodland of immature trees on the northern edge of the power station. Species present included crack willow (*Salix fragilis*), ash, English oak, hazel and dogwood (*Cornus sanguinea*). This area was not accessible but was viewed from outside the fence boundary.

A1.3.2 Mixed Woodland (plantation)

3.5.3. A mixed woodland with steep banks. One area was dominated by Scots pine, while the edges comprised mature English oaks. Field maple (*Acer campstre*), sycamore (*Acer pseudoplatanus*), alder, ash, elder and white willow (*Salix alba*) were also present.

A2.1 Scrub (dense)

3.5.4. An area of dense bramble surrounding a pylon immediately west of New Road.

B4 Improved grassland

3.5.5. A field of improved grassland bisected by a public footpath. Yorkshire fog (*Holcus lanatus*) dominated, while creeping thistle (*Cirsium arvense*), spear thistle (*Cirsium*

vulagre) and creeping buttercup (*Ranunculus repens*) were abundant. Horses were grazing at the time of the survey.

J1 Cultivated/disturbed land (arable)

3.5.6. An arable field to the north of the public footpath, bordered by a drainage ditch. The field was ploughed at the time of the survey.

J6 Dry ditch

3.5.7. Culverted drainage ditch running along the southern border of the arable field. Cock's foot and common nettle were dominant, with abundant cleavers (*Galium aparine*), occasional white dead-nettle (*Lamium albuim*), meadowsweet and common hogweed (*Heraclium sphondylium*).

3.6 Development Parcel **C**

3.6.1. This parcel within Drax Power Station comprised a car park that was predominantly hardstanding with patches of ornamental shrubs along with five buildings and scattered trees. The northern area was a wood yard where Himalayan balsam (*Impatiens glandulifera*) was identified (shown as TN1). A pond surrounded by woodland was present to the east but was not accessible due to dense vegetation. The habitats are mapped on Figure 4 and part of the area is shown in Photograph 4, Appendix 5. The following habitats were present:

A1.1.1 Broadleaved Woodland (semi-natural)

3.6.2. Semi-mature trees to the east of the parcel and surrounding the pond. Species present included hazel, hawthorn, rose, ash and osier (*Salix viminalis*). The pond was inaccessible due to dense common reed (*Phragmites australis*).

A3.1 Parkland/Scattered Trees (broad-leaved)

3.6.3. Trees planted around the car park including alder, Scots pine and silver birch (*Betula pendula*).

B2.2 Neutral Grassland (semi-improved)

3.6.4. A large area to the east of the parcel with abundant common knapweed (*Centaurea nigra*), frequent common ragwort, ribwort plantain and black medick (*Medicago lupulina*) and occasional bird's foot trefoil (*Lotus corniculatus*).

C3.1 Tall Ruderal

3.6.5. This patch borders the amenity grassland to the south of the parcel. It was dominated by creeping thistle and common nettle with frequent common ragwort.

J1.2 Amenity Grassland

3.6.6. Short grassland area surrounding the buildings and car park with species present including perennial rye-grass (*Lolium perenne*) and daisy (*Bellis perennis*).

J1.4 Introduced Shrub

3.6.7. Planted shrubs throughout the carpark including an ornamental cotoneaster species (shown as TN7).

J2.2.2 Defunct hedge (species-poor)

3.6.8. A hedgerow along the southern border of this parcel dominated by hawthorn with abundant elder and frequent rose.

3.7 Development Parcel D

3.7.1. New Road forms this parcel between Drax Power Station and the arable field in Development Parcel A. The habitat present is hard standing.

3.8 Development Parcel E

3.8.1. This parcel within Drax Power Station comprised a semi-improved grassland/dense scrub mosaic surrounded by woodland. The habitats are mapped on Figure 4 and part of the area is shown in Photograph 5, Appendix 5. The following habitats were present:

A1.1.1 Broadleaved woodland (semi-natural)

3.8.2. Semi-mature trees surrounding the grassland habitat. Species present included hazel, hawthorn, rose, ash and alder.

A2.1 Scrub (dense)

3.8.3. Large patches of bramble throughout the grassland habitat.

B2.2 Neutral grassland (semi-improved)

3.8.4. A large damp area to the east of the parcel dominated by cock's foot, with abundant common knapweed, frequent common ragwort, occasional bird's foot trefoil and occasional lady's bedstraw (*Galium verum*). A horsetail species (*Equisetum* sp.) and wild carrot (*Daucus carota*) were also present.

3.9 Development Parcel F

3.9.1. Predominantly infrastructure, buildings and hardstanding with a strip of woodland and introduced shrub. The habitats are mapped on Figure 4 and part of the area is shown in Photograph 6, Appendix 5. The following habitats were present:

A3.1 Parkland/Scattered Trees (broad-leaved)

3.9.2. Mature and semi-mature trees planted along the roads and buildings within the power station. Species present included alder, silver birch, white willow, elder, holly (*Ilex aquifolium*) and blackthorn (*Prunus spinosa*).

J1.2 Amenity Grassland

3.9.3. Short grassland area surrounding the buildings and car park with species present including perennial rye-grass, daisy, self-heal (*Prunella vulgaris*) and yarrow (*Achillea millefolium*).

J1.4 Introduced shrub

3.9.4. Planted shrubs along the roads and grassland, including an ornamental cotoneaster species.

3.10 Development Parcel G

3.10.1. Area surrounding and adjacent to a jetty at the River Ouse, dominated by improved grassland with scattered trees and woodland. There are large stands of Himalayan balsam distributed throughout this parcel. The habitats are mapped on Figure 4 and part of the area is shown in Photograph 7, Appendix 5. The following habitats were present:

A1.1.1 Broadleaved Woodland (semi-natural)

3.10.2. Semi-mature trees bordering the west of the parcel. Ash was the dominant species, with abundant wild cherry (*Prunus avium*) and field maple. Frequent elder and white willow and occasional Scots pine and a poplar species (*Populus* sp.) were present.

A3.1 Parkland/Scattered Trees (broad-leaved)

3.10.3. Osier and elder trees along the River Ouse to the south of the parcel.

B4 Improved Grassland

3.10.4. A field of improved grassland along the River Ouse. Yorkshire fog (*Holcus lanatus*) dominated, while broad-leaved dock, red clover (*Trifolium pratense*) and Himalayan balsam were abundant. Other species present included hairy bittercress (*Cardamine hirsute*), false oat-grass (*Arrhenatherum elatius*) and annual meadow grass (*Poa annua*). Horses were grazing at the time of the survey.

C3.1 Tall Ruderal

3.10.5. Two patches within the parcel dominated by cock's foot and common nettle. Creeping thistle was abundant, common hogweed and bramble were occasional and cow parsley (*Anthriscus sylvestris*) was rare.

F2.1 Marginal Vegetation

3.10.6. Vegetation along the banks of the River Ouse dominated by osier, with abundant Himalayan balsam, common reed and frequent elder.

3.11 Development Parcel H

3.11.1. Dominated by the existing cooling towers and hardstanding with patches of woodland and small areas of amenity grassland and tall ruderal. The habitats are mapped on Figure 4 and part of the area is shown in Photograph 8, Appendix 5. The following habitats were present:

A3.1 Parkland/Scattered Trees (broad-leaved)

3.11.2. Mature and semi-mature trees planted along the southern border of the power station. Alder, elder, hawthorn and ash were present.

C3.1 Tall Ruderal

3.11.3. This patch borders the north of the parcel. It was dominated by bramble, rosebay willowherb and creeping thistle.

J1.2 Amenity Grassland

3.11.4. Short grassland area surrounding the cooling towers. Species present included perennial rye-grass, a fescue species (*Festuca* sp.), common nettle, common hogweed and teasel (*Dipsacus fullonum*).

J1.2 Intact hedge (species-poor)

3.11.5. A pruned hawthorn hedgerow was present along the southern border.

Protected and Notable Species Assessment

3.11.6. The potential for the Power Station Site to support legally protected species and notable species has been assessed using the desk study results, observations of habitats within the Site (where accessible) and relevant field signs recorded during the extended Phase 1 habitat survey. Further consideration is given below to the following species groups, which are considered potentially relevant to the Proposed Scheme:

- Bats
- Badger
- Dormouse
- Otter
- Water vole
- Birds
- Reptiles
- Amphibians
- Fish
- Invasive non-native species

3.11.7. The Site was considered to be of limited suitability to support other protected or notable species and as such no species or species groups beyond those listed above will be considered further in this PEA.

Bats

3.11.8. A number of records of bat species were identified from the desk study. During the habitat survey buildings and trees at the Power Station Site were assessed as being suitable to support roosting bats. The woodland, water bodies, scrub and grassland present in Development Parcels B, C & E provide foraging opportunities for this species group. One building in the north west of Development Parcel C was assessed as having low suitability for supporting bat roosts. Two buildings located centrally within Development Parcel F were assessed as having low suitability for supporting bat roosts. All three buildings are shown as TN8 on Figure 4. All other buildings had negligible suitability.

Badger

3.11.9. Suitable habitat for supporting badger (*Meles meles*) was found at the Power Station Site in the form of woodland and hedgerows in Development Parcels A and B during the habitat survey. Definitive signs of badger were identified during the field survey. Within Development Parcel B one freshly excavated and well used outlier sett was identified. Further signs included badger prints and four recently used latrines. There was also a mammal track through damaged chain link fencing which is likely to be used by badger given the proximity of the track to the badger footprints and latrines. In Development Parcel A more badger prints were identified along the field boundary.

Dormouse

3.11.10. No records of hazel dormouse (*Muscardinus avellanarius*) were identified from the desk study. Whilst the Site supports some potentially suitable habitat for this species, the Site is outside the known range of dormouse in Yorkshire. As such, dormouse will not be considered further in this report.

Otter

3.11.11. Records of European otter (*Lutra lutra*) were identified from the desk study. The River Ouse in Development Parcel G provides suitable habitat for otter in the form of commuting, foraging, resting/laying up and potentially holt-creating areas. Otter footprints were identified beneath the jetty adjacent to the River Ouse at

Development Parcel G. Other ditches and watercourses (shown as 'Dry ditch' and 'Standing water' on Figure 4) that were present in Development Parcels A and B may provide commuting habitat for otter.

Water Vole

3.11.12. Numerous records of European water vole (*Arvicola amphibius*) were identified from the desk study. Ditches and watercourses in Development Parcels A and B (shown as 'Dry ditch' and 'Standing water' on Figure 4) were found during the habitat survey that provide suitable commuting, foraging and burrowing habitat for water vole.

Birds

3.11.13. Many protected and notable bird species records were identified from the desk study. Trees and vegetation suitable for use by nesting birds were present throughout the majority of the Power Station Site. Multiple bird nests were identified in Development Parcels A, B and C. Buildings at the Site may also be used by a limited range of bird species for nesting. Although not recorded during the desk study or habitat survey, peregrine falcon (*Falco peregrinus*) have been noted within the Power Station Site itself, with Drax personnel providing anecdotal records of breeding activity.

Reptiles

3.11.14. Records of grass snake (*Natrix helvetica)* were identified from the desk study. The mosaic of habitats present within the Development Parcels A, B, C & E including grassland, scrub, woodland and water bodies provided potential sheltering, basking and foraging habitat for grass snake and the other widespread reptile species adder (*Vipera berus*), common lizard (*Zootoca vivipara*) and slow worm (*Anguis fragilis*). Additional features such as dead wood, log piles and compost heaps could be utilised by reptiles for shelter, foraging and breeding. These are shown as TN4 on Figure 4.

Amphibians

3.11.15. Records of great crested newt (*Triturus cristatus*), smooth newt (*Lissotriton vulgaris*), common toad (*Bufo bufo*) and common frog (*Rana temporaria*) were identified from the desk study. Five waterbodies were identified within 250 m of the Power Station Site. These water bodies and surrounding grassland, scrub and woodland habitat within Development Parcels B, C & E have the potential to support amphibians, providing opportunity for sheltering, foraging and breeding.

Fish

3.11.16. The citations for the River Derwent SAC and Humber Estuary SAC identify several fish species as being qualifying interests. These include sea lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis*, and bullhead *Cottus gobio*. The Site lies upstream of the Humber Estuary and downstream of the River Derwent SACs and will therefore be used by fish species associated with both designated sites. Lamprey are migratory, and are likely to migrate past the site during seasonal movements. The Rivers Ouse and Derwent will also support a range of other fish

species, including salmonids. Development Parcel G is located on the banks of the River Ouse, and would be accessed by barges / boats delivering supplies during the construction phase.

Invasive Non-Native Species

3.11.17. Stands of Himalayan balsam were present in Development Parcels C and G and ornamental Cotoneaster in a car park in Development Parcel C. These are identified as TN1 and TN7 respectively on Figure 4. These species are invasive non-native species, listed on Schedule 9 of the WCA (1981, as amended).

Pipeline Study Area

3.11.18. The Pipeline Study Area encompasses the two pipeline options – option 4 and option 5. The habitat descriptions provided include habitats recorded within the 100 m survey buffer around the currently proposed pipeline options. Both options are aligned from where they originate at the Power Station Site, hereafter referred to as 'Options 4 & 5' until they separate at Main Road and are then referred to as 'Option 4' and 'Option 5'. Figure 1 in Section 8 shows the locations of these sections and Figure 4 shows the Phase 1 habitats. Photographs of the habitats are shown in Appendix 5.

Options 4 & 5

3.11.19. Predominantly arable fields with hedgerow boundaries and drainage ditches. Woodland and semi-improved grassland were also present. Land access was not available across the majority of these areas and surveys were therefore conducted from roadsides. Consequently it was not possible to make detailed assessments of these areas. The habitats are mapped on Figure 4 and part of the area is shown in Photographs 9 & 10, Appendix 5. The following habitats were present:

A1.1.1 Broadleaved Woodland (semi-natural)

3.11.20. Semi-mature and mature trees bordering arable fields. Species that were present include field maple, hawthorn and oak.

B2.2 Neutral Grassland (semi-improved)

3.11.21. This habitat comprised areas along Carr Lane, Redhouse Lane and Main Road. Species present included cock's foot, ribwort plantain and red clover.

G1 Standing Water (wet ditch)

3.11.22. Drainage ditches bisecting arable fields. Common nettle and cock's foot were dominant. Broadleaved-dock and Yorkshire fog were also present.

J1.1 Cultivated/Disturbed Land (arable)

3.11.23. Fields bordered by drainage ditches. The fields were harvested or ploughed at the time of the survey.

Option 4

3.11.24. Predominantly arable with grazing pasture, semi-improved grassland and scattered trees. Fields are large and bordered by fences; drains intersect these large open fields. This option runs close to the River Ouse at its eastern extent. The

habitats are mapped on Figure 4 and part of the area is shown in Photographs 11, 12 & 13, Appendix 5. The following habitats were present:

A3.1 Parkland/Scattered Trees (broad-leaved)

3.11.25. Semi-mature trees surrounding a substation in an arable field. Sycamore and ash were present.

B4 Improved Grassland

3.11.26. This habitat comprised paddock areas in the east of the parcel along the River Ouse and sheep-grazed areas to the west of the parcel along the river. Creeping bent (*Agrostis stolonifera*) and a fescue species were dominant, while perennial rye-grass was abundant and broad-leaved dock, common hogweed and daisy were frequent.

J1.1 Cultivated/Disturbed Land (arable)

3.11.27. Fields bordered by drainage ditches. The fields were harvested or ploughed at the time of the survey.

J2.1.2 Intact Hedge (species-poor)

3.11.28. Immature hedgerow surrounding a substation, comprising hawthorn, sycamore and ash.

J6 Dry Ditch

3.11.29. Dry drainage ditches bisecting arable fields. Creeping thistle and cock's foot were dominant. A horsetail, common hogweed and common nettle were also present.

Option 5

3.11.30. Predominantly arable fields with hedgerow boundaries and areas of improved grassland, woodland and scattered trees. Drains run along the field boundaries. The habitats are mapped on Figure 4 and part of the area is shown in Photographs 14, 15 & 16, Appendix 5. The following habitats were present:

A1.1.1 Broadleaved Woodland (semi-natural)

3.11.31. Semi-mature trees bordering arable fields to the east of Brier Lane. Species that were present include field maple, coppiced hazel, ash and hawthorn.

A1.3.1 Mixed Woodland (semi-natural)

3.11.32. An area of mature and semi-mature trees bordering arable fields to the east of Brier Lane. Sycamore, cypress (*Cupressus macrocarpa x leylandii*), ash and English oak were present.

A2.1 Scrub (dense)

3.11.33. An area of bramble and hawthorn surrounding a ruined building within an arable field.

A3.1 Parkland/Scattered Trees (broad-leaved)

3.11.34. Scattered semi-mature trees bordering Brier Lane and drainage ditches through the arable fields. English oak was dominant, while ash was abundant. Hawthorn, rose, holly, field maple and a prunus species (*Prunus* sp.) were also present.

B4 Improved Grassland

3.11.35. This habitat comprised a paddock area to the east of a residential property on Brier Lane, a border between to arable fields and a road verge south east of Rusholme

Lane. Perennial rye-grass and Yorkshire fog were dominant, while creeping buttercup was abundant, broad-leaved dock occurred frequently and dandelion (*Taraxacum officinale agg.*) occurred occasionally.

C3.1 Tall Ruderal

3.11.36. An area of nettle, false oat-grass and creeping thistle surrounding a ruined building within an arable field.

G1 Standing Water (wet ditch)

3.11.37. Culverted drainage ditches that formed boundaries between arable fields. Species present included common nettle, meadowsweet and cleavers.

J1.1 Cultivated/Disturbed Land (arable)

3.11.38. Fields bordered by hedgerows and drainage ditches. All fields were either harvested or ploughed at the time of the survey.

J1.2 Amenity Grassland

3.11.39. Short lawn in the garden of a private residence. Access was not permitted, therefore no detailed assessments were made.

J2.1.1 Intact Hedge (native species-rich)

3.11.40. A dense hedgerow forming a boundary between two arable fields. Species present include a prunus, apple (*Malus domestica*), hawthorn, ash, rose, English oak and crack willow.

J2.2.2 Defunct Hedge (species-poor)

3.11.41. A gappy hedgerow forming a boundary between two arable fields. Species present include hawthorn, elder, rose and ash.

J6 Dry Ditch

3.11.42. Dry, culverted drainage ditches that formed boundaries between arable fields. Species present included cock's foot, false oat-grass and common nettle.

Protected and Notable Species Assessment

3.11.43. The potential for the Pipeline Study Area to support legally protected species and notable species has been assessed using the desk study results, observations of habitats within the Site (where accessible) and relevant field signs recorded during the extended Phase 1 habitat survey. Further consideration is given below to the following species groups, which are considered potentially relevant to the Proposed Scheme:

- Bats
- Badger
- Dormouse
- Otter
- Water vole
- Breeding birds
- Reptiles
- Amphibians

3.11.44. The Site was considered of limited suitability to support other protected or notable species and as such no species or species groups beyond those listed above will be considered further in this PEA.

Bats

3.11.45. Records of several bat species were identified from the desk study. During the habitat survey trees along both route options within the Pipeline Study Area were found to have suitability to support roosting bats. Woodland, water bodies, scrub and grassland provide foraging opportunities for this species group. The route options also lie within and alongside corridors of tree lines, scrub and woodland, which, in combination with the River Ouse and its tributaries, provide suitable features to support commuting routes for bats.

Badger

3.11.46. Habitat suitable for supporting badger in the form of woodland and hedgerows was present within the Pipeline Study Area. Setts were identified along with fox dens that, given the size of the entrance and proximity to the badger setts, have the potential to be used by badger. Furthermore, multiple fresh latrines, badger footprints and tracks were also identified in the area.

Dormouse

3.11.47. No records of hazel dormouse (*Muscardinus avellanarius*) were identified from the desk study. Whilst the Site supports some potentially suitable habitat for this species, the Site is outside the known range of dormouse in Yorkshire. As such, dormouse will not be considered further in this report.

Otter

3.11.48. Numerous records of European otter were identified from the desk study. The River Ouse and various ditches and watercourses (shown as ‘Dry ditch’ and ‘Standing water’ on Figure 4) within the Pipeline Study Area provide suitable habitat for otter in the form of commuting, foraging, resting/laying up and potentially holt-creating areas.

3.11.49. Two old otter spraints (shown as TN12 on Figure 1) were identified along Option 4 on a wooden bridge spanning a dry ditch, approximately 0.5 km from the River Ouse. The River Ouse provides good quality foraging habitat for otter. Some areas of bankside habitats with vegetation cover within the Site may also be suitable for holt creation or use as resting/laying up sites. This includes areas of dense vegetation cover at the water’s edge and features such as recesses beneath tree roots. It is likely that otter are at least intermittently present within the Site, associated with the River Ouse and connecting watercourses.

Water vole

3.11.50. Numerous records of European water vole were identified from the desk study. The closest desk study record was located 400 m from the Site. Ditches and watercourses within the Pipeline Survey Area (shown as ‘Dry ditch’ and ‘Standing water’ on Figure 4) were considered suitable to support this protected species due to the substrate and gradient of the banks. Although definitive evidence of water vole was not identified, a burrow of an appropriate size for water vole use was identified during the field survey (shown as TN11 on Figure 4).

Birds

3.11.51. Many protected and notable bird species records were identified from the desk study. A barn owl (shown as TN5 on Figure 4) was recorded leaving a farm building immediately south of the red line boundary along Option 4. Additionally, a raptor pellet and barn owl feather (TN10 on Figure 4) were found along the River Ouse, immediately north of Option 4, indicating that barn owl are foraging within this area. The Site also contained multiple trees and vegetation suitable for supporting a range of nesting bird species; whilst grassland and arable farmland areas have the potential to support ground nesting birds such as skylark (*Alauda arvensis*).

Reptiles

3.11.52. Records of grass snake were identified from the desk study. The mosaic of habitats within the Pipeline Study Area including grassland, scrub, woodland and waterbodies provide potential sheltering, basking and foraging habitat for widespread reptile species including adder, grass snake, common lizard and slow worm. Additional features present such as dead wood, log piles and compost heaps could be utilised by widespread reptiles for shelter, foraging and breeding. These are shown as TN5 on Figure 4.

Amphibians

3.11.53. Records of great crested newt, smooth newt, common toad and common frog were identified from the desk study. The closest desk study record for great crested newt was located 2.9 km from the Site. Seven waterbodies were identified within 250 m of the Pipeline Study Area. These water bodies and surrounding grassland, scrub and woodland habitat have the potential to support widespread amphibians, providing opportunities for sheltering, foraging and breeding.

4 DISCUSSION AND RECOMMENDATIONS

4.1.1. This section considers the potential for effects on important ecological features as a consequence of the Proposed Scheme. Recommendations apply to the Site (both the Power Station Site and Pipeline Study Area) unless specified. Where further surveys or detailed assessment of potential effects are required this is identified. Initial recommendations for avoidance, mitigation and enhancement are also provided.

4.2 Statutory Designated Sites

4.2.1. Eight internationally designated statutory sites (with multiple designations) were identified within 10 km of the Site and five nationally designated sites within 5 km of the Site. Internationally designated sites included several 'European Sites', i.e. those designated via the provisions of the Habitats Directive / Habitats Regulations.

4.2.2. The Habitats Regulations provide strict protection to sites of European and/or international importance. This includes requiring projects or plans to be screened for Likely Significant Effects (LSE) upon Ramsars, SPAs and SACs.

4.2.3. Given the distance of the Proposed Scheme from the nearest European Sites (River Derwent at 0.8 km) it is possible that these will be affected by some of the activities associated with the Proposed Scheme. A screening exercise to formally assess the potential for LSE will therefore be required.

4.2.4. Consideration of impacts is also likely to be required in relation to the identified nationally designated sites (SSSIs, NNRs and LNRs), which will be undertaken as part of the Environmental Impact Assessment process.

4.3 Non-Statutory Designated Sites

4.3.1. Four non-statutory designated sites were identified within 2 km of the Site (including a deleted SINC and a candidate LWS, both of which are included in this assessment due to their proximity to the Site). On the basis of the redline boundary for the Proposed Scheme, it is unlikely that any landtake will be required from within any of the non-statutory designated sites. Construction and operational activities could however lead to direct and indirect effects.

4.3.2. Any impacts to these sites should be avoided where possible. Consultation with the Local Planning Authority should be carried out and avoidance and / or mitigation measures considered if impacts are predicted.

4.4 Habitats

4.4.1. A number of habitats within the Site are identified as Habitats of Principal Importance (HPI) via the provisions of Section 41 of the NERC Act 2006. Under Section 40 of this legislation, every public body (including planning authorities) 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'.*

4.4.2. Deciduous woodland, hedgerows and ponds are all HPIs that occur within the Site.

4.4.3. As further information on scheme design and construction methodologies emerges, additional assessment and identification of mitigation measures in relation to habitats is likely to be required. This will be reported through the Preliminary Environmental Information Report (PEIR) and subsequent Environmental Statement.

4.4.4. At this stage, consideration should be given to minimising land-take of semi-natural habitats whilst maximising the proportion of the Proposed Scheme that can be located on existing areas of hard-standing and buildings.

4.4.5. For the pipeline options, consideration should be given to using trenchless techniques (e.g. directional drilling) for any necessary crossings of watercourses and hedgerows.

4.5 Protected and Notable Species

4.5.1. The assessment provided above has highlighted the potential presence of several protected species and/or species of conservation concern within the Site. The legal protection afforded to these species is outlined below and, where appropriate, requirements for further work and the potential implications for the Proposed Scheme identified. Recommended further surveys are detailed in Table 9.3.5**.**

4.5.2. The text below is provided in relation to both the Power Station Site and the Pipeline Study Area. References to specific locations within the Site are made as appropriate to the ecological features under discussion.

Bats

4.5.3. All species of bats considered native to the UK are protected from killing, injury and disturbance and their roosts protected from damage or destruction under the Habitats Regulations. Protection is also afforded under the Wildlife and Countryside Act 1981 (as amended) with respect to disturbance of individuals occupying places of rest or shelter and obstruction of access to these. Activities that would otherwise constitute an offence under this legislation may be licensed by Natural England for certain purposes, including development.

4.5.4. Certain species of bats, are also listed as Species of Principal Importance (SPI) for the conservation of biodiversity in England via the provisions of Section 41 of the NERC Act 2006. Section 40 obliges public bodies to have regard for the conservation of biodiversity (including SPI) when discharging their duties. Bats are also priority species under Selby Local Biodiversity Action Plan (LBAP) as a grouped species.

4.5.5. Three buildings at the Power Station Site and scattered trees and trees within blocks of woodland at both the Power Station Site and Pipeline Study Area have the potential to support roosting bats. Further survey to assess use of the Site by roosting bats have therefore been recommended/carried out (as detailed in Table 9.3.5).

4.5.6. Depending on the extent of vegetation removal, commuting and foraging bats may also be impacted by the Proposed Scheme. Any removal of foraging habitat (such as woodland, grassland or scrub) or the severance of linear features (such as tree

lines) could have a detrimental effect on bats using the features of the Site for commuting and foraging. As a result, should linear features be removed/severed, the Site may need to be subject to targeted survey for commuting and foraging bats (as detailed in Table9.3.5).

4.5.7. Potential impacts on bats could be minimised by reducing the extent of vegetation removal required to deliver the Proposed Scheme and avoiding increases in lighting levels near to retained buildings and vegetation.

Badger

4.5.8. The Protection of Badgers Act 1992 makes it illegal to wilfully kill, injure or take any badger, or attempt to do so. It also makes it an offence to intentionally or recklessly damage, destroy or obstruct access to any part of a badger sett. Activities that would otherwise constitute an offence under this legislation may be licensed by Natural England for certain purposes and at certain times of year.

4.5.9. Evidence of badgers has been recorded within the Power Station Site as well as within the Pipeline Study Area. The Proposed Scheme therefore has the potential to impact badgers, for example through the destruction or damage of setts and the severance of foraging habitat. A badger survey was conducted during the Phase 1 habitat survey, the results of which can be found in a Confidential Annex. This will be provided to statutory and non-statutory consultees as appropriate.

4.5.10. The Proposed Scheme should be designed to avoid impacts to setts wherever possible. Should loss or damage of setts be unavoidable, then sett closures and suitable mitigation such as the provision of new setts may be required.

Otter

4.5.11. The European otter is protected from killing, injury and disturbance and its places of rest or shelter are protected from damage or destruction under the Habitats Regulations. Protection is also afforded under the Wildlife and Countryside Act 1981 (as amended) with respect to disturbance of individuals occupying places of rest or shelter and obstruction of access to these. Activities that would otherwise constitute an offence under this legislation may be licensed by Natural England for certain purposes, including development.

4.5.12. Otter are also listed as an SPI in accordance with the provisions of Section 41 of the NERC Act 2006 Public bodies have an obligation under Section 40 to have regard for these species when carrying out their statutory functions. Otter are also a priority species under Selby LBAP.

4.5.13. Otter presence on Site was confirmed by spraints identified during the habitat survey along pipeline Option 4 therefore, the Proposed Scheme has the potential to impact otter, for example through severance of habitat or disturbance of individuals during construction. An otter survey was therefore carried out (see WSP, 2017c) to gather further information on use of the site by the species. A small part of the site was inaccessible due to a lack of safe access on the banks of the River Ouse – a boat-based survey has therefore been recommended (see WSP, 2017c, for further details).

4.5.14. Minimising the extent and duration of works within close proximity of watercourses and avoiding any vegetation removal within at least ten metres of watercourses would help to minimise the risk of impacting the local otter population. If this is unavoidable then specific mitigation measures may need to be developed once the pipeline option has been confirmed.

Water vole

4.5.15. Water vole are protected from killing and injury and their places of rest or shelter are protected from damage, destruction or obstruction under the Wildlife and Countryside Act 1981 (as amended). Additional protection from disturbance is extended to individuals occupying places of rest or shelter. Activities that would otherwise constitute an offence under this legislation may be licensed by Natural England for certain purposes.

4.5.16. The water vole is also listed as a SPI in accordance with the requirements of Section 41 of the NERC Act 2006. Public bodies have an obligation under Section 40 to have regard for these species when carrying out their statutory functions. Water vole are also a priority species under Selby LBAP.

4.5.17. The Site comprises suitable habitat for water vole and further survey for water vole is therefore needed (as detailed in Table 9.3.5), in order to meet best practice survey guidance requirements. Minimising the extent and duration of works within close proximity of watercourses and avoiding any vegetation removal within five metres of watercourses would minimise the risk of impacting this species. Specific mitigation measures may need to be developed once further survey is completed and the pipeline option has been confirmed.

Birds

4.5.18. Under the amendments to the Habitats Regulations (16 August 2012) Reg 9A(2) & (3) state that local authorities 'must take such steps in the exercise of their functions as they consider appropriate to contribute to…the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the UK including by means of the upkeep, management and creation of such habitat…'. The legislation continues to state that economic and recreation requirements must be taken into account in considering which measures are appropriate.

4.5.19. Under the Wildlife and Countryside Act 1981 (as amended) all wild birds are protected from killing and injury, and their nests and eggs protected from taking, damage and destruction whilst in use. Additional protection is extended to species listed under Schedule 1 of the Act, meaning it is also an offence to disturb these species at or near the nest, or whilst they have dependent young.

4.5.20. The Site contains suitable habitats to support a range of breeding bird species, as set out in Section 4. As a result, a breeding bird survey will be required (see Table 9.3.5), subject to any refinements to the design and construction methodologies of the Proposed Scheme that can be identified in advance of the breeding bird survey season.

4.5.21. Wintering birds such as golden plover and Bewick's swan are known to be present locally via desk study records. The Humber Estuary supports a diverse range of

wintering and wading birds, for which the SPA and Ramsar has been designated. The Lower Derwent is also vital for internationally important populations of Bewick's swan. There is potential for some of these species to use habitats found within the Site. As a result, a wintering bird survey is likely to be required (see Table 9.3.5), subject to any refinements to the design and construction methodologies of the Proposed Scheme that can be identified in advance of the wintering bird survey season.

4.5.22. There is no straightforward licensing mechanism by which breeding birds may be removed to facilitate development; it is therefore recommended that any necessary removal of potential breeding habitat is completed outside the nesting season. Measures could also be considered (if necessary) to dissuade birds from nesting within the Site in the year prior to site clearance and construction commencing. Should Schedule 1 species (these include peregrine falcon and barn owl, which may breed at or near the Site) be affected by works during the bird nesting season, additional avoidance and mitigation measures may be required.

Reptiles

4.5.23. Native widespread reptile species (common lizard, adder, grass snake and slow worm) are partially protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This includes protection from killing and injury.

4.5.24. All native UK reptile species are also listed as SPI in accordance with Section 41 of the NERC Act 2006. Public bodies have an obligation under Section 40 to have regard for these species when discharging their statutory duties.

4.5.25. The mosaic of habitats present within the Power Station Site at Development Parcels C and E has high potential to support widespread reptile species and grass snakes are known to be present in the local area. Targeted reptile surveys of suitable habitats within the Power Station site will be required to establish presence/likely absence (see Table 9.3.5), as the majority of habitats in these locations may be permanently removed by the Proposed Scheme.

4.5.26. Other suitable reptile habitat is also present at the Pipeline Study Area. Works affecting these habitats (for instance vegetation removal and soil-stripping), could injure or kill any reptiles present. The extent of suitable reptile habitat within the Pipeline Study Area is limited and as such only low numbers of reptiles are likely to be present. The majority of impacts associated with pipeline installation are also likely to be temporary in nature. As such, Precautionary Methods of Working in suitable habitats within the Pipeline Study Area are recommended (as detailed in Table 9.3.5) during site clearance and construction. Targeted reptile surveys are not recommended for the Pipeline Study Area due to the temporary nature of any impacts.

Amphibians

4.5.27. Great crested newt (GCN) are protected from killing, injury and disturbance and their places of rest or shelter (occupied habitat) protected from damage or destruction under the Habitats Regulations.

4.5.28. Protection is also afforded to GCN under the Wildlife and Countryside Act 1981 (as amended) with respect to disturbance of individuals occupying places of rest or shelter and obstruction of access to these.

4.5.29. GCN and common toad are also listed as SPI in accordance with Section 41 of the NERC Act 2006. Public bodies have an obligation under Section 40 to have regard for these species when carrying out their functions. GCN are also a priority species under Selby LBAP.

4.5.30. Further surveys in the form of Habitat Suitability Index (HSI) surveys and environmental DNA (eDNA) should be undertaken on all ponds within 250 m of the Site. Should GCN populations or significant populations of other amphibian species be recorded, targeted mitigation measures may be required. Should GCN be confirmed present and significant impacts are predicted, the Proposed Scheme will need to be delivered under an EPS licence, to be obtained from Natural England following granting of the DCO. A 'shadow' licence should also be submitted with the DCO application in the event GCN are recorded.

4.5.31. Other suitable amphibian habitat is also present throughout the Site. Works affecting these habitats (for instance vegetation removal and soil-stripping), could injure or kill any amphibians present. The majority of impacts associated with pipeline installation are likely to be temporary in nature. As such, amphibians should be assumed present in suitable habitats within the Pipeline Study Area and Precautionary Methods of Working (as detailed in Table 9.3.5) used during site clearance and construction.

Fish

4.5.32. As set out in Section 4, the Rivers Ouse and Derwent support a range of fish species, including species that are qualifying interests for the River Derwent and Humber Estuary SACs. The River Ouse adjacent to the Site will be used by migratory species such as lamprey and salmonids when moving between coastal waters and upstream breeding sites. Development Parcel G is located on the banks of the River Ouse and will be subject to landward construction works. It will also be used for the delivery of construction supplies by barge / boat.

4.5.33. Construction works at the jetty will need to be designed to minimise potential noise and vibration disturbance of the river. Soft-start and low vibration construction methods are likely to be required (dependent on exact locations of works and advice from noise and vibration specialists). Depending on the exact nature of works proposed in Development Parcel G it may also be necessary to restrict certain construction activities to particular times of year and to daylight hours only. Once further details on the extent of boat / barge movements along the Ouse are available, the potential constraints and implications relating to fish populations will need to be considered. Should pipeline Option 4 be selected, potential effects on fish populations may also need to be assessed, depending on the precise route taken and the installation techniques to be used.

4.5.34. Consultation with the Environment Agency is also recommended, to gain more insight into fish populations in the Ouse and Derwent.

Invasive Non-Native Species

4.5.35. Himalayan balsam and Cotoneaster are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) as invasive non-native species. It is an offence to plant or otherwise allow to grow in the wild any plant listed on this Schedule.

4.5.36. Appropriate avoidance and mitigation strategies should be put in place to prevent the spread of these species. A Method Statement should be prepared detailing Precautionary Methods of Working to be followed during all construction activities. If it is necessary to work in areas where these plants occur then specific measures to control and prevent their spread will be required during construction operations.

4.6 Programme and Consultations

4.6.1. The programme for the DCO application means there is a limited window available to complete targeted ecological surveys. Many ecological surveys can only be carried out in the spring and/or summer months; hence these cannot be started in some cases until March 2018 at the earliest. The results of these surveys will therefore not be available to inform the PEIR or Environmental Statement or engagement with the statutory consultees for nature conservation.

4.6.2. In order to mitigate and manage this as far as possible, the following measures are recommended:

1. Engage with (as a minimum) Natural England (NE) and the LPA ecologist early in the DCO process to seek agreement to the survey approach in advance of DCO submission.
2. Programme in necessary surveys to be delivered as early in the survey season as possible.
3. Obtain legal and planning opinions for the potential implications of submitting with limited ecological survey data available.

4.7 Further Survey Requirements

4.7.1. Ecological features for which further surveys may be required to support the DCO application are listed in Table 9.3.5.

Table 9.3.5 - Key Ecological Features and Requirements for Further Survey/ Precautionary Methods

Ecological Receptor	Potential Constraints	Further Survey/Precautionary Methods of Working Requirements	Seasonal Considerations
Bats	**Power Station Site** Demolition of buildings may result in the damage/ destruction of a bat roost. **Pipeline Study Area** Felling of trees may result in the damage/ destruction of a bat roost.	**Power Station Site** Three buildings were identified as having low bat roost suitability. Further dusk/dawn surveys were conducted as per best practice guidelines and no evidence of bats was found (See WSP, 2017a). As such it is unlikely that any roosts are present and this constraint has been addressed. Bat activity surveys (e.g. transects or static monitoring) are likely to be required, given the predicted scale of vegetation removal. **Pipeline Study Area** Thirteen trees were assessed from ground level as having suitability to support roosting bats (See WSP, 2017b). These may require aerial surveys and/or dusk emergence/dawn re-entry surveys depending on whether impacts on these can be avoided. Given the temporary nature of proposed works within the Pipeline Study Area, it is likely that activity surveys could be avoided, although this will depend on which pipeline option is selected and on the detailed design.	**Power Station Site** Dusk/dawn and activity surveys must be undertaken between May and September. **Pipeline Study Area** Aerial inspections of trees can be undertaken at any time of year but those of trees are most conclusive in the autumn and winter months when no leaf cover exists and does not conflict with the nesting bird season. Dusk/dawn and activity surveys must be undertaken between May and September.
Badger	**Power Station Site and Pipeline Study Area**	**Power Station Site and Pipeline Study Area**	**Power Station Site and Pipeline Study Area**

Ecological Receptor	Potential Constraints	Further Survey/Precautionary Methods of Working Requirements	Seasonal Considerations
	The Proposed Scheme has the potential to damage or destroy badger setts. This would be an offence, requiring a licence to be obtained from NE to permit sett damage or destruction. Such licences are usually only granted for activities between July and November inclusive.	A badger survey was conducted during the extended Phase 1 habitat survey, the results of which can be found in the Confidential Annex. Large areas of the Site have not been accessed and will need to be surveyed once access is permitted. Specific mitigation measures will need to be developed once the pipeline option and associated landtake and construction footprint have been confirmed.	Can be undertaken at any time of year but are most conclusive between February and April, when territorial activity is at its peak but vegetation cover is at a minimum.
Otter	**Power Station Site and Pipeline Study Area** Works in close proximity to the River Ouse may result in disturbance to otter or damage to a holt. If such impacts are predicted, mitigation and potentially a EPS licence would be required. This could impose timing and other constraints on any works in proximity to the Ouse and if a holt or other resting site was damaged, require provision of artificial places of shelter.	**Power Station Site and Pipeline Study Area** An otter survey of the Site was conducted during September 2017 (see WSP, 2017c). Spraints and prints were found confirming use of the Site by otter. Large areas of the Pipeline Study Area have not been accessed and will need to be surveyed once access is permitted. A boat-based survey is required in order to complete an otter survey of Development Parcel G (jetty) and confirm the absence of holts/lying up sites from this location.	**Power Station Site and Pipeline Study Area** Surveys should include two site visits and ideally be carried out between May and September when water levels are less variable. Surveys should not be carried out during periods when there is heavy rain. Ideally there should be a period of at least five days without rain before surveying.

Ecological Receptor	Potential Constraints	Further Survey/Precautionary Methods of Working Requirements	Seasonal Considerations
Water Vole	**Power Station Site and Pipeline Study Area** Works in close proximity to drains and ditches could result in the damage or destruction of water vole burrows (if present). In the event that the Proposed Scheme would cause this (and if the presence of water vole was confirmed during the proposed second survey visit in spring 2018), a mitigation strategy would be required.	**Power Station Site and Pipeline Study Area** A water vole survey of the Site was conducted in September 2017. No definitive evidence of water vole was found, although small mammal burrows and footprints were identified (see WSP, 2017c). Large areas of the Pipeline Study Area have not been accessed and will need to be surveyed once access is permitted.	**Power Station Site and Pipeline Study Area** Surveys should include two site visits and take place within the water vole breeding season, when field signs are most evident. This is generally considered to be from mid-April to the end of September. One visit has been completed across part of the Site in September 2017, so a second visit (covering as much of the Site as possible) should be completed in spring 2018.
Birds	**Power Station Site and Pipeline Study Area** The Proposed Scheme has the potential to damage or destroy the nest and/or eggs of wild birds and could disturb Schedule 1 (WCA) species. There is no licensing route for development so the presence of nesting birds during the intended site clearance and construction	**Power Station Site and Pipeline Study Area** Works should be undertaken outside of the main bird nesting season (March to August, inclusive). Depending on the final alignment, extent and duration of works associated with the Pipeline Study Area, targeted breeding bird and wintering bird surveys could be required to inform the ES. Removal of suitable nesting habitat should be completed outside the nesting season if possible. Should removal of suitable nesting habitat be required during the nesting season, a nesting bird	**Pipeline Study Area** Breeding bird surveys to comprise at least three site visits between April and June. Wintering Bird need to be completed between October and March. Nesting bird season for most species runs between March and August inclusive.

Ecological Receptor	Potential Constraints	Further Survey/Precautionary Methods of Working Requirements	Seasonal Considerations
	programme could lead to delays. It should be noted that suitable habitat for both scrub/tree and ground-nesting species is present within the Site. Ground-nesting species will nest in very short vegetation or even on largely bare ground, so vegetation removal may not dissuade them from breeding.	check would be required no more than 48 hours prior to its removal. Any active nests would need to be retained with a suitable buffer until any young had fledged and left the nest. Bird-scarers and other measures to dissuade birds from nesting may also be required, depending on the detailed design of the Scheme and timetable for delivery.	
Reptiles	**Power Station Site and Pipeline Study Area** Works impacting suitable habitat such as grassland, scrub, woodland and ponds have the potential to kill or injure widespread reptile species.	**Power Station Site** Habitat with high suitability to support reptiles is present and would be lost. As such targeted reptile surveys should be carried out. **Pipeline Study Area** Precautionary Methods of Working should be implemented during vegetation clearance, under the oversight of a suitably qualified ecologist.	**Power Station Site** Reptile surveys comprising deployment of artificial refugia (mats or tins) and seven subsequent site visits between March-May and September. **Power Station Site and Pipeline Study Area** Potential reptile hibernacula (such as the log piles, dead wood and compost heaps) identified on Site should not be disturbed during the reptile hibernation period. This is taken to be from October/November to March/April, depending on local weather conditions.

Ecological Receptor	Potential Constraints	Further Survey/Precautionary Methods of Working Requirements	Seasonal Considerations
Amphibians	**Power Station Site and Pipeline Study Area** The Proposed Scheme has the potential to disturb, injure or kill great crested newt and other widespread amphibians, if populations are present in the local area. Should this be the case and impacts cannot be avoided, a mitigation strategy and EPS licence would be required. This could impose seasonal constraints on the works and require the provision of mitigation measures including measures to avoid harm to individual animals and replacement habitat provision.	**Power Station Site and Pipeline Study Area** Targeted surveys for great crested newt (including HSI and eDNA) are likely to be required to inform the DCO application.	**Power Station Site and Pipeline Study Area** Great crested newts and other amphibians are most likely to be found in ponds during their breeding season (approximately March to June depending on species). Surveys of aquatic habitat are usually only considered reliable when completed between mid-March and the end of June.
Fish	**Power Station Site and Pipeline Study Area** Fish species, including species which are qualifying interests for statutory designated sites will use the River Ouse adjacent to the Site. These could potentially	**Power Station Site and Pipeline Study Area** Once further details of proposed construction works in Development Parcel G and the use (or otherwise) of pipeline Option 4 is confirmed, a full assessment will be possible. In the meantime, it is recommended that any construction works in the river channel of the Ouse	**Power Station Site and Pipeline Study Area** Seasonal constraints will vary depending on the scale and nature of construction works in proximity to the river, and should also be confirmed via consultation with the Environment Agency and Natural England.

Ecological Receptor	Potential Constraints	Further Survey/Precautionary Methods of Working Requirements	Seasonal Considerations
	be disturbed by construction activities. There may be restrictions on the duration, timing and nature of construction works that can be carried out adjacent to the river corridor.	continue to be avoided, if possible. Construction activities in Development Parcel G should be designed to minimise vibration and maintain the largest buffer zone possible between the construction footprint and the river. No targeted surveys for fish are considered necessary based on the Proposed Scheme as currently designed.	
Invasive non-native species	**Power Station Site** Invasive non-native species (Himalayan balsam and Cotoneaster) were found to be present on Site. It is an offence to allow the spread of these species.	**Power Station Site and Pipeline Study Area** A method statement should be prepared detailing precautionary methods of working with regards to invasive non-native species. Part of the Pipeline Study Area has not been surveyed and so there is a risk of these species being present here. Additionally, known stands of these species may spread in the time between surveys being completed and development commencing.	**Power Station Site and Pipeline Study Area** If clearance works are proposed in areas where these species occur then these should be undertaken over winter when measures to minimise the risk of spreading invasive species are likely to be most effective.

Environmental Best Practice

4.7.2. General environmental protection measures are likely to be required during the construction phase and will support minimising impacts on ecological features. Such measures include best environmental practice guidance outlined in the Environment Agency's Pollution Prevention Advice and Guidance (Environment Agency, 2007, now withdrawn) and those outlined by the Construction Industry Research and Information Association guidance (CIRIA, 2015). The following measures are likely to be appropriate, although it is anticipated that detailed measures will need to be developed as project design progresses, with these to be captured in the project Construction Environmental Management Plan (CEMP):

- Measures to be taken to prevent dust and other emissions affecting land beyond the Site.
- Chemicals and fuels stored in secure containers located away from watercourses or water bodies. Spill kits to be available.
- Excavations to be secured (with no potential access points beneath fencing) and / or escape ramps provided when the Site is closed (e.g. overnight) to prevent entrapment of animals.
- Retained trees to be protected in accordance with BS5837.
- Noise and vibration to be controlled and kept to the minimum necessary; including avoiding any work within 50 m of the River Ouse overnight and within one hour after sunrise and one hour before sunset.
- Lighting used for construction must be switched-off when not in use and positioned so as not to spill on to adjacent land, retained vegetation or watercourses within the Site.

Ecological Enhancement Opportunities

4.7.3. The National Planning Policy Framework (NPPF) (2012) states that at an overview level the 'planning system should contribute to and enhance the national and local environment by… minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'. At a local level, the Local Plan states that one of its objectives is to 'safeguard existing semi-natural habitats and species, prevent further losses and encourage restoration and creation.

4.7.4. As the design of the Proposed Scheme progresses, consideration should be given to identifying appropriate ecological enhancements for incorporating into the proposals, including consideration of demonstrating 'no net loss' or net gain of biodiversity.

5 CONCLUSION

5.1.1. Thirteen statutory designated sites and four non-statutory designated sites were identified within 10 and 5 km of the Site respectively. A number of Habitats of Principal Importance are also present within the Site.

5.1.2. Further survey and assessment including consultation with relevant statutory consultees (regarding potential effects upon statutory and non-statutory designated sites and priority habitats) is required to support the proposed DCO application.

5.1.3. Habitats are present within the Site (both the Power Station Site and the Pipeline Study Area) that have the potential to support a range of protected or notable species. These include bats, badger, dormouse, otter, water vole, breeding birds, reptiles and amphibians. Field signs of badger and otter were identified during the PEA and therefore, further survey work will be needed to inform the DCO. Trees throughout the Site were identified as being suitable for roosting, foraging and commuting bats, therefore further surveys will also be required.

5.1.4. Further surveys should be undertaken in conjunction with the recommended impact avoidance and mitigation recommendations provided. The results of further surveys should be used to refine recommendations for mitigation measures.

5.1.5. The programme for the DCO application is such that it will not be possible to complete some of the further ecological surveys prior to submission of the application. Measures including early consultation and precautionary mitigation are recommended to seek to address this within the proposed programme, in addition to the completion of remaining surveys in spring/summer 2018.

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Key

- Site Boundary
- Scheme
- Accessible
- Not surveyed due to land access constraints
- Not surveyed due to health & safety constraints
- 4 Route Option 4
- 5 Route Option 5

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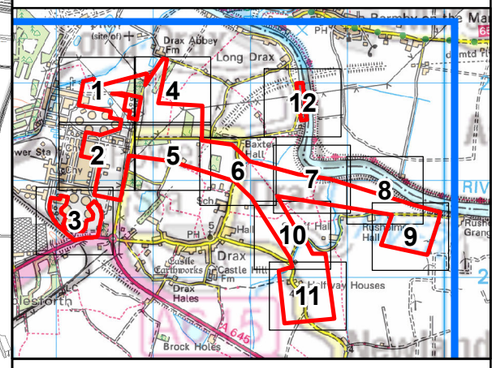

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Client: DRAX POWER LTD

Project: DRAX REPOWER PROJECT

Title: Figure 1: Survey Access Map

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DO NOT SCALE

Key

- Site Boundary
- Scheme Areas
- 5km Buffer
- 10km Buffer
- SSSI
- NNR
- LNR
- SAC
- SPA
- RAMSAR
- Route Option 4
- Route Option 5
- 30m Buffer of Gas Pipeline Routes

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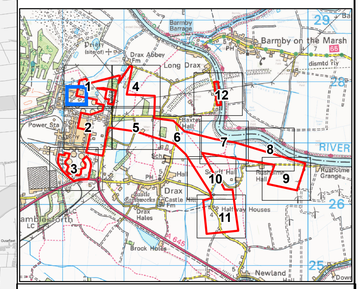

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DRAX POWER LTD

Project:

DRAX REPOWER PROJECT

Title

FIGURE 2: STATUTORY DESIGNATED SITES

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0 0.275 0.55 1.1 1.65 2.2 Kilometres

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Key

- Site Boundary
- Scheme Areas
- 1km Buffer
- 2km Buffer
- 5km Buffer
- Ancient Woodland
- Ponds
- SINC and LWS
- Coastal and floodplain grazing marsh
- Deciduous woodland
- Lowland fens
- Mudflats
- No main habitat but additional habitats
- River
- Traditional orchard
- 4 Route Option 4
- 5 Route Option 5

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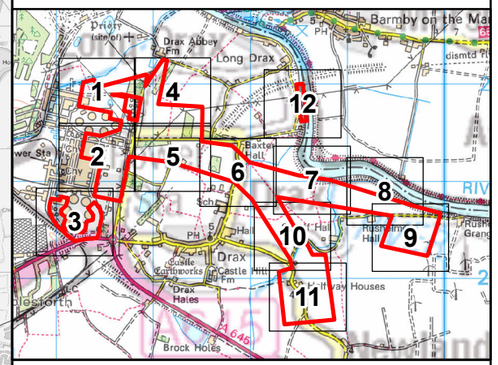

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DRAX POWER LTD

Project:

DRAX REPOWER PROJECT

Title

Figure 3: Non-statutory Designated Sites, Ancient Woodlands and Habitats of Principal Importance

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N

Carr Dike (Drain)

Path

Path (um)

Tanks

FB

TN1

TN2

TN7

TN8

L Twr

B

C

E

F

Cooling Tower

Sluice

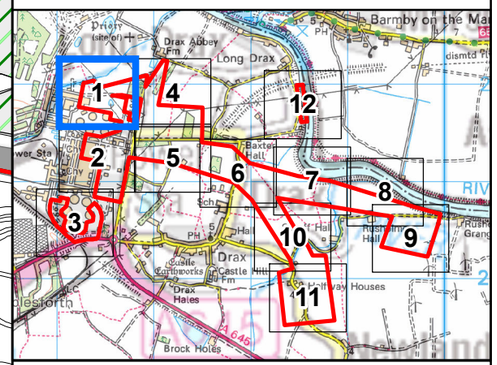
Sludge Lagoons

Slurry Bed

Key

- Site Boundary
- Development Parcel
- Target Note
- SI Semi-improved grassland
- Defunct hedge - species-poor
- Dry ditch
- Hard standing
- Broadleaved Parkland/scattered trees
- Broadleaved woodland - plantation
- Buildings
- Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - arable
- Improved grassland
- Introduced shrub
- Mixed woodland - plantation
- Other tall herb and fern - ruderal
- Semi-improved grassland
- Scrub - dense/continuous
- Standing water

0 20 40 60 80 100 m



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Client: DRAX POWER LIMITED

Project: DRAX REPOWER PROJECT

Title: Figure 4: Extended Phase 1 Habitat Survey

Drawing No:	Sheet 1	Drawn:	TJ
Date:	05/10/2017	Checked:	KJ
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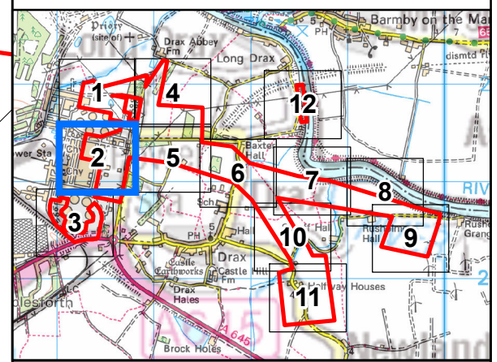
N

Key

- Site Boundary
- Development Parcel
- Target Note
- A — Cultivated/disturbed land - amenity grassland
- SI — Semi-improved grassland
- Hard standing
- Broadleaved Parkland/scattered trees
- Broadleaved woodland - semi-natural
- Buildings
- Introduced shrub
- Scrub - dense/continuous

0 20 40 60 80 100 m



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Title: Figure 4: Extended Phase 1 Habitat Survey

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N

Key

- Site Boundary
- Development Parcel
- A — Cultivated/disturbed land - amenity grassland
- Broad-Leaved Parkland/scattered trees
- Hard standing
- Broadleaved Parkland/scattered trees
- Buildings
- Intact hedge - species-poor
- Other tall herb and fern - ruderal

0 20 40 60 80 100 m

wsp

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DRAX POWER LIMITED

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Title

FIGURE 4: EXTENDED PHASE 1 HABITAT SURVEY MAP

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N

TN3

TN4

TN2

SI

B

A

D

F

FB

Tank

Tanks

3m

PEAR TREE AVENUE

Old Lodge

Drain

Track

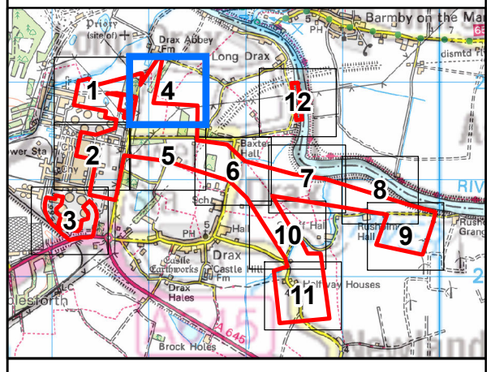
New Close

New Close Wood

Key

- Site Boundary
- Development Parcel
- Target Note
- SI — Semi-improved grassland
- Defunct hedge - species-poor
- Dry ditch
- Fence
- Intact hedge - native species-rich
- Hard standing
- Cultivated/disturbed land - arable
- Improved grassland
- Mixed woodland - plantation
- Scrub - dense/continuous
- Standing water

0 20 40 60 80 100 m



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Title: Figure 4: Extended Phase 1 Habitat Survey

Drawing No: Sheet 4
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N

New Close Wood

New Close Wood

Wren Hall

WREN HALL LANE

TN4 TN4 TN4 TN4 TN4 TN6

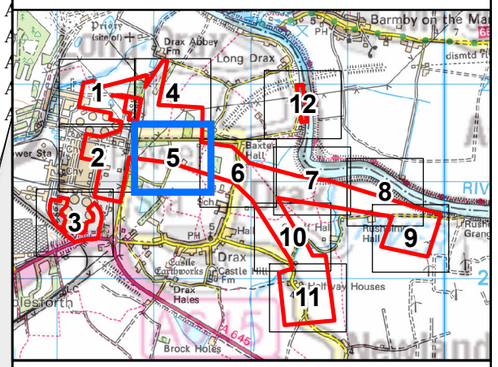
SI SI SI SI SI SI SI SI SI SI SI SI SI SI SI SI SI SI SI

Track Drain Pond Met Station Def 1.22m RH 1.22m Trk H

Key

- Site Boundary
- Development Parcel
- Target Note
- Mixed woodland - semi-natural
- Defunct hedge - species-poor
- Dry ditch
- Intact hedge - native species-rich
- Hard standing
- Broadleaved Parkland/scattered trees
- Broadleaved woodland - semi-natural
- Buildings
- Cultivated/disturbed land - arable
- SI Neutral grassland - semi-improved
- Other tall herb and fern - ruderal
- Scrub - dense/continuous
- Standing water
- 4 Route Option 4
- 5 Route Option 5

0 20 40 60 80 100 m



wsp

Client:

DRAX POWER LIMITED

Project:

DRAX REPOWER PROJECT

Title

Figure 4: Extended Phase 1 Habitat Survey

Drawing No:	Sheet 5	Drawn:	TJ
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N

Mole End

Baxter Hall

The Hayloft

Baxter Hall

Woodcock Wood

Woodcock Wood

Woodlands

Poultry House

Poultry House

The Laurels

Track

Briarden

Briarden

Tennis Court

Recreation Ground

Playing Field

Drain

Def

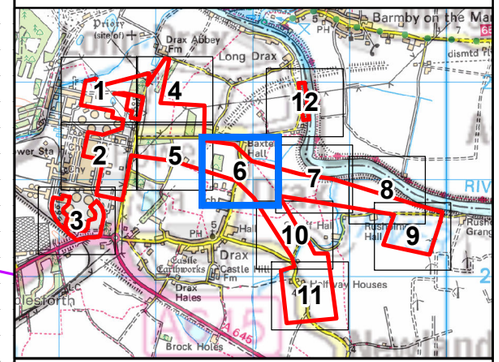
Path (um)

1.22m FH

Key

- Site Boundary
- Mixed woodland - semi-natural
- Hard standing
- Broadleaved woodland - semi-natural
- Buildings
- Cultivated/disturbed land - arable
- SI Neutral grassland - semi-improved
- Standing water
- 4 Route Option 4
- 5 Route Option 5

0 20 40 60 80 100 m



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Client: DRAX POWER LIMITED

Project: DRAX REPOWER PROJECT

Title: Figure 4: Extended Phase 1 Habitat Survey

Drawing No: Sheet 6
Date: 05/10/2017
Scale: 2,500 @ A3

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N

Stalth

Sluice

Drain

Farm (ruin)

5.5m

Burr Wheel

Burr Wheel

Mud

Rusholme Reach

Beacon
(Red Flashing)

Ditch

1.22m RH

Sluice

TN10

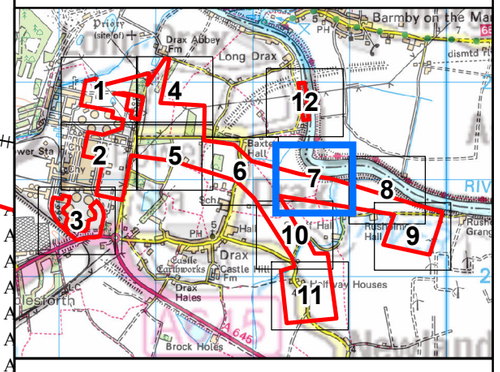
Ditch

Ditch

Key

- Site Boundary
- Target Note
- Broad-Leaved Parkland/scattered trees
- Dry ditch
- Fence
- Cultivated/disturbed land - arable
- Improved grassland
- 4 Route Option 4

0 20 40 60 80 100 m



wsp

Client:

DRAX POWER LIMITED

Project:

DRAX REPOWER PROJECT

Title

Figure 4: Extended Phase 1 Habitat Survey

Drawing No:	Sheet 7	Drawn:	TJ
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N

Low Field

Holycroft Lan

Drain

Gateland Field Lane (Track)

GATELAND FIELD LANE (Track)

Lowfield Drain

Holy Croft

Path (um)

Mean High Water

River Ouse

Rusholme Reach

CCLW

Co Const & UA Bdy

Pump House

Pump House

Path (um)

Mean High Water

Path (um)

Mean High Water

River Ouse

Co Const & UA Bdy

CCLW

Rusholme Reach

Beacon
(Red Flashing)

TN5

3.9m

RUSHOLME LANE

4.0m

Diamond Cottage

Rusholme Hall

Track

Diamond Cottage

Rusholme Hall

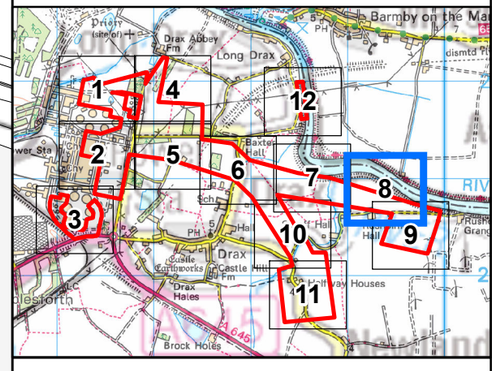
Pond

Electricity Operating Station

Key

- Site Boundary
- Target Note
- Broad-Leaved Parkland/scattered trees
- Dry ditch
- Fence
- Hard standing
- Buildings
- Cultivated/disturbed land - arable
- Improved grassland
- Intact hedge - species-poor
- Standing water
- 4 Route Option 4

0 20 40 60 80 100 m



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Client:

DRAX POWER LIMITED

Project:

DRAX REPOWER PROJECT

Title

Figure 4: Extended Phase 1 Habitat Survey

Drawing No: Sheet 8

Date: 05/10/2017

Scale: 2,500 @ A3

Drawn: TJ

Checked: KJ

Approved: PD

N

RUSHOLME LANE

Diamond Cottage

Rusholme Hall

Electricity Generating Station

Dickon Field

Dickon Field Drain

Drain

TN9

TN11

TN12

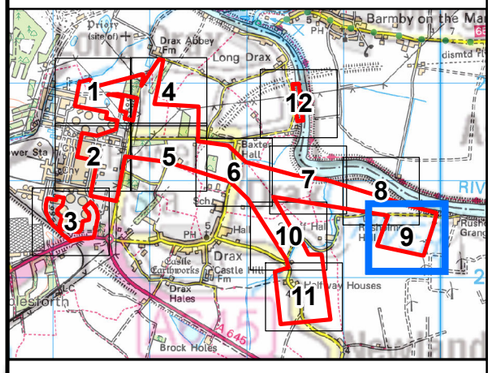
Mast (telecommunication)

GVC

Key

- Site Boundary
- Target Note
- Broad-Leaved Parkland/scattered trees
- Dry ditch
- Fence
- Hard standing
- Broadleaved Parkland/scattered trees
- Buildings
- Cultivated/disturbed land - arable
- Improved grassland
- Intact hedge - species-poor
- Standing water
- 4 Route Option 4

0 20 40 60 80 100 m



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Client: DRAX POWER LIMITED

Project: DRAX REPOWER PROJECT

Title: Figure 4: Extended Phase 1 Habitat Survey

Drawing No:	Sheet 9	Drawn:	TJ
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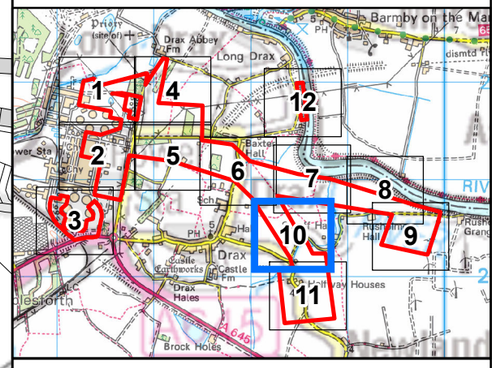
N

Key

- Site Boundary
- Target Note
- Defunct hedge - species-poor
- Dry ditch
- Hard standing
- Broadleaved Parkland/scattered trees
- Broadleaved woodland - semi-natural
- Cultivated/disturbed land - arable
- Improved grassland
- Standing water
- 5 Route Option 5

0 20 40 60 80 100 m



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Client: DRAX POWER LIMITED

Project: DRAX REPOWER PROJECT

Title: Figure 4: Extended Phase 1 Habitat Survey

Drawing No:	Sheet 10	Drawn:	TJ
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N

Hawday Lane (Tk)

Halfway Houses

HAWDAY LANE (Track)

BRIER LANE

BRIER LANE

Road Cottage

Sleepy Cottage

GP

Landray House

Halfway Houses

Pond

Pond

Pond

Def

Drain

Drain

Drain

Drain

Drain

Drain

Drain

Drain

12m Rd

4.0m

4.0m

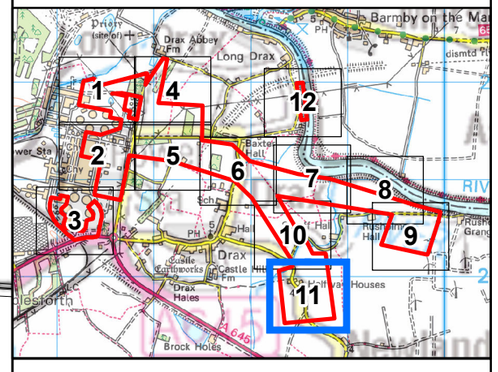
TN9

TN9

Key

- Site Boundary
- Target Note
- Broadleaved Parkland/scattered trees
- Defunct hedge - species-poor
- Dry ditch
- Fence
- Intact hedge - native species-rich
- Hard standing
- Broadleaved Parkland/scattered trees
- Broadleaved woodland - semi-natural
- Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - arable
- Improved grassland
- Mixed woodland - semi-natural
- Other tall herb and fern - ruderal
- Scrub - dense/continuous
- Standing water
- Route Option 5

0 20 40 60 80 100 m



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Client:

DRAX POWER LIMITED

Project:

DRAX REPOWER PROJECT

Title

Figure 4: Extended Phase 1 Habitat Survey

Drawing No:	Sheet 11	Drawn:	TJ
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N

Croft

Red House

Valve House

Valve House

Bollard

Drain

4.2m

3.9m

9.6m

Ouse Bridge Cottages

Ouse Bridge Cottages

4.3m

TN1

I

MP

FB

G

TN1

I

FB

Bollard

FB

Path (um)

Bollard

TN3

TN2

TN1

MLW

MP

TN4

TN1

TN2

Path (um)

Sewage Works

Bank Field

BANKFIELD LANE

Track

REDHOUSE LANE

Ppg Sta

MLW

CCLW

Drain

Eastholme

4.8m

The Lodge

Track

Sluice

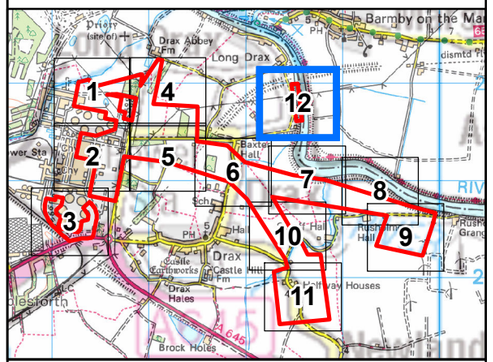
REDHOUSE LANE

The Lodge

Key

- Site Boundary
- Development Parel
- Target Note
- I Improved grassland
- Marginal and inundation - marginal vegetation
- Hard standing
- Broadleaved Parkland/scattered trees
- Broadleaved woodland - semi-natural
- Buildings
- Other tall herb and fern - ruderal
- Running water

0 20 40 60 80 100 m



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Client:

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Project:

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Figure 4: Extended Phase 1 Habitat Survey

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APPENDIX 1: RELEVANT LEGISLATION AND PLANNING POLICY

England Legislation and Policy Context

This report has been compiled with reference to relevant wildlife legislation, planning policy and the UK Biodiversity Framework. An overview and context of relevant legislation is provided, with the relevant protection each species groups or species receives summarised in Table A1.

The Wildlife and Countryside Act 1981, (as amended) (WCA)

Protected birds, animals and plants are listed under Schedules 1, 5, 8 and 9 respectively of the WCA, a description of these Schedules and their meaning is provided below.

Under the WCA (England and Wales) all birds, their nests and eggs (with exception of species listed under Schedule 2) are protected by the WCA. It is an offence to:

- Intentionally kill, injure, or take any wild bird.
- Take or destroy an egg of any wild bird.
- Damage or destroy the nest of any wild bird (whilst being built, or in use). Under the WCA the clearance of vegetation within the survey area boundary, or immediately adjacent to the survey area during the bird nesting season could result in an offence occurring by the disruption or destruction of nest sites. The bird breeding season can be taken to occur between March - August inclusive, although is subject to variations based on species, geographical and seasonal factors.

Schedule 1

Birds listed under Schedule 1 of the WCA[3] are afforded additional protection with regard to intentional or reckless disturbance whilst nest-building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Schedule 5

Species listed in Schedule 5 can either be fully protected or be partially protected under Section 9, which makes it unlawful to intentionally:

- Part 1: kill, injure or take;
- Part 2: possess or control (live or dead animal, part or derivative);
- Part 4 (a): damage or destruct any structure used for shelter or protection;
- Part 4 (b): disturb them in a place of shelter or protection;
- Part 4 (c): obstruct access to place of shelter or protection;
- Part 5 (a): sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative);
- Part 5 (b): advertise for buying or selling.

[3] To view the current list of Schedule 1 listed birds visit: http://www.legislation.gov.uk/ukpga/1981/69/schedule/1 [Accessed July.2017].

Schedule 8

The Act makes it an offence (subject to exceptions) to pick, uproot, trade in, or possess (for the purposes of trade) any wild plant listed in Schedule 8, and prohibits the unauthorised intentional uprooting of such plants.

Schedule 9

Invasive species listed under Schedule 9 are prohibited from release into the wild and the Act prohibits planting or "causing to grow" in the wild of any plant species listed in Schedule 9. It should be noted that certain bird species listed on Schedule 1 of the WCA are also listed on Schedule 9 to prevent release of non-native and captive individuals, this includes barn owl, red kite, goshawk and corncrake.

Countryside Rights of Way Act 2000 (CRoW Act)

The CRoW Act has amended the WCA in England and Wales strengthening the protection afforded to Sites of Special Scientific Interest (SSSI) and the legal protection for threatened species. It adds the word 'reckless' to the wording of the offences listed under Section 9(4) of the WCA. This alteration makes it an offence to recklessly commit an offence, where previously an offence had to be intentional to result in a breach of legislation.

Natural Environment and Rural Communities (NERC) Act 2006

Species and Habitats of Principal Importance in England and Wales are listed under Section 41 and Section 42 respectively of the NERC Act. The Section 41 and 42 lists detail species that are of principal importance for the conservation of biodiversity in England and Wales, and should be used to guide decision-makers such as local and regional authorities when implementing their duty to have regard for the conservation of biodiversity in the exercise of their normal functions – as required under Section 40 of the NERC Act 2006.

The Protection of Badgers Act (1992)

It is an offence to wilfully take, kill, injure, possess or ill-treat a badger. Under the Act their setts are protected against intentional or reckless interference. Sett interference includes damaging or destroying a sett, obstructing access to any part of the sett, or disturbance of a badger whilst it is occupying a sett. The Act defines a badger sett as 'any structure or place, which displays signs indicating the current use by a badger' and Natural England (NE) takes this definition to include seasonally used setts that are not occupied but that show sign of recent use by badgers (Natural England, 2009[4]).

If impacts to badgers or their setts are unavoidable then authorised sett disturbance requires a licence.

[4] Natural England, June 2009, Protection of Badgers Act 1992 (as amended), Guidance on 'Current Use' in the definition of a Badger Sett WMLG17, Natural England, Peterborough.

The UK Post-2010 Biodiversity Framework (2011-2020) (JNCC and DEFRA, 2012)

This Framework lists the UK's most threatened species and habitats and sets out targets and objectives for their management and recovery. The UK Biodiversity Action Plan (BAP) process is delivered nationally, regionally and locally and should be used as a guide for decision-makers to have regards for the targets set by the framework and the goals they aim to achieve. The UK BAP has now been replaced by the UK Post-2010 Biodiversity Framework, however, it contains useful information on how to characterise important species assemblages and habitats which is still relevant (UK Post-2010 Biodiversity Framework, 2012[5]).

The Conservation of Habitats and Species Regulations 2010 (as amended)

The EC Habitats Directive and EC Birds Directive is transposed into UK law via the Conservation of Habitats and Species Regulations 2010 (as amended), referred to as the Habitats Regulations. All species listed under Annex IV of the Habitats Directive require strict protection and are known as European Protected Species (EPS).

Under Regulation 41 of the Habitats Regulations it is unlawful to:

- Deliberately kill, capture or disturb;
- Deliberately take or destroy the eggs of; and
- Damage or destroy the breeding site/resting place of any species protected under this legislation.

If the Ecologist determines that impacts to an EPS are unavoidable then the works may need to be carried out under a site specific mitigation licence from Natural England (NE) or Natural Resources Wales (NRW). Low Impact Class licences are also available in both England and Wales for bats and great crested newts. This enables Registered Low Impact Consultants to undertake certain low impact activities reducing the EPS application paperwork and process length.

Certain EPS are also listed under Annex II of the Habitats Directive and are afforded protection by the establishment of core areas of habitat known as Special Areas of Conservation. This means these species are a relevant consideration in a Habitats Regulations Assessment (HRA).

The Birds Directive seeks to maintain populations of all wild bird species across their natural range (Article 2). All bird species listed under Annex I6 of the Birds Directive are rare or vulnerable and afforded protection by the classification of Special Protection Areas (SPAs), these are also designated under all regularly occurring migratory species, with regard to the protection of wetlands of international importance (Article 4). This means these bird species and communities are a relevant consideration in HRA**1**

[5] JNCC and Defra (on behalf of the Four Countries' Biodiversity Group), July 2012, UK Post-2010 Biodiversity Framework, Available from: http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf [Accessed July 2017].
[6] To view birds listed under Annex I visit: http://ec.europa.eu/environment/nature/conservation/wildbirds/threatened/index_en.htm [accessed July 2017]

Table A:1: Key Species and National Wildlife Legislation, Policy and Biodiversity Framework Applicable in England	
Species	Legislation, Planning Policy and UK Biodiversity Framework

	Wildlife and Countryside Act 1981 (as amended), (WCA)	The Conservation of /Habitats and Species Regulations 2010 (as amended) (Habitats Regulations) - Regulation 41	Natural Environment and Rural Communities (NERC) Act 2006 / The	The Protection of Badgers Act 1992	The UK Post-2010 Biodiversity Framework 2011-2020

			Environment(Wales) Act (2016)		(JNCC and DEFRA, 2012)

	Schedule 1	Schedule 5	Schedule 8	Schedule 9	European Protected Species (Annex IV of the EC Habitats Directive),			
Badger							✓	
Bats		✓ [7](part)			✓[8]	✓[9]		✓[10]
Otter		✓ [5](part)			✓	✓		✓
Water vole		✓				✓		✓

[7] These species are partially protected under section 9(4)(b), (4)(c) and (5).
[8] Only Barbastelle (*Barbastella barbastellus*), Bechstein's bat (*Myotis bechsteinii*), greater horseshoe bat (*Rhinolophus ferrumequinum*) and lesser horseshoe bat (*Rhinolophus hipposideros*) are listed on Annex II of the Habitats Directive.
[9] Greater horseshoe bat, lesser horseshoe bat, Bechstein's bat, noctule (*Nyctalus noctula*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auritus*) and barbastelle are listed as Species of Principal Importance in England with the addition of common pipistrelle (*Pipistrellus pipistrellus*) in Wales listed under Section 7 of the Environment (Wales) Act (2016) http://www.legislation.gov.uk/ukpga/2006/16/contents.

[10] Barbastelle bat, Bechstein's bat, noctule, soprano pipistrelle, brown long-eared bat, greater horseshoe bat, lesser horseshoe bat are listed as UK BAP species of bat.

		[11](full)						
Birds	✓			✓[12]		✓[13]		✓[14]
Reptiles		✓ [15](part)		✓[9]	✓[16]	✓[17]		✓[18]
Amphibians		✓ [19](part)		✓	✓	✓[23]		

[11] Class Licences are available to Registered Consultants to intentionally disturb, damage or destroy water vole burrows or to displace water voles from their burrows in relation to a development proposal where the licensed action provides a conservation benefit for water voles. Certain displacement operations may be carried out under a Class licence by a registered person in England, however in Wales all displacement operations must be carried out under a site specific licence.

[12] To view plants and animals listed on Schedule 9 Part 1 visit http://www.legislation.gov.uk/ukpga/1981/69/schedule/9 [accessed 6 April 2017]

[13] There are 49 species of birds listed as Species of Principal Importance in England in Section 41 of the NERC Act 2006 and 51 species in Wales under Section 7 of the Environment (Wales) Act (2016) http://www.legislation.gov.uk/ukpga/2006/16/contents.

[14] To view the current list of UK BAP priority birds visit: http://jncc.defra.gov.uk/page-5163 [Accessed July 2017].

[15] The four common reptile species, Adder (*Vipera berus*), Grass snake (*Natrix natrix*), Common lizard (*Zootoca vivipara*) and Slow worm (*Anguis fragilis*) are offered partial protection under section 9(5). The rarer UK reptile species (Smooth snake (*Coronella austriaca*) and Sand lizard (*Lacerta agilis*)) are partially protected under section 9(4)(b) and (c) and (5).

[16] Smooth snake (*Coronella austriaca*) and Sand lizard (*Lacerta agilis*) are the only reptiles to be designated as European Protected Species.

[17] All 6 reptile species are listed as Species of Principal Importance in England listed under Section 41 of the NERC Act 2006 and 5 species, excluding smooth snake, listed under Section 7 of the Environment (Wales) Act (2016) http://www.legislation.gov.uk/ukpga/2006/16/contents.

[18] To view the current list of UK BAP priority herptile species visit: http://jncc.defra.gov.uk/page-5166 [Accessed July 2017].

[19] The four common reptile species, Adder (*Vipera berus*), Grass snake (*Natrix natrix*), Common lizard (*Zootoca vivipara*) and Slow worm (*Anguis fragilis*) are offered partial protection under section 9(5). The rarer UK reptile species (Smooth snake (*Coronella austriaca*) and Sand lizard (*Lacerta agilis*)) are partially protected under section 9(4)(b) and (c) and (5).

[23] Great crested newt, Natterjack toad and Common toad are listed as Species of Principal Importance in England in Section 41 of the NERC Act 2006 and under Section 7 of the Environment (Wales) Act (2016) http://www.legislation.gov.uk/ukpga/2006/16/contents.

				20	21,22			
Invertebrates		✓ [24](full/part)		✓	✓ 25,26	✓[27]		✓[28]
Fish		✓[29]		✓[9]	✓ 30,31	✓[32]		✓[33]

[20] Common frog (*Rana temporaria*), Common toad (*Bufo bufo*), Smooth newt (*Lissotriton vulgaris*) and Palmate newt (*Lissotriton helveticus*) are offered partial protection under section 9(5). Great crested newt (*Triturus cristatus*) and Natterjack toad (*Epidalea calamita*) are offered partial protection under section 9(4)(b) and (c) and (5). Pool frog (*Pelophylax lessonae*) is offered partial protection under section 9(4)(b) and (c)(1) only and with respect to England only.

[21] Great crested newt, Natterjack toad and Pool frog are the only amphibians to be designated European Protected Species.

[22] Great crested newt is the only amphibian listed on Annex II of the Habitats Directive.

[24] To view the current list of invertebrates that are protected under this Act either in part or full visit: http://www.legislation.gov.uk/ukpga/1981/69/schedule/5 [Accessed July 2017].

[25] The Large blue butterfly (*Maculinea arion*), Fisher's estuarine moth (*Gortyna borelii lunata*) and Lesser whirlpool ram's-horn snail (*Anisus vorticulus*) are the only invertebrates to be designated European Protected Species.

[26] There are currently twelve invertebrates listed in Annex II of the Habitats Directive; White-clawed crayfish (*Austropotamobius pallipes*), Southern damselfly (***Coenagrion mercuriale*****),** Marsh fritillary butterfly (***Eurodryas aurinia*****)**, Violet click beetle (***Limoniscus violaceus*****),** Stag beetle (***Lucanus cervus*****),** Freshwater pearl mussel (***Margaritifera margaritifera*****),** Narrow-mouthed whorl snail (***Vertigo angustior*****),** Round-mouthed whorl snail (***Vertigo genesii*****),** Geyer's whorl snail (***Vertigo geyeri*****),** Desmoulin's whorl snail (***Vertigo moulinsiana*****),** Lesser whirlpool ram's-horn snail (*Anisus vorticulus*) and Fisher's estuarine moth (*Gortyna borelii lunata*).

[27] There are currently 379 invertebrate species (not including marine species) listed as Species of Principal Importance in England http://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0ahUKEwivvu7J9trSAhXiCsAKHX4TBGcQFggvMAM&url=http%3A%2F%2Fpublications.naturalengland.org.uk%2Ffile%2F6518755878240256&usg=AFQjCNEpiUWYuOqhVcfSDvi_3iK2TJytfQ and 188 species in Wales http://www.eryri-npa.gov.uk/__data/assets/pdf_file/0003/486156/SpeciesList.pdf listed under Section 41 of the NERC Act 2006 and listed under Section 7 of the of the Environment (Wales) Act 2016. [Accessed July 2017]

[28] To view the current list of UK BAP priority invertebrates visit: http://jncc.defra.gov.uk/page-5169 [Accessed July 2017].

[29] To view the current list of fish either part or fully protected under the Act visit: http://www.legislation.gov.uk/ukpga/1981/69/schedule/5 [Accessed July 2017].

[30] Sturgeon (*Acipenser sturio*) is the only fish to be designated a European Protected Species.

[31] There are eight fish species listed on Annex II of the Habitats Directive. To view the current list visit: http://jncc.defra.gov.uk/page-1523 [Accessed July 2017].

[32] There are 35 species of fish listed as Species of Principal Importance in England listed under Section 41 of the NERC Act 2006 and 10 species in Wales listed under Section 7 of the Environment (Wales) Act 2016.

[33] To view the current list of UK BAP priority fish visit: http://jncc.defra.gov.uk/page-5164 [Accessed July 2017].

		(full/part)						
Plants			✓[34]	✓[9]	✓ 35,36	✓ 37		✓ 38

[34] To view the current list of Schedule 8 listed plants visit: http://www.legislation.gov.uk/ukpga/1981/69/schedule/8 [Accessed July 2017].
[35] There are nine plant species designated as European Protected Species. To view the current list visit: http://www.legislation.gov.uk/uksi/2010/490/schedule/5/made [Accessed July 2017].
[36] To view the current list of plant species on Annex II of the Habitats Directive visit: http://jncc.defra.gov.uk/page-1523 [Accessed July 2017].

[37] There are currently 152 vascular plants listed as Species of Principal Importance in England listed under Section 41 of the NERC Act 2006 and 77 species in Wales listed under Section 7 of the Environment (Wales) Act 2016.[31] To view the current list of UK BAP priority plants visit: http://jncc.defra.gov.uk/page-5171 and http://jncc.defra.gov.uk/page-5168 [Accessed July 2017].

[38] To view the current list of UK BAP priority plants visit: http://jncc.defra.gov.uk/page-5171 and http://jncc.defra.gov.uk/page-5168 [Accessed July 2017].

APPENDIX 2: SUMMARY OF ECOLOGICAL DESK STUDY

Protected and notable species (excluding birds and bats) for which records have been identified within 5 km of the Site

Species common name	Species Latin name	No. of records	Legal / Conservation Status[39]
Brown Hare	*Lepus europaeus*	*5*	*NERC* *UKBAP* *LBAP*
Harvest Mouse	*Micromys minutus*	*1*	*NERC* *UKBAP* *LBAP*
Eurasian Otter	*Lutra lutra*	*4*	*W&CA* *HabReg* *NERC* *UKBAP* *LBAP*
European Water vole	*Arvicola amphibius*	*22*	*W&CA* *UKBAP* *LBAP*
Polecat	*Mustela putorius*	*1*	*HabReg* *NERC* *UKBAP*
Grass Snake	*Natrix natrix*	*21*	*W&CA* *NERC* *UKBAP* *LBAP*
Common Frog	*Rana temporaria*	*11*	*W&CA*

[39] HabReg = Conservation of Habitats and Species Regulations (2010), W&CA = Wildlife and Countryside Act (1981), NERC = Schedule 41 Natural Environment and Rural Communities Act (2006), LBAP = Local Biodiversity Action Plan, RD1 (UK) = UK Red Data Book listing based on IUCN guidelines, RD2 (UK) = UK Red Data Book listing not based on IUCN guidelines (Nationally Rare and Scarce).

Species common name	Species Latin name	No. of records	Legal / Conservation Status[39]
Common Toad	*Bufo bufo*	*9*	*W&CA* *NERC* *UKBAP*
Great Crested Newt	*Triturus cristatus*	*27*	*W&CA* *HabReg* *NERC* *UKBAP* *LBAP*
Smooth Newt	*Lissotriton vulgaris*	*9*	*W&CA*
Bluebell	*Hyacinthoides nonscripta*	*7*	*W&CA*

Protected and notable birds for which records have been identified within 5 km of the Site

Species common name	Species Latin name	No. of records	Legal / Conservation Status[40]
Barn Owl	*Tyto alba*	*8*	*W&CA* *BoCC Amber* *LBAP*
Barn Swallow	*Hirundo rustica*	*2*	*BoCC Amber*
Black-Headed Gull	*Larus ridibundus*	*2*	*BoCC Amber*
Common Kestrel	*Falco tinnunculus*	*2*	*BoCC Amber*
Common Kingfisher	*Alcedo atthis*	*4*	*W&CA* *BoCC Amber*
Common Linnet	*Cardeulis cannabina*	3	*BoCC Red* *LBAP*

[40] HabReg = Conservation of Habitats and Species Regulations (2010), W&CA = Wildlife and Countryside Act (1981), NERC = Schedule 41 Natural Environment and Rural Communities Act (2006), LBAP = Local Biodiversity Action Plan, BoCC Red = Birds of Conservation Concern Red List, BoCC Amber = Birds of Conservation Amber List

Species common name	Species Latin name	No. of records	Legal / Conservation Status[40]
Common Starling	*Sturnus vulgaris*	4	*BoCC Red* *LBAP*
Corncrake	*Crex crex*	1	*BoCC Red* *NERC* *W&CA* *LBAP*
Cuckoo	*Cuculus canorus*	2	*NERC* *BoCc Red*
Curlew	*Numenius arquata*	11	*BoCC Amber* *LBAP* *NERC*
Dunnock	*Prunella modularis*	3	*BoCC Amber*
Eurasian Marsh Harrier	*Circus aeruginosus*	*2*	*W&CA* *BoCC Amber*
Eurasian Teal	*Anas crecca*	1	*BoCC Amber*
Eurasian Tree Sparrow	*Passer montanus*	2	*NERC* *BoCC Red* *LBAP*
Fieldfare	*Turdus pilaris*	2	*BoCC Red* *W&CA*
Gadwall	*Anas strepera*	*2*	*BoCC Amber*
Great Black-Backed Gull	*Larus marinus*	*1*	*BoCc Red*
Grey Partridge	*Perdix perdix*	*4*	*NERC* *BAP* *LBAP*
Grey Wagtail	*Motacilla cinerea*	*1*	*BoCc Amber*
Greylag Goose	*Anser anser*	*2*	*BoCC Amber* *W&CA*
House Martin	*Delichon urbicum*	2	*BoCc Amber*
Herring Gull	*Larus argentatus*	1	*BoCC Red*
Lapwing	*Vanellus vanellus*	*1*	*NERC* *BoCC Red*

Species common name	Species Latin name	No. of records	Legal / Conservation Status[40]
			LBAP
Lesser Black-Backed Gull	*Larus fuscus*	*2*	*BoCC Amber*
Lesser Redpoll	*Cardeulis cabaret*	*1*	*NERC* *BoCC Red*
Little Grebe	*Tachybaptus ruficolis*	*2*	*BoCC Amber*
Little Ringed Plover	*Charadrius dubius*	*1*	*BoCC Amber* *W&CA*
Mallard	*Anas platyrynchos*	4	*BoCC Amber*
Meadow Pipit	*Anthus pratensis*	4	*BoCC Amber*
Mediterranean Gull	*Larus melanocephalus*	*1*	*BoCC Amber* *W&CA*
Merlin	*Falco columbarius*	3	*BoCC Red* *W&CA*
Mistle Thrush	*Turdus viscivorus*	2	*BoCC Amber*
Nightjar	*Caprimulgus europaeus*	1	*BoCC Red* *NERC* *LBAP*
Oystercatcher	*Haematopus ostralegus*	3	*BoCC Amber*
Peregrine	*Falco peregrinus*	*2*	*W&CA*
Redshank	*Tringa totanus*	*1*	*BoCC Amber* *LBAP*
Redwing	*Turdus iliacus*	*2*	*W&CA* *BoCC Red*
Reedbunting	*Emberiza schoeniclus*	*5*	*NERC* *BoCc Amber*
Sand Martin	*Riparia Riparia*	*1*	*BoCC Amber*
Sandwich Tern	*Sterna sandvicensis*	*1*	*BoCC Amber*
Shoveler	*Anas clypeata*	*4*	*BoCC Amber* *LBAP*
Sky Lark	*Alauda arvensis*	*5*	*NERC*

Species common name	Species Latin name	No. of records	Legal / Conservation Status[40]
			LBAP *BoCC Red*
Song Thrush	*Turdus Philomelos*	*3*	*BoCc Red*
Snipe	*Gallinago gallinago*	*2*	*BoCC Amber* *LBAP*
Stock Dove	*Columba oenas*	*2*	
Woodcock	*Scolopax rusticola*	1	*BoCC Amber*
Willow tit	*Poecile montanus*	1	*BoCc Red*
Yellow Wagtail	*Motacilla flava*	*2*	*BoCC Red* *LBAP*
Yellowhammer	*Emberiza citrinella*	*5*	*NERC* *BoCC Red* *LBAP*

Protected and notable invertebrates for which records have been identified within 5 km of the Site

Species common name	Species Latin name	No. of records	Legal / Conservation Status[41]
Small Heath	*Coenonympha pamphilus*	*2*	*NERC* *UKBAP*
Wall	*Lasiommata pamphilus*	*1*	*NERC* *UKBAP*

[41] HabReg = Conservation of Habitats and Species Regulations (2010), W&CA = Wildlife and Countryside Act (1981), NERC = Schedule 41 Natural Environment and Rural Communities Act (2006), LBAP = Local Biodiversity Action Plan, RD1 (UK) = UK Red Data Book listing based on IUCN guidelines, RD2 (UK) = UK Red Data Book listing not based on IUCN guidelines (Nationally Rare and Scarce).

Bat records within 5 km of the Site

Species common name	Species Latin name	No. of records	Legal / Conservation Status[42]
Common Pipistrelle	*Pipistrellus pipistrellus*	*13*	*W&CA* *HabReg* *NERC* *UKBAP* *LBAP*
Daubenton's Bat	*Myotis daubentonii*	*2*	*W&CA* *HabReg* *NERC* *UKBAP* *LBAP*
Noctule	*Nyctalus noctula*	*5*	*W&CA* *HabReg* *NERC* *UKBAP* *LBAP*
Pipistrelle Bat	*Pipistrellus species*	*9*	*W&CA* *HabReg* *NERC* *UKBAP* *LBAP*
Soprano Pipistrelle	*Pipistrellus pygmaeus*	*3*	*W&CA* *HabReg* *NERC* *UKBAP* *LBAP*

[42] HabReg = Conservation of Habitats and Species Regulations (2010), W&CA = Wildlife and Countryside Act (1981), NERC = Schedule 41 Natural Environment and Rural Communities Act (2006), LBAP = Local Biodiversity Action Plan, RD1 (UK) = UK Red Data Book listing based on IUCN guidelines, RD2 (UK) = UK Red Data Book listing not based on IUCN guidelines (Nationally Rare and Scarce).

Species common name	Species Latin name	No. of records	Legal / Conservation Status[42]
Unidentified Myotid Bat	*Myotis species*	*5*	*W&CA* *HabReg* *NERC* *UKBAP* *LBAP*

APPENDIX 3: PHASE 1 PLANT SPECIES LIST

Plant species of habitats within the Power Station Site (Development Parcels A-H)

Common name	Latin name	Frequency (DAFOR)
Amenity Grassland		
Cock's foot	*Dactylis glomerata*	O
Dandelion	*Taraxacum officinale* agg.	A
Perennial rye-grass	*Lolium perenne*	F
Ribwort plantain	*Plantago lanceolata*	F
White clover	*Trifolium repens*	F
Broadleaved Semi-Natural Woodland		
Alder	*Alnus glutinosa*	O
Ash	*Fraxinus excelsior*	A
Blackthorn	*Prunus spinosa*	R
Broom	*Cytisus scoparius*	R
Common nettle	*Urtica dioica*	A
Dogwood	*Cornus sanguinea*	O
Elder	*Sambucus nigra*	O
Elm	*Ulmus* sp.	R
English oak	*Quercus robur*	R
Field maple	*Acer campestre*	R
Garlic mustard	*Alliaria petiolate*	R
Goosegrass	*Galium aparine*	F
Gorse	*Ulex europeaus*	O
Green alkanet	*Pentaglotis sempervirens*	O
Hawthorn	*Crataegus monogyna*	R
Hazel	*Coryllus avellana*	O
Ivy	*Hedera helix*	R
Lime	*Tillia* sp.	O
Prunus	*Prunus* sp.	O
Rose	*Rosa* sp.	A
Rosebay willowherb	*Chamerion angustifolium*	R
Silver birch	*Betula pendula*	A
Snowberry	*Symphoricarpos albus*	R

Common name	Latin name	Frequency (DAFOR)
Sycamore	*Acer pseudoplatanus*	R
Marsh/Marshy Grassland		
Common sedge	*Carex nigra*	F
False oat-grass	*Arrhenatherum elatius*	F
Great reedmace	*Typha latifolia*	F
Hard rush	*Juncus inflexus*	F
Soft rush	*Juncus effusus*	F
Spotted ladysthumb	*Persicaria maculosa*	F
Star sedge	*Carex echinata*	O
Yorkshire fog	*Holcus lanatus*	A
Semi-Improved Grassland		
Bindweed	*Calystegia* sp.	O
Bird's-foot trefoil	*Lotus corniculatus*	R
Bittersweet	*Solanum dulcamara*	R
Black medick	*Mediago lupulina*	R
Cock's-foot	*Dactylis glomerata*	O
Common bent grass	*Agrostis capillaris*	A
Common couch	*Elytrigia repens*	R
Common knapweed	*Centauria nigra*	O
Common mallow	*Malva sylvestris*	R
Creeping buttercup	*Ranunculus repens*	O
Creeping cinquefoil	*Potentilla reptans*	F
Daisy	*Bellis perennis*	F
Dandelion	*Taraxacum officinale* agg.	O
False oat-grass	*Arrhenatherum elatius*	A
Greater knapweed	*Centauria scabiosa*	R
Herb robert	*Geranium robertianum*	O
Hop trefoil	*Trifolium campestre*	R
Ivy	*Hedera helix*	A
Laburnum	*Laburnum* sp.	R
Lady's bedstraw	*Galium verum*	O
Lords-and-ladies	*Arum maculatum*	R
Melilot	*Melilotus* sp.	R

Common name	Latin name	Frequency (DAFOR)
Mugwort	*Artemesia vulgaris*	R
Perennial rye-grass	*Lolium perenne*	A
Perforated St. John's-wort	*Hyperisum perforatum*	R
Primrose	*Primula vulgaris*	O
Privet	*Ligustrum* sp.	O
Red clover	*Trifolium pratense*	R
Ribwort plantain	*Plantago lanceolata*	O
Silverweed	*Potentilla anserina*	F
Sycamore	*Acer pseudoplatanus*	A
Teasel	*Dipsacus fullonum*	R
Traveller's-joy	*Clematis vitalba*	O
Violet	*Viola* sp.	F
Viper's bugloss	*Echium vulgare*	R
Wall barley	*Hordeum murinum*	O
Weld	*Reseda luteola*	R
White campion	*Silene latifolia*	R
White clover	*Trifolium repens*	O
White dead-nettle	*Lamium alba*	R
Wild carrot	*Daucus carota*	R
Yarrow	*Achillea millefolium*	O
Yorkshire fog	*Holcus lanatus*	O
Scrub (dense)		
Blackthorn	*Prunus spinosa*	R
Bramble	*Rubus fruticosus* agg.	A
Common hogweed	*Heracleum sphondylium*	A
Common nettle	*Urtica dioica*	A
Hawthorn	*Crataegus monogyna*	A
Lesser burdock	*Arctium minus*	O
Rosebay willowherb	*Chamerion angustifolium*	O
Spear thistle	*Cirsium vulgare*	A
Tall Ruderal		
Barren brome	*Anisantha sterilis*	R
Broad-leaved dock	*Rumex obtusifolius*	O

Common name	Latin name	Frequency (DAFOR)
Comfrey	*Symphytum* sp.	R
Common hogweed	*Heracleum sphondylium*	O
Cow parsley	*Anthriscus sylvestris*	R
Creeping thistle	*Cirsium arvense*	O
Cut-leaved Crane's bill	*Geranium dissectum*	O
Greater willowherb	*Chamerion angustifolium*	R
Ground elder	*Aegopodium podagraria*	O
Gypsywort	*Lycopus europeaus*	F
Hawksbit	*Leontodon* sp.	R
Hedge bindweed	*Calystegia sepium*	R
Hedge mustard	*Sisymbrium officinale*	R
Lesser Burdock	*Arctium minus*	O
Meadowsweet	*Fillependula ulmaria*	R
Nettle	*Urtica dioica*	A
Spear thistle	*Cirsium vulgare*	R

Plant species of habitats within the Pipeline Study Area (Options 4 & 5)

Common name	Latin name	Frequency (DAFOR)
Broadleaved Semi-Natural Woodland		
Alder	*Alnus glutinosa*	R
Ash	*Fraxinus excelsior*	D
Elder	*Sambucus nigra*	F
Field maple	*Acer campestre*	A
Hawthorn	*Crataegus monogyna*	O
Poplar	*Populus* sp.	O
Scots pine	*Pinus sylvestris*	O
White willow	*Salix alba*	F
Wild cherry	*Prunus avium*	A
Dry ditch		
Ash	*Fraxinus excelsior*	R
Cock's foot	*Dactylis glomerata*	F
Common knapweed	*Centaurea nigra*	R
Common nettle	*Urtica dioica*	A
Common reed	*Phragmites australis*	D

Common name	Latin name	Frequency (DAFOR)
Creeping thistle	*Cirsium arvense*	O
Field bindweed	*Convolvulus arvensis*	R
Horsetail	*Equisetum* sp.	O
Rosebay willowherb	*Chamerion angustifolium*	O
White dead nettle	Lamium album	O
Hedgerow (species-rich)		
Apple	*Malus pumila*	R
Ash	*Fraxinus excelsior*	A
Blackthorn	*Prunus spinosa*	A
Crab apple	*Malus sylvestris*	R
Crack willow	*Salix fragilis*	D
Elder	*Sambucus nigra*	O
English oak	*Quercus robur*	O
Grey willow	*Salix cinerea* subsp. *cinerea*	O
Hawthorn	*Crataegus monogyna*	F
Osier	*Salix viminalis*	O
Prunus	*Prunus* sp.	A
Hedgerow (species-poor)		
Ash	*Fraxinus excelsior*	A
Field maple	*Acer campestre*	O
Hawthorn	*Crataegus monogyna*	O
Hazel	*Corylus avellana*	O
English Oak	*Quercus robur*	D
Rose	*Rosa* sp.	F
Sycamore	*Acer pseudoplatanus*	O
Improved Grassland		
Annual meadow-grass	*Poa annua*	R
Hairy bittercress	*Cardamine hirsuta*	O
Broad-leaved dock	*Rumex obtusifolius*	O
Common hogweed	*Heracleum sphondylium*	R
Common nettle	*Urtica dioica*	O
Cow parsley	*Anthriscus sylvestris*	O
Creeping bent	*Agrostis stolonifera*	O

Common name	Latin name	Frequency (DAFOR)
Creeping buttercup	*Ranunculus repens*	F
Creeping thistle	*Cirsium arvense*	O
Dandelion	*Taraxacum officinale* agg.	O
Dove's foot Crane's-bill	*Geranium molle*	O
False oat grass	*Arrhenatherum elatius*	F
Fescue	*Festuca* sp.	O
Horsetail	*Equisetum* sp.	R
Mouse ear	*Cerastium fontanum*	R
Oxeye daisy	*Leucanthemum vulgare*	O
Perennial rye-grass	*Lolium perenne*	A
Red clover	*Trifolium pratense*	A
Redshank	*Persicaria maculosa*	F
Ribwort plantain	*Plantago lanceolata*	O
Scented mayweed	*Matricaria chamomilla*	A
Vetch	*Vicia* sp.	O
White clover	*Trifolium repens*	A
Yorkshire fog	*Holcus lanatus*	D
Marginal Vegetation		
Common reed	*Phragmites australis*	A
Elder	*Sambucus nigra*	F
Himalayan balsam	*Impatiens glandulifera*	A
Osier	*Salix viminalis*	D
Mixed Semi-Natural Woodland		
Ash	*Alnus glutinosa*	A
Cypress	*Cupressus macrocarpa* x *leylandii*	A
English oak	*Quercus robur*	O
Sycamore	*Acer pseudoplatanus*	F
Scattered Trees (broadleaved)		
Ash	*Alnus glutinosa*	A
Field maple	*Acer campestre*	A
Grey willow	*Salix cinerea* subsp. *cinerea*	O
Hawthorn	*Crataegus monogyna*	A
Holly	*Ilex aquifolium*	R

Common name	Latin name	Frequency (DAFOR)
Pear	*Pyrus communis*	R
Poplar	*Populus* sp.	O
Prunus	*Prunus* sp.	F
Rowan	*Sorbus aucuparia*	R
Silver birch	*Betula pendula*	O
Sycamore	*Acer pseudoplatanus*	O
Scattered Trees (mixed)		
Blackthorn	*Prunus spinosa*	O
Cypress	*Cupressus macrocarpa* x *leylandii*	A
Hawthorn	*Crataegus monogyna*	F
Hazel	*Corylus avellana*	O
Holly	*Ilex aquifolium*	R
Pine	*Pinus* sp.	F
Rose	*Rosa* sp.	F
Silver birch	*Betula pendula*	O
White poplar	*Populus alba*	O
Scrub (dense)		
Bramble	*Rubus fruticosus* agg.	D
English oak	*Quercus robur*	O
Hawthorn	*Crataegus monogyna*	F
Standing Water (wet ditch)		
Cock's foot	*Dactylis glomerata*	D
Common hogweed	*Heracleum sphondylium*	A
Common knapweed	*Centaurea nigra*	R
Common nettle	*Urtica dioica*	F
Common ragwort	*Senecio jacobaea*	O
Foxglove	*Digitalis purpurea*	A
Meadowsweet	*Filipendula ulmaria*	O
Teasel	*Dipsacus fullonum*	O
Tall Ruderal		
Bramble	*Rubus fruticosus* agg.	O
Cock's foot	*Dactylis glomerata*	D
Common hogweed	*Heracleum sphondylium*	O

Common name	Latin name	Frequency (DAFOR)
Common nettle	*Urtica dioica*	D
Cow parsley	*Anthriscus sylvestris*	R
Creeping thistle	*Cirsium arvense*	A
White dead nettle	*Lamium album*	O

APPENDIX 4: PHASE 1 TARGET NOTES

Descriptions of Target Notes used on Phase 1 Habitat Maps

Target Note Number	Description
TN1	Invasive non-native species (Himalayan balsam)
TN2	Bird nest
TN3	Razor wire
TN4	Reptile hibernacula
TN5	Barn owl sighting
TN6	Water body
TN7	Invasive non-native species (Cotoneaster)
TN8	Building with low bat roost suitability
TN9	Brown hare moving through field
TN10	Raptor pellet and barn owl feather
TN11	Small mammal burrow
TN12	Otter spraints
TN13	National Grid substation

APPENDIX 5: PHOTOGRAPHS

Photographs of Habitats and Target Notes within the Power Station Site (Development Parcels A-H)

Photograph 1 – Marshy grassland in Development Parcel A

Photograph 2 – Standing water (wet ditch) in Development Parcel A

Photograph 3 – Improved grassland, arable field and broadleaved woodland in Development Parcel B

Photograph 4 – Scattered trees and hardstanding in Development Parcel C

Photograph 5 – Scrub habitat in Development Parcel E

Photograph 6 – Amenity grassland and introduced shrub in Development Parcel F

Photograph 7 – Himalayan balsam along the jetty in Development Parcel G	Photograph 8 – Amenity grassland and broadleaved woodland in Development Parcel H

Photographs of Habitats and Target Notes within Pipeline Study Area (Options 4 & 5)

Photograph 9 – Hedgerow and woodland in Options 4 & 5

Photograph 10 – Semi-natural broadleaved woodland in Options 4 & 5

Photograph 11 – Dry ditch and arable field in Option 4

Photograph 12 – Raptor pellet from Option 4

Photograph 13 – Scattered trees and ruderal habitat in Option 4

Photograph 14 – Scattered broadleaved trees in Option 5

Photograph 15 – Arable field in Option 5	Photograph 16 – Wet ditch and culvert in Option 5