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ECOLOGICAL ASSESSMENT OF THE BARTON TO BARROW PIPELINE, LINCOLNSHIRE

WAT-07706

FINAL

MARCH 2024

DOCUMENT CONTROL

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Affirmation. The information that we have provided is true and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm the opinions expressed are our true and professional bona fide opinions.

Serviceable life. The information provided within this report is valid for a maximum period of six months from the date of survey.

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EXECUTIVE SUMMARY

ESL (Ecological Services) Limited has been commissioned by Anglian Water Services Limited to undertake an ecological assessment of the route for the slip-lining of the Barton to Barrow raw water main.

A Preliminary Ecological Appraisal was originally undertaken on 30 May 2022, followed by an update survey in February 2024. The results of the assessment are summarised below:

- The proposed scheme will have no measurable adverse impact on any site with statutory or non-statutory protection for nature conservation.
- Appropriate precautionary measures will be implemented during the proposed works to ensure there are no significant adverse effects on nesting birds, bats and badgers.
- No further surveys are required prior to determination.

ECOLOGICAL ASSESSMENT OF THE BARTON TO BARROW PIPELINE ROUTE, LINCOLNSHIRE. WAT-07706.

1 INTRODUCTION

1.1 COMMISSION

1.1.1 ESL (Ecological Services) Limited (ESL) has been commissioned by Anglian Water Services Limited (AWS) to undertake an ecological assessment of a raw water pipeline route between Barton Water Site (WS) and Barrow Water Treatment Works (WTW). Due to the main being at risk of bursts, it is proposed the pipe be slip-lined with open-cut used to navigate corners.

1.1.2 The scheme is due to commence in the summer or autumn of 2024, taking approximately 12 weeks to complete.

1.2 SCHEME LOCATION AND CONTEXT

1.2.1 The pipeline route follows the highway and verges between the two compounds (Barton WS TA 03797 21098 and Barrow WTW TA 06022 20300) with connecting pipework required inside each of the compounds. The route is within an arable landscape, with Barton WS located at the south-eastern edge of Barton-upon-Humber.

1.3 OBJECTIVES

1.3.1 This report is intended to provide an objective assessment of the ecological features present or potentially present within the working footprint in relation to construction. Where the works could give rise to an adverse effect on an ecological feature (which may be habitats, communities, species or ecosystems and their functions or services), the report identifies the potential risks and sets out the necessary mitigation to be incorporated into the scheme design in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) guidance (CIEEM, 2018). The baseline conditions identify which ecological features are important by virtue of their scarcity, sensitivity or legal status. Features that are common, widespread, not threatened and/or are considered likely resilient to any project impacts are not assessed.

1.3.2 Species recorded for the scheme are referred to by their common names throughout the text with scientific names given at the first instance. Common and scientific names of higher plants are given according to Stace, 2010.

Avoiding/mitigating effects.

1.3.3 Where predicted effects are identified, appropriate measures are embedded into the scheme to mitigate them. The subsequent impact assessment takes into account the embedded

mitigation and its likely effectiveness. The recommendations made for this scheme adopt the mitigation hierarchy of avoid, minimise, mitigate, compensate.

1.3.4 Trees and hedgerows are addressed in a separate arboricultural report, which contains appropriate Root Protection Areas, fencing and other measures to be implemented as per the Arboricultural Impact Assessment. Trees and hedgerows are therefore not considered further in this report.

2 METHODOLOGY

2.1 DESK STUDY

2.1.1 The Natural England-managed Multi-Agency Geographic Information for the Countryside (MAGIC) and Joint Nature Conservation Committee (JNCC) websites were consulted to determine the presence and proximity of any sites with statutory protection for nature conservation, including Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR). AWS provided details of nearby, non-statutory sites of nature conservation interest and any relevant notable species records they hold for the local area via their service level agreement with the local records centre. The zone of influence was determined by considering the activities most often associated with this type of construction, which was then used in evaluating the proximity of any protected sites, notable species or habitats and the likelihood of any adverse effects arising as a result of the scheme.

2.2 PRELIMINARY ECOLOGICAL APPRAISAL

2.2.1 A Preliminary Ecological Appraisal (PEA) was originally undertaken on 30 May 2022 by experienced ESL ecologist Holly Bennett ACIEEM. A risk assessment was undertaken and a method statement prepared to identify any site-specific risks and implement safe-working procedures. A follow-up walkover to update the original survey information was undertaken on 23 February 2024.

2.2.2 The habitats within the survey area were assigned a classification type using the definitions given in the UKHab definitions document (UKHab, 2023). Dominant/notable species were recorded, together with current management; a search was also made for invasive plant species such as Japanese knotweed *Fallopia japonica* and Indian balsam *Impatiens glandulifera*. The scheme was assessed for its potential to support habitats and species of conservation importance; any field signs were recorded. This survey included the following scope of work:

- A search was made for suitable waterbodies within 250m of the working footprint that could support great crested newts *Triturus cristatus* (GCN) or other amphibians.

- All habitats were assessed for their potential to support reptiles, as per Beebee and Griffiths, 2000.
- Trees adjacent to the working footprint were inspected for Potential Roost Features (PRF) (Collins, 2023). Close-focusing binoculars and a powerful torch were used to inspect each tree for PRFs such as disused woodpecker holes, cracks and splits in boughs, delaminating bark and ivy-clad limbs. No buildings or structures will be impacted by the scheme.
- A search was made for signs of use by badgers *Meles meles*, including setts, tracks, footprints, dung pits and feeding signs (Harris *et al*., 1994).
- All habitats within the survey area were assessed for their suitability for use by breeding birds, including those listed on Schedule-1 of the Wildlife and Countryside Act 1981 (as amended).

2.2.3 The distribution of habitats and ecological constraints is illustrated on Figures 1 and 2.

2.3 SURVEY CONSTRAINTS

2.3.1 There were no constraints on the survey and the results are considered sufficiently robust to enable an assessment of any effects.

3 RESULTS

3.1 DESK STUDY

Designated sites.

3.1.1 The Humber Estuary SPA and Ramsar sites are 1.6km north of the pipeline. Water's Edge LNR also shares a boundary with these sites. There are five Local Wildlife Sites (LWS) within 2km of the pipeline route. The nearest is Beacon Hill Road Verge LWS, 870m west.

3.1.2 Due to the localised working footprint, temporary disturbance and short period of construction, it is considered reasonably unlikely that the scheme will result in an adverse effect on any site with statutory or non-statutory protection for nature conservation. A Habitats Regulations Assessment has been undertaken due to the proximity of the Humber Estuary SPA and Ramsar site.

Relevant species records.

3.1.3 The details of post-2000 notable species records for all sections are summarised in Table 1 below.

TABLE 1. PROTECTED AND NOTABLE SPECIES.

Species/Group	Protection	Location of records
Amphibians. Four records for common frog *Rana temporaria*, five records for common toad *Bufo bufo* and one for smooth newt *Lissotriton vulgaris*. No records for great crested newts in the data search nor on the MAGIC website.	EPS, S41, WCA.	Central Barton-upon-Humber and Water's Edge LNR.
Reptiles. No records.	WCA.	
Birds. 497 records for 40 species of which 15 are Schedule-1 (which includes redwing *Turdus iliacus*, fieldfare *Turdus pilaris, avocet Recurvirostra avosetta and black-tail godwit Limosa limosa*) and 19 are S41 species (which includes curlew *Numenius arquata*, lapwing *Vanellus vanellus*, linnet *Linaria cannabina*, yellowhammer *Emberiza citrinella* and house sparrow *Passer domesticus*).	WCA, S41.	Majority of wader and waterfowl records are from the former clay pits, which are now coastal nature reserves or wildfowlers pits. All others are from many locations within 2km of the working footprint.
Bats. Thirty-seven roost records for Daubenton's bat *Myotis daubentonii*, noctule bat *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, *Pipistrellus* sp. and unidentified bat. Field observation records are numerous for the above species plus *Myotis* sp. and common pipistrelle *Pipistrellus pipistrellus*.	EPS, S41.	All locations within 2km of the working footprint.
Badgers. Thirteen records, with the majority being road casualties.	Badgers Act.	All locations within 2km of the working footprint.
European hedgehog *Erinaceus europaeus.* Twenty-one records.	S41.	All locations within 2km of the working footprint.

Key: EPS - European Protected Species. S41 - Species of Principal Importance. WCA - Wildlife and Countryside Act, 1981 (as amended). Badgers Act - Protection of Badgers Act, 1992.

European Protected Species Licences.

3.1.4 One European Protected Species Licence (EPSL) for common pipistrelle was issued in 2015 for an unspecified site in Barton-upon-Humber.

3.2 PLANNING POLICY AND LEGISLATION

3.2.1 Implementing precautionary measures for the duration of the works will ensure the scheme minimises impacts on biodiversity, complies with the National Planning Policy Framework (NPPF) and does not contravene Core Strategy 17: Biodiversity of The North Lincolnshire Local Development Framework, adopted June 2011.

3.2.2 The legislation and planning policy referred to in this report, together with definitions of Priority Habitats and Priority Species, are given in Appendix 1.

3.3 PRELIMINARY ECOLOGICAL APPRAISAL

Habitats and plant communities.

3.3.1 The working footprint largely comprises the highway (Caistor Road) and associated verge. The verge along Caistor Road varies in width between 1m and 3m and has a UK Habitats classification of 'g4, Modified Grassland'. The most frequent species recorded along the verges include false oat-grass *Arrhenatherum elatius*, cock's-foot *Dactylis glomerata*, creeping thistle *Cirsium arvense*, cleavers *Galium aparine*, hogweed *Heracleum sphondylium* and cow parsley *Anthriscus sylvestris*. Also recorded was common knapweed *Centaurea nigra* and creeping buttercup *Ranunculus repens*. Where the verges are adjacent to hedgerows, they form the herbaceous vegetation within 2m of the boundary feature's centre and therefore qualify as part of the hedgerow (S41 and LBAP) priority habitats.

3.3.2 There are managed, hawthorn *Crataegus monogyna* dominated hedgerows (h2a) along the field boundaries adjacent to the route; all are 1.5m tall or higher. Other species recorded within the hedgerows include elder *Sambucus nigra* and field-rose *Rosa arvensis*.

3.3.3 The pipeline route along the track to Barrow WTW is also within the verge, therefore, slip-lining pits could encroach onto these areas, where required. The track is lined on both sides by mature trees with an understorey dominated by species associated with high nutrient levels such as cleavers, common nettle and hogweed. Other species recorded include garlic mustard *Alliaria petiolata* and wood avens *Geum urbanum*.

3.3.4 At the junction of the Barrow WTW track and Caistor Road, the pipeline route cuts through a corner of mixed scrub with species such as ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus*, field elm *Ulmus minor* and hawthorn and the same understorey as the track.

3.3.5 A temporary compound for the scheme is proposed to be set up in an arable field on the south side of Barton-upon-Humber. Access into this area has not yet been confirmed, however, it may be necessary to create a 6m entrance through the managed hawthorn hedgerow. There is an approximate 2.2m-wide field margin along the northern boundary and 1.2m-wide western field margin with common species cow parsley, common nettle, cleavers, common couch *Elytrigia repens* and bramble *Rubus fruticosus*.

3.3.6 Pipeline work within the WS and WTW is within hardstanding, with a small area of gravel to be used for some material storage in Barrow WTW.

3.3.6 To date, no nationally rare or nationally scarce plant species, defined by Wigginton (1999) or Stewart, Pearman and Preston (1994) respectively and no S41 Priority plant species has been recorded.

Protected species.

3.3.7 One pond (Pond 1) was identified within 250m of the pipeline route. eDNA sampling was survey was planned to take place during the PEA, however, the pond was dry. Pond 1 is located to the rear of a horse yard and a stable-hand reported the pond dries out annually.

3.3.8 No buildings will be impacted by the scheme with any buildings or structures adjacent to the works within the WS and WTW having low potential to support a bat roost. Several mature trees along the track to Barrow WTW supported PRFs such as ivy-cladding, fissures and semi-occluded rot holes. Landscape features such as hedgerows and tree-lines will provide suitable foraging and commuting habitat for bats.

3.3.9 A potential main sett with ten entrances is present along the track to Barrow WTW. It has expanded in size between the two surveys; six recently-used dung pits were recorded in February 2024.

3.3.10 Nesting opportunities for a range of common bird species are present within the adjacent hedgerows, trees and scrub. Suitable areas for ground-nesting birds such as skylark are limited due to the proximity of hedgerows, however, long vegetation at the base of hedgerows can be used by several bird species.

3.3.11 No invasive, non-native species were recorded in the survey area.

3.3.12 All other species have been scoped out of the assessment due to poor connectivity to the working footprint or the absence and unsuitability of the habitats present on or adjacent to the working footprint.

4 ASSESSMENT OF POTENTIAL EFFECTS

4.1 BATS

4.1.1 There will be no impacts to any tree highlighted as supporting PRFs. The use of artificial lighting when working in low-light or at night could cause disruption to foraging and commuting bats using adjacent habitats. Where possible, all works will be restricted to daylight hours. Should any night-working be necessary and artificial lighting be required, adjacent habitats (e.g., hedgerows or tree-lines) will be retained within ‘dark corridors’ to avoid disruptions to commuting and foraging bats.

4.1.2 With these protective measures in place, no significant adverse effects on bats are predicted.

4.2 NESTING BIRDS

4.2.1 Construction works may take place during the typical breeding bird season (March to August inclusive). Nesting bird checks have a short 'shelf-life'; they will be carefully timed, if required, so clearance works commence within two days of the survey taking place. Toolbox-talks will

be used to make site personnel aware that active nests for some species may also be found in atypical locations such as skips, vehicles etc. or be present outside the typical nesting season and that if any are found, ESL will be contacted in advance for advice on any works in their vicinity.

4.2.2 If any active nests are found, they will be cordoned off with hazard tape and relevant advice will be provided, including safe working distances or 'no work zones' and the period for which these restrictions will need to be implemented. An active nest is defined as being a nest that is in the process of being built, a nest with eggs or a nest with dependant young (unfledged chicks).

4.2.3 With these protective measures in place, no significant adverse effects on birds are predicted.

4.3 BADGERS

4.3.1 The pits will be placed 30m from any known sett entrance to avoid damage to sett structure and risk of injury or killing of badgers. As a precaution, the works along the access track will also take place and be completed during the licensable period for works in proximity to badger setts. Should the pipe lining snag and an excavation be required within 30m of a sett entrance, a licence and consultation with Natural England will likely be required. The period for licensable works is between July and November (inclusive).

4.3.2 A dense stand of bramble on a bund between Ch.350m and Ch.450m could not be fully surveyed. In February 2024, a badger dung pit was recorded adjacent to this stand. Currently, no slip-lining pit will be within 30m of this location and as a precaution, this will remain the case.

4.3.3 Other mitigation measures will be implemented for badgers throughout the duration of the scheme, which includes their addition to toolbox-talks for site personnel and checks in advance of and during works to establish if there are any new setts within 30m of the working footprint, including storage areas. Pits and trenches required for the works will be covered overnight or will include a means of escape such as a scaffold board or batter at one end. With these protective measures in place, no significant adverse effects on badgers are predicted.

5 FURTHER SURVEYS

5.1 No further surveys are required prior to determination. A site walkover will be undertaken prior to the commencement of work. In the unlikely event that any new constraints are identified, appropriate protective measures will be put in place accordingly.

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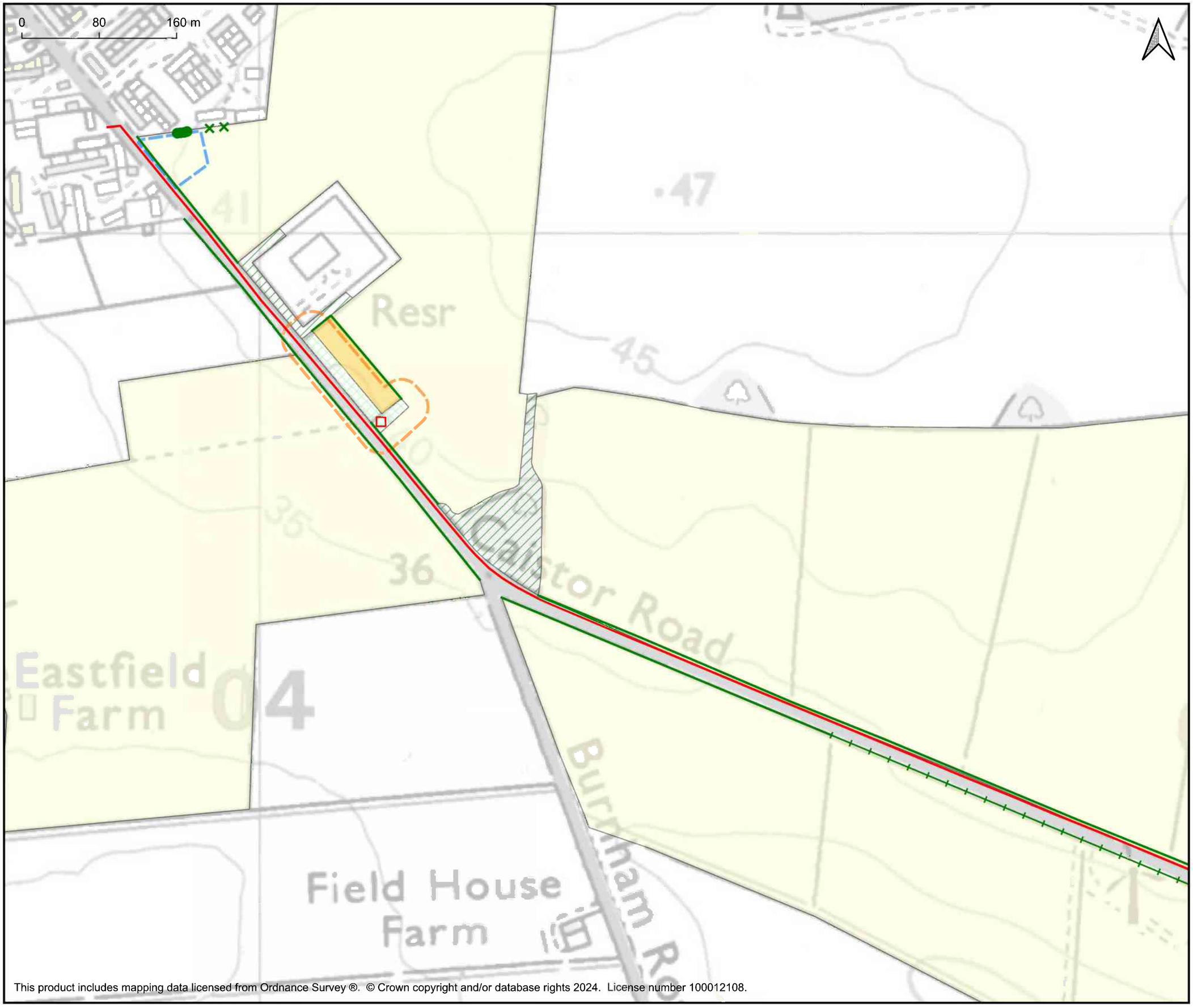
KEY

- Tree
- Scattered scrub
- Badger dung pit
- Site boundary
- Native hedgerow with trees
- Native hedgerow
- Cropland - crop
- Grassland - modified grassland
- Heathland and shrub - bramble scrub
- Woodland and forest - other woodland, broadleaved
- 20m no-dig zone
- Proposed site compund



CONFIDENTIAL

SITE NAME:
Barton-upon-Humber to Barrow-upon-Humber pipeline.

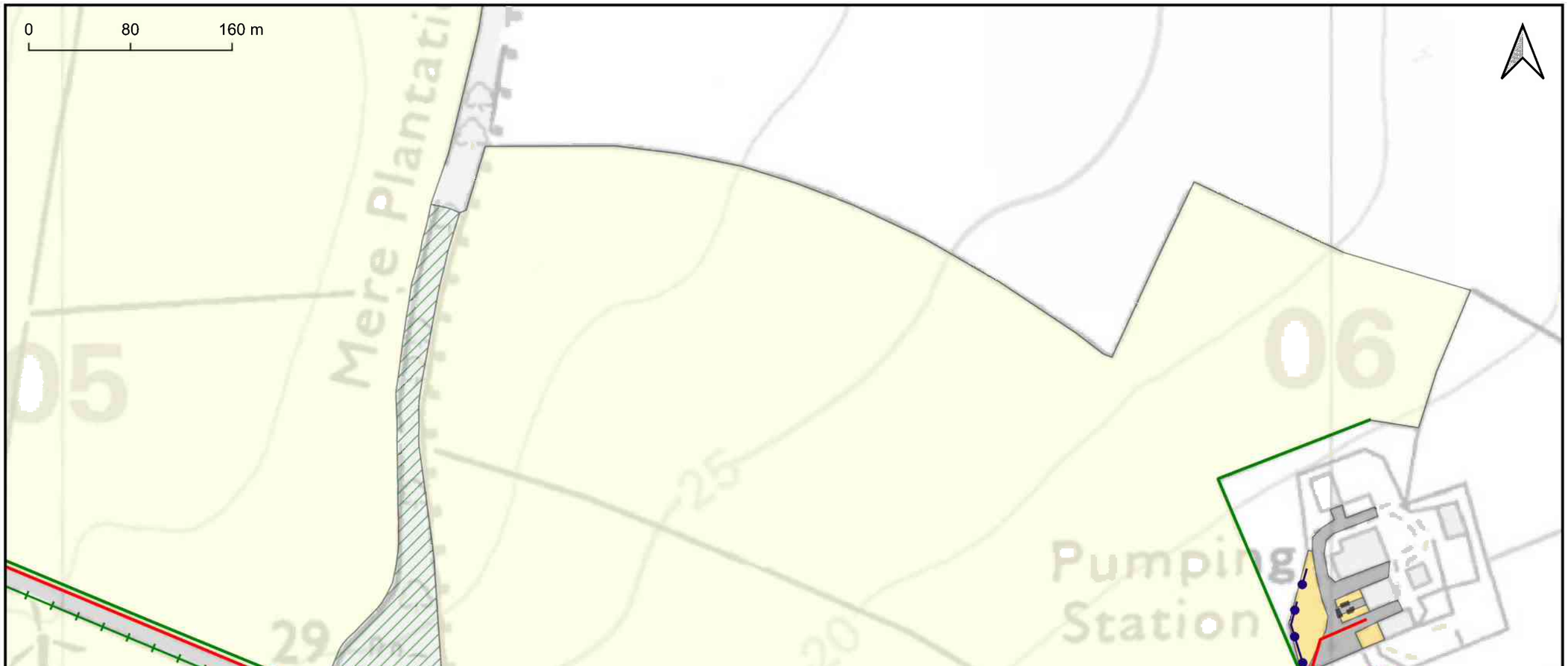
DRAWING TITLE:
Ecological constraints plan.

Figure 1-01
Dwg no.: AW458-L021-002 Date: Mar 2024

ESL (ecological services) limited

KEY

- Tree with potential to support roosting bats
- Active badger sett
- Badger dung pit
- Badger print
- Site boundary
- Native hedgerow with trees
- Native hedgerow
- Line of trees (ecologically valuable)
- Line of trees
- Cropland - crop
- Grassland - modified grassland
- Heathland and shrub - mixed scrub
- Lake - pond (non-priority habitat)
- Urban - developed land, sealed surface
- Woodland and forest - other woodland, broadleaved
- 30m buffer to badger sett
- Materials storage



CONFIDENTIAL

SITE NAME:
Barton-upon-Humber to Barrow-upon-Humber pipeline.

DRAWING TITLE:
Ecological constraints plan.

Figure 1-02
Dwg no.: AW458-L021-002 Date: Mar 2024

esl (ecological services) limited

KEY

- Location of bee orchid
- Fence
- Line of trees
- Hedgerow - ornamental non-native
- Grassland - modified grassland
- Urban - building
- Urban - developed land, sealed surface

SITE NAME:
Barton-upon-Humber to Barrow-upon-Humber pipeline.

DRAWING TITLE:
Ecological constraints plan.

Figure 2
Dwg no.: AW458-L021-003 Date: Mar 2024

esl
(ecological services) limited

APPENDIX 1

LEGISLATION, PLANNING POLICY AND DEFINITION OF PRIORITY HABITATS AND PRIORITY SPECIES

1 LEGISLATION AND PLANNING POLICY

1.1 The ecological assessment is underpinned by a range of legislation and policy guidance at a European, national and local level that includes:

- The NPPF (2023).
- ODPM Circular 06/2005 (retained as Technical Guidance on NPPF, 2023).
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
- The Wildlife and Countryside Act 1981 (as amended), in particular by The Countryside and Rights of Way Act 2000.
- The Protection of Badgers Act 1992.
- The Natural Environment and Rural Communities Act 2006.
- The North Lincolnshire Local Development Framework, adopted June 2011.

1.2 Under the NPPF, the presence of any protected species is a material planning consideration. The NPPF states that impacts arising from development proposals must be avoided where possible or adequately mitigated/compensated for and that opportunities for ecological enhancement should be sought.

2 DEFINITION OF PRIORITY HABITATS AND PRIORITY SPECIES

2.1 In accordance with CIEEM guidance, a combination of desk study results, previous survey information and a recent site walkover has been used to identify important ecological features associated with the scheme. These features, identified by virtue of their scarcity, sensitivity or legal status, are collectively referred to as being Priority Habitats or Priority Species. For the purpose of this report, a Priority Habitat or Priority Species is defined as:

- One having statutory protection under European or UK legislation.
- A Habitat or Species of Principal Importance listed in accordance with Section 41 of the Natural Environment and Rural Communities Act 2006 (formerly UK BAP species).
- A species listed in the Vascular Plant Red List for England (Stroh *et al.,* 2014).
- A species listed as a Bird of Conservation Concern (Eaton *et al.*, 2015).

2.2 Those habitats and species that are sufficiently common, widespread or are reasonably unlikely to occur, do not qualify as a 'Priority'. Where they do and they are either unlikely to be affected and/or are resilient to any development impacts, they have been scoped out of the assessment at this stage. This situation will be reviewed in light of additional information.