Preliminary Ecological Appraisal Report

Hunshelf BESS, Hunshelf

Reference:80-863-R1-1

Date: June 2022

PRELIMINARY ECOLOGICAL APPRAISAL REPORT

Hunshelf BESS
Hunshelf

Prepared for:
PWA Planning

Report Ref: 80-863-R1-1
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E3P

Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

+ 44 (0) 161 707 9612
https://e3p.co.uk/

Registered in England
CRN: 08725262

QUALITY ASSURANCE

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PREPARED BY	O. Mckechnie		
QUALIFICATIONS	BSc (Hons), QCIEEM, Project Manager-Ecology		
CHECKED BY	L. Thomas		
QUALIFICATIONS	BSc (Hons), QCIEEM, Consultant Ecologist		
AUTHORISED BY	C. Barlow		
QUALIFICATIONS	BSc (Hons), MSc, MIEnvSc, CEnv, MCIEEM, Associate Director		

EXECUTIVE SUMMARY

Site Address	Land off Tofts Lane, Hunshelf, Sheffield, S36 8WR
Coordinates	E 426248, N 400017
Site Area	Approximately 0.7 ha
Current Site Use and Adjacent Site Use	The site comprised a grazed grassland field bound by drystone walls to the north, west and south. The grazed grassland field continued off-site to the north-east, with an electrical substation to the south-east. Tofts Lane formed the northern site boundary, with agricultural fields surrounding the site to the north, west and south.
Designated Sites	The site is located within the impact risk zone of Spring Meadows, Alderman's Head and Cow Croft Meadows Site of Special Scientific Interest (SSSI), Dark Peak SSSI, which forms part of Park District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA) and Special Area of Conservation (SAC), and Pye Flatts Meadows SSSI. No impacts on designated sites are anticipated as a result of development, based on their distance from the site and the small scale of the development. Furthermore, consultation with MAGIC identified that the proposed development does not meet the requirements that would justify further consultation with Natural England for the development to proceed. Two Local Wildlife Sites (LWSs) were located within the 1 km search area. It is deemed highly unlikely that the development will have an impact on the LWSs due to the small size of the site and the low impact of the development.
Survey Results	The site was found to comprise an improved grassland field, three drystone walls and a poor semi-improved grassland road verge. The site was found to have the following potential ecological constraints: • Wall 1 (W1), Wall 2 (W2) and Wall 3 (W3) were found to provide suitable habitat for nesting birds and common amphibians. • Field horsetail was identified on the roadside verge on the northern site boundary. • Badger, hedgehog and brown hare are anticipated to be present within the surrounding area.
Conclusions	No further surveys are recommended to inform a planning application. The following mitigation is recommended: • If any part of W1, W2 or W3 requires removal, it should be removed outside of the breeding bird season (March to September inclusive). If this is not possible, a nesting bird check should be undertaken by a suitably qualified ecologist no more than 24 hours before works commence. If a nest, or nest in construction, is located, then a stand-off distance should be maintained until the young have fledged.

	• Precautionary Working Methods for badger. Including an updated Badger Walkover of the site immediately prior to the start on-site. • Any common amphibians or hedgehogs encountered should be carefully moved by hand to a safe area away from construction activities. • It is not a legal requirement to remove field horsetail however its removal is advised due to its effects on hardstanding. • Brown hare may be present in the fields immediately adjacent to the site. As such, if any works are proposed to the boundary drystone walls during breeding season (March-September, inclusive), a check for young hare should be completed immediately prior to the start of the works. A gain in biodiversity will likely be required on-site. If this cannot be achieved on-site, a conservation offset payment, or off-site compensation may be required.

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1. INTRODUCTION

1.1. BACKGROUND

E3P were commissioned by PWA Planning to undertake a Preliminary Ecological Appraisal at Hunshelf BESS, Hunshelf, hereafter referred to as "the site".

This report has been produced by Olivia Mckechnie BSc (Hons) who holds a Class 1 Natural England bat and great crested newt licence and a qualifying CIEEM membership. Olivia has experience undertaking Preliminary Ecological Appraisals, protected species surveys and ecological mitigation for a wide variety of projects across the UK.

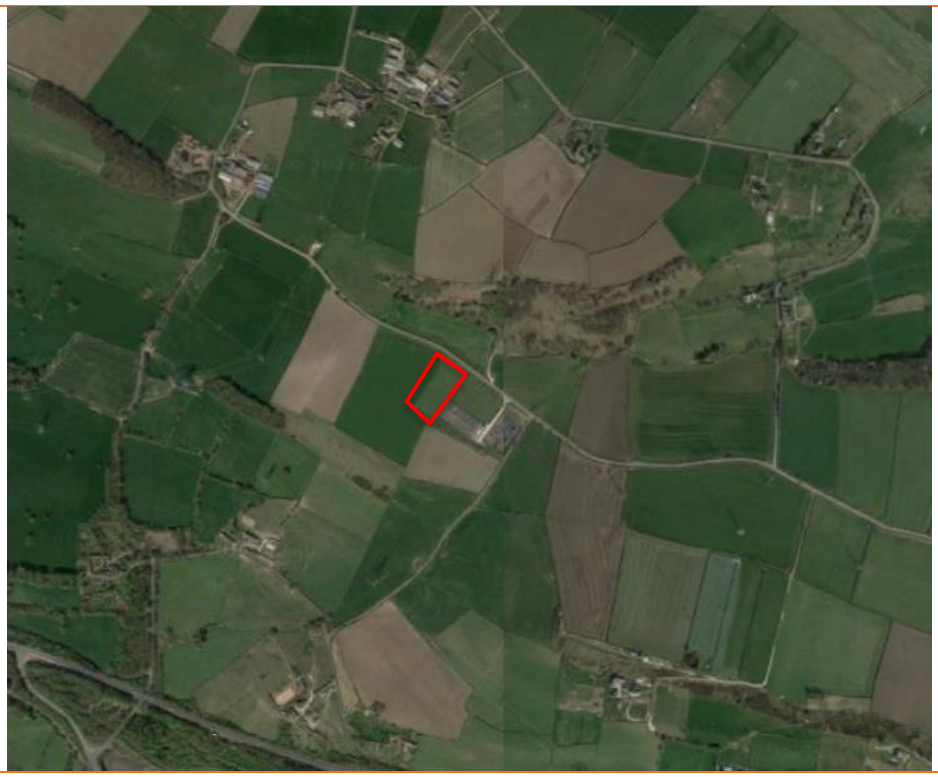
1.2. PROPOSED DEVELOPMENT

Development proposals include the construction of a battery storage facility on-site.

1.3. SITE LOCATION

The site is located in the agricultural area of Hunshelf, north-west of Sheffield. Tofts Lane defines the northern site boundary, with Dean Brook located approximately 100 m north-east of the site. A substation is located to the east of the site, with agricultural land surrounding the site on all other aspects. Please refer to Figure 1.1 for the approximate site location.

FIGURE 1.1 APPROXIMATE SITE LOCATION



1.4. OBJECTIVES

The objectives of the Preliminary Ecological Appraisal are as follows:

- Identify the major habitats present.
- Ascertain the presence or potential presence of any legally protected species and habitats.
- Recommend any further surveys or mitigation that may be required.

The Preliminary Ecological Appraisal comprises a desk study and site walkover. This survey has been completed as a baseline assessment of the site, and as such please see the end of the report for further surveys and mitigation proposed.

2. METHODOLOGY

2.1. DESKTOP STUDY

The following sources of information and ecological records were consulted:

- MAGIC – A web-based interactive mapping system, on which geographic information regarding key environmental schemes and designations are collated, including details of statutory conservation sites, consulted in June 2022.
- Aerial mapping and ordinance survey maps.
- Local data records, including Sheffield Biological Records Centre (SBRC) – The Biodiversity Information System for Sheffield, received on 10th June 2022.

A 1 km search area was utilised for the data search, with this being deemed an appropriate distance for the zone of influence of the site, due to the size of the site and the surrounding agricultural habitat.

The data search included a request for details of protected and notable species of flora and fauna within 1 km of the central grid reference of the site. In addition, a request was made for any non-statutory designated sites within 1 km of the site boundary.

Please note that a lack of up-to-date records does not confirm absence of a species from the area. Lack of records may simply be a result of a lack of protected species surveys being undertaken within the local area.

2.2. VEGETATION AND HABITATS

A Preliminary Ecological Appraisal of the proposed development site was undertaken by Olivia Mckechnie on 07th June 2022. The weather was warm and dry.

The walkover survey was undertaken to the standard methodology as detailed by the JNCC Handbook for Phase 1 Habitat Survey, 2010. The assessment follows the methodology as per “Guidelines for Preliminary Ecological Appraisal” (CIEEM, 2017).

A vegetation and habitat plan has been produced for the proposed development site and the immediate surrounding area (please refer to Appendix I). The mapping is based on the Joint Nature Conservation Committee Phase I Habitat Survey Methodology (JNCC, 2010).

Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act 1981 (as amended) and species which are indicators of important and uncommon plant communities. All plant nomenclature follows Stace (2019).

Searches were carried out for the presence of invasive species, including those listed on the revised (April 2010) Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) including but not limited to, Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*).

2.3. FAUNA

A thorough search of the site for signs of protected species of fauna was undertaken during the site walkover. These searches considered the following:

- Suitability of any ponds to support notable amphibians, and the suitability of the site's terrestrial habitats to support amphibians.
- Suitability of the site to support reptiles by way of habitat structure and refuge piles, as well as links to the wider landscape.
- Signs of badgers (*Meles meles*), by way of setts, mammal paths, foraging signs or latrines to indicate usage of the site by the species.
- Search of any watercourses for signs or suitability for water vole (*Arvicola amphibious*) and otter (*Lutra lutra*) by way of burrows, resting places, holts and foraging signs.
- Suitability of the site to support roosting, foraging and commuting bats.
- Suitability of the site to support notable bird species.
- Suitability of the site to support notable invertebrates.
- Search of the site for any invasive species.

2.4. PRELIMINARY ROOST ASSESSMENT

The Preliminary Roost Assessment (PRA) was undertaken by Olivia Mckechnie on 07th June 2022. Olivia holds a valid Natural England Class 1 Survey Licence (2020-44631-CLS-CLS).

The survey involved undertaking a systematic search of the walls, searching for signs of bats, or spaces where bats would be able to access. The methodology followed that described in Bat Surveys for Professional Ecologists, 3rd Edition (Collins, 2016). The walls were categorised for their bat roosting potential as described in Table 2.1 in accordance with Collins (2016).

TABLE 2.1 BAT ROOSTING POTENTIAL CLASSIFICATION OF STRUCTURES

CATEGORY	DESCRIPTION
NEGLIGIBLE	A structure with no roosting features present.
LOW	A structure with one or more potential roost site. However, the potential roost sites do not provide suitability for large numbers of bats (i.e. for maternity or hibernation) and would only be used on an occasional basis.
MODERATE	A structure with one or more potential roosting feature which could support bats but is of a suitability meaning that it would be unlikely to support a roost of high conservation status.
HIGH	A structure with several potential roosting features which could support large number of bats on a regular basis and for longer periods of time. The structure would have suitability to support maternity or hibernation roosts.

The survey was undertaken utilising suitable binoculars and ladders to access all areas where safe to do so.

2.5. SURVEY LIMITATIONS

A Preliminary Ecological Appraisal does not constitute a full botanical survey. Instead, key species are identified to give a representative description of each habitat type.

This survey was undertaken in June, which is an appropriate time of year to undertake ecological surveys. However, due to differing flowering times, it is possible that some species of flora may have been missed or misidentified. It is possible that some invasive/non-native species could have been missed during the survey. Due to the habitats present on-site, this is not considered to be a major constraint.

A survey within 30 m of the site for evidence of badger was unable to be carried out to the south-east due to restricted access associated with the substation. However, due to the developed nature of the substation, this is not thought to pose a major constraint.

3. SURVEY RESULTS

3.1. SITE CONTEXT

The site comprised a sheep-grazed grassland field, of limited value to local wildlife. The habitats surrounding the site comprise similar agricultural land and a substation, also of limited ecological value. Some hedgerows, treelines and woodland copses dissect the agricultural land, and may form commuting and foraging features for local wildlife, or nesting and roosting habitat for birds and bats.

An area of ancient semi-natural woodland is located approximately 110 m north-east of the site. This habitat may provide unique assemblages of invertebrates and fungi and in turn attract specialist birds and terrestrial mammals.

Dean Brook is located approximately 100 m north-east of the site, which then flows into the River Don located approximately 1.3 km north-east of the site. The brook is situated adjacent to the ancient woodland and is anticipated to act as a commuting and foraging feature for local wildlife, especially for those that specialise in feeding over water such as Daubenton's bat (*Myotis daubentonii*). In addition, Underbank Reservoir is located approximately 1 km south-west of the site and may also form a key aquatic feature for local wildlife.

No waterbodies were identified within 250 m of the site boundary.

3.2. DESIGNATED SITES

The site is located within the impact risk zone of the following Site of Special Scientific Interest (SSSI):

- Spring Meadows, Alderman's Head and Cow Croft Meadows SSSI, located approximately 3.1 km east of the site. The SSSI comprises a complex of eleven hay meadows traditionally managed for many years through late summer hay-making. The SSSI is nationally important for its areas of species-rich unimproved neutral grassland, comprising a fairly wet assemblage of grasses and herbs characterised by crested dog's tail (*Cynosurus cristatus*) and common knapweed (*Centaurea nigra*). The SSSI provides the largest and finest example of traditionally managed unimproved neutral hay meadows in South Yorkshire.

- Dark Peak SSSI, which forms part of Park District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA) and Special Area of Conservation (SAC) is located approximately 3.2 km south-west of the site boundary. The SSSI forms a wild, open and more or less continuous moorland, predominantly at an altitude of 400–600 m. Blanket peat stretches the length and breadth of the Dark Peak with natural breaks only on the steep slopes. The Dark Peak moorlands support the full range of breeding birds found in the South Pennines, some of which are represented at their southern most viable English locations. The moorland breeding bird assemblage is of great regional and national importance. It includes internationally important populations of several species, listed in the European Commission Birds Directive as requiring special conservation measures. Nationally important breeding populations of golden plover (*Pluvialis apricaria*) (1.7% of the British population) and dunlin (*Calidris alpina)* (0.9% of the British population) are present, as well as very significant numbers of meadow pipit (*Anthus pratensis*).

- Pye Flatts Meadows SSSI is located approximately 5.2 km north-east of the site. The three meadows present at the SSSI are established on loamy brown earths overlying the sandstone, coal seams and ironstone bands of the Lower Coal Measures. They contain a uniform and mature stand of neutral haymeadow grassland, the best of a number of known scattered examples in the locality. The diverse list of plant species suggests the present plant cover is a product of a long period of consistent traditional agricultural management.

The following Local Wildlife Sites (LWS) were located within the 1 km search area:

- Hunshelf Bank LWS is located approximately 520 m south-east of the site, comprising a strip of unmanaged grassland and scrub on a steep embankment and rock outcrop.
- Steel Valley Walk LWS is located approximately 640 m south of the site, comprising broadleaved woodland adjacent to Underbank Reservoir.

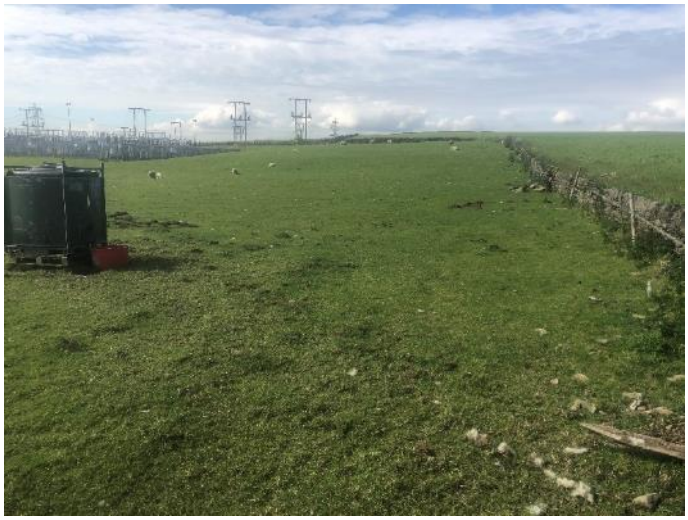
3.3. HABITATS

The main habitats encountered during the survey are described in the following subsections. Please refer to Appendix I for the Phase 1 Habitat Plan.

3.3.1. IMPROVED GRASSLAND

The site comprised one sheep-grazed improved grassland field. The grass was grazed to a short length making grass species identification more challenging. Species present included common nettle (*Urtica dioica*), spear thistle (*Cirsium vulgare*), Yorkshire fog (*Holcus lanatus*), false oat grass (*Arrhenatherum elatius*), broad-leaved dock (*Rumex obtusifolius*), daisy (*Bellis perennis*), cock's foot (*Dactylus glomerata*), clover species (*Trifolium sp.),* dandelion (*Taraxacum officinale agg.*), creeping buttercup (*Ranunculus repens*) and rush species (*Juncus sp.*).

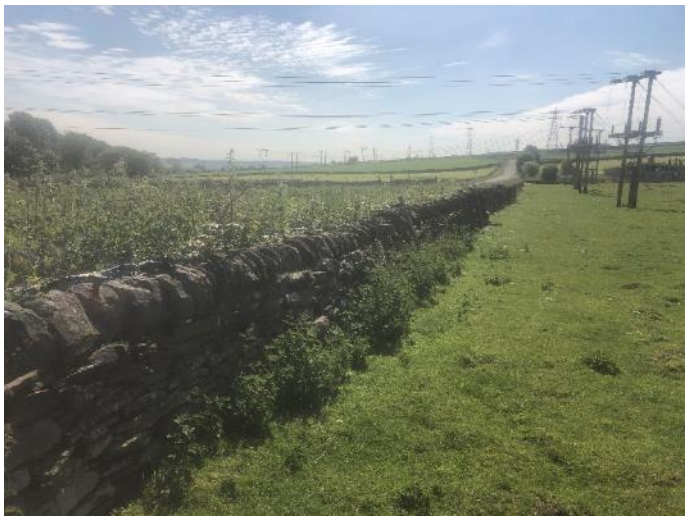
PLATE 1 SHOWING IMPROVED GRASSLAND



3.3.2. WALLS

The site was bound to the north, west and south by drystone walls, Wall 1 (W1) to Wall 3 (W3). A description of the walls can be found in Appendix II.

PLATE 2 SHOWING DRYSTONE WALL



3.3.3. POOR SEMI-IMPROVED GRASSLAND

A poor semi-improved grassland road verge was present on the northern site boundary, between W1 and Tofts road. Species present included those listed for the improved grassland field, with the addition of bramble (*Rubus fruticosus agg.*), hogweed (*Heracleum sphondylium*) and common ragwort (*Jacobaea vulgaris*). Invasive plant species, Field horsetail (*Equisetum arvense*), was also identified within the semi-improved grassland.

PLATE 3 SHOWING SEMI-IMPROVED GRASSLAND VERGE

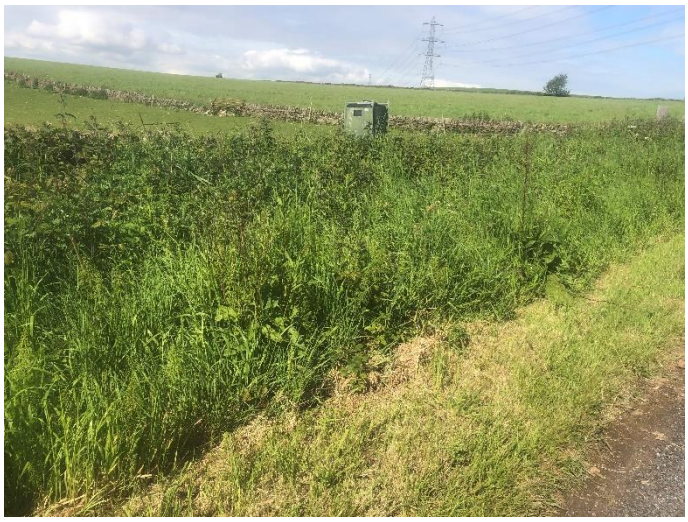
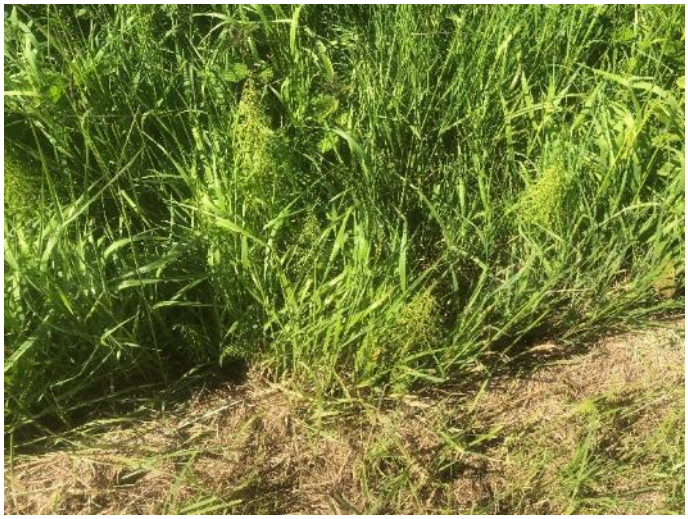


PLATE 4 SHOWING FIELD HORSETAIL ON NORTHERN BOUNDARY



3.4. PROTECTED AND NOTABLE SPECIES

3.4.1. SPECIES DISCOUNTED FROM ASSESSMENT

White-clawed crayfish (*Austropotamobius pallipes*) have been discounted from assessment as no suitable aquatic habitats were located on-site or within proximity to the site.

Hazel Dormouse (*Muscardinus avellanarius*) mainly occur in southern counties, especially in Devon, Somerset, Sussex and Kent. There are few recorded localities north of the Midlands, though they are present in parts of the Lake District and in scattered Welsh localities (Matthews et al, 2018). The species are not generally known to be present within the Hunshelf area and as such, the species are reasonably discounted from assessment.

3.4.2. AMPHIBIANS

Consultation with SBRC did not identify any records of great crested newt (*Triturus cristatus*) within the 1 km search area. Consultation with MAGIC did not identify any great crested newt European Protected Species Licences within the 1 km search area. The closest licence was located approximately 6.2 km north-west of the site, effective in 2009 for the destruction of a great crested newt resting and breeding place.

Great crested newts' upper dispersal limit is generally considered to be up to 250 m from a waterbody (though occurrence of greater distances does exist where habitat connectivity is of high quality) (English Nature, 2001). As such, the presence of great crested newts on-site is reasonably discounted as no waterbodies were located on-site or within 250 m of the site.

Consultation with SBRC identified a historic record of common frog (*Rana temporaria*) at Hunshelf Bank LWS and a historic record of common toad (*Bufo bufo*) at Underbank Reservoir. Specific locations of the records were not provided.

Due to the short height of the improved grassland, the site will provide limited habitat for common amphibians. The boundary drystone walls and poor semi-improved grassland verge may however provide suitable cover for the species group.

3.4.3. BATS

One record of a brown long eared (*Plecotus auritus*) was located approximately 1 km south-west of the site during the data search, at Unsliven Bridge Farm.

Consultation with MAGIC Mapping did not identify the presence of a Natural England Bat Mitigation Licence within the 1 km search area. The closest licence was located approximately 1.2 km south-west of the site boundary associated with a residential area adjacent to Underbank Reservoir. The licence was active between 2016 and 2017 for the destruction of a soprano pipistrelle (*Pipistrellus pygmaeus*), common pipistrelle (*Pipistrellus pipistrellus*), brown long-eared and whiskered (*Myotis mystacinus*) non-breeding roost.

During the site survey, an inspection of the boundary drystone walls was undertaken as per guidance set out in Collins (2016), to assess the features for their suitability to support roosting bats. All on-site walls were found to have Negligible bat roosting potential, as no suitable Potential Roosting Features were identified. A detailed description of the walls and associated Preliminary Roost Assessment can be found in Appendix II.

As the site comprised an improved grassland field with limited floristic diversity, it is anticipated to have limited value for commuting and foraging bats. Local bat populations are anticipated to favour higher value habitats in the landscape, such as Dean Brook, and adjacent ancient woodland, approximately 100 m north-east of the site.

3.4.4. BADGERS

Numerous records of badger were located within the 1 km search area. A search for signs of badger could not be completed within the 30 m buffer to the south-east due to restricted access associated with the substation. However, due to the developed nature of the substation, this is not thought to pose a major constraint.

The site provides some sett building and foraging habitat for the species along the site boundaries, however, no badger setts or signs of badger were located during the survey on-site or within the 30 m site buffer, where access was possible. The wider landscape surrounding the site was assessed as having suitability for the species, due to the presence of agricultural land with broadleaved woodland copses and hedgerows. As such, badger may be present in the surrounding area, but no setts are currently present on-site.

3.4.5. OTHER TERRESTRIAL MAMMALS

Two recent and one historic record of European hedgehog (*Erinaceus europaeus*) were located within 1 km of the site boundary, the closest of which was located approximately 900 m south-west adjacent to Underbank Reservoir. The surrounding landscape provides suitable habitat for the species, and hedgehog may be present in the grassland fields that border the site to the west and south. The main area of the site is anticipated to have limited value for the species due to the short grass height providing limited cover and foraging resources.

Following consultation with SBRC, numerous records of brown hare (*Lepus europaeus*) were identified within the 1 km search area. The closest of which was located approximately 90 m west of the site of a juvenile running along Tofts Lane. The surrounding area provides suitable habitat for the species through the presence of agricultural field margins and woodland copses. As such, brown hare may be present in the grassland fields immediately adjacent to the west and south of the site.

3.4.6. NESTING BIRDS

Consultation with SBRC identified numerous records of notable birds within the search area, including bullfinch (*Pyrrhula pyrrhula*), cuckoo (Cuculus canorus), curlew (*Numenius arquata*), dunlin (*Calidris alpina*), dunnock (*Prunella modularis)*, fieldfare (*Turdus pilaris*), golden plover (*Pluvialis apricaria*), green woodpecker (*Picus viridis*), grey partridge (*Perdix perdix*), grey wagtail (*Motacilla cinerea*), greylag goose (*Anser anser*), herring gull (*Larus argentatus*), house martin (*Delichon urbicum*), house sparrow (*Passer domesticus*), kestrel (*Falco tinnunculus*), lapwing (*Vanellus vanellus*), lesser black-backed gull (L*arus fuscus*), meadow pipit (*Anthus pratensis*), mistle thrush (*Turdus viscivorus*), quail (*Coturnix coturnix*), redwing (*Turdus iliacus*), reed bunting (*Emberiza schoeniclus*), rook (*Corvus frugilegus*), skylark (*Alauda arvensis*), snipe (*Gallinago gallinago*), song thrush (*Turdus philomelos*), starling (*Sturnus vulgaris*), stock dove (Columba oenas), swallow (*Hirundo rustica*), swift (*Apus apus*), tree sparrow (*Passer montanus*), wheatear (*Oenanthe oenanthe*), whinchat (*Saxicola rubetra*), whitethroat (*Sylvia communis*), willow warble (*Phylloscopus trochilus*), woodpigeon (*Columba palumbus*), wren (*Troglodytes troglodytes*), yellow wagtail (*Motacilla flava*) and yellowhammer (*Emberiza citrinella*).

During the site walkover, a house sparrow was seen on W1 and a blackbird (*Turdus merula*) was seen flying over the site.

The habitats within the site are common within the local area and are anticipated to support nesting common bird species within the crevices in W1, W2 and W3.

The site is assessed as having negligible value for ground-nesting birds due to the enclosed nature of the site from the boundary walls and substation, which would not provide any cover from perching predators. In addition, there would be a high level of disturbance caused by the grazing sheep present on-site.

3.4.7. REPTILES

No records of reptiles were identified within the 1 km search area. The site was found to provide limited value for reptiles, given the site comprised a grazed improved grassland field, which lacks the structure and habitat quality to support the species group. The drystone walls may provide suitable cover for the species group, however, they were found to be isolated in the landscape. As such, the presence of reptiles within the site is reasonably discounted.

3.4.8. OTTER AND WATER VOLE

Following consultation with SBRC, two records of water vole were identified within the 1 km search area. The records were associated with a pond located approximately 480 m north-east of the site. No records of otter were located within the search area.

As no aquatic habitats were located on-site or within close proximity to the site, otter and water vole are reasonably discounted from site. The closest watercourse to the site is Dean Brook which is located approximately 100 m north-east of the site.

3.4.9. INVERTEBRATES

Consultation with SBRC returned records of four notable invertebrates within the 1 km search area, dingy skipper (*Erynnis tages*), small heath (*Coenonympha pamphilus*), wall (*Lasiommata megera*) and cinnabar (*Tyria jacobaeae*). The site comprised a grazed improved grassland field with limited floristic diversity. As such, notable invertebrates are not anticipated to be present on-site.

3.5. INVASIVE PLANT SPECIES

No records of invasive species were recorded within the 1 km search area. During the survey, field horsetail was located within the poor semi-improved grassland road verge on the northern site boundary.

4. ECOLOGICAL CONSTRAINTS AND MITIGATION

4.1. DEVELOPMENT PROPOSALS

Development proposals include the construction of a battery storage facility on-site.

4.2. DESIGNATED SITES

The site is located within the impact risk zone of Spring Meadows, Alderman's Head and Cow Croft Meadows SSSI located approximately 3.1 km east of the site, designated for its hay meadow; Dark Peak SSSI, which forms part of Park District Moors (South Pennine Moors Phase 1) SPA and SAC located approximately 3.2 km south-west of the site boundary designated for its blanket peat and breeding bird populations; and Pye Flatts Meadows SSSI located approximately 5.2 km north-east of the site designed for its hay meadows.

Taking into account the reasons for their designations, it is deemed highly unlikely that the development will have an impact on the hay meadows, blanket peat or breeding birds due to the distance present between the site and the designated sites and the small scale of the development. Furthermore, consultation with MAGIC identified that the proposed development does not meet the requirements that would justify further consultation with Natural England for the development to proceed.

Two LWSs were located within the 1 km search area, Hunshelf Bank LWS approximately 520 m south-east of the site and Steel Valley Walk LWS approximately 640 m south of the site. It is deemed highly unlikely that the development will have an impact on the LWSs due to the small size of the site and the low impact of the development.

4.3. HABITATS

The site comprised habitats that were found to be of low ecological value and were widespread within the local area; however, they did contain value for wildlife such as birds and badgers. The improved grassland is of the lowest value for wildlife, with the poor semi-improved grassland comprising the area of the highest value.

4.4. PROTECTED AND NOTABLE SPECIES

4.4.1. AMPHIBIANS

Common amphibians may be present within the boundary drystone walls and poor semi-improved grassland verge. As such, during construction, if any common amphibians are encountered, they should be carefully moved by hand away from construction activities.

4.4.2. BREEDING BIRDS

The site was assessed as having value for common species within W1, W2 and W3.

If any areas of W1, W2 or W3 require removal, they should be removed outside of the breeding bird season (March to September inclusive). If this is not possible, a nesting bird check will be undertaken by a suitably qualified ecologist no more than 24 hours before works commence. If a nest, or nest in construction, is located then a stand-off distance will be maintained until the young have fledged. The ecologist will advise on suitable stand-off and provide a toolbox talk to all site contractors regarding their working limits and legal implications.

Post-development, ecological enhancement and habitat creation could be undertaken to mitigate the loss of any walls removed to facilitate the development. This could include the introduction of trees or scrub on-site, which should include native species and species known to be of value for the attraction of wildlife. This may include fruiting and flowering species. Species deemed suitable for this development could include berry-bearing native species such as:

- Hawthorn *(Crataegus monogyna*).
- Rowan (*Sorbus aucuparia*).
- Holly (*Ilex aquifolium*).
- Whitebeam (*Sorbus aria).*
- Spindle (*Euonymus europaea).*
- Dog rose (*Rosa canina*).
- Guelder rose (*Viburnum opulus*).
- Elder (*Sambucus nigra*).

All planting should be from a trusted pest-free source and, where possible, be of local provenance.

4.4.3. BADGERS

No badger setts were identified on-site, however, the species are anticipated to be present within the wider area.

Badgers are highly mobile and can create a new sett in a matters of days. It is therefore recommended that an updated Badger Walkover is completed on the site immediately prior to the start of works, to ensure no new badger setts have been created. If a sett is identified, a Natural England Badger Licence may be required to close the sett. Badger setts can only be closed between July and November (inclusive) to reduce impacts on pregnant females.

The following Precautionary Working Methods will be adhered to during the construction phase to ensure that no badgers within the local area are impacted by the proposed development:

- All site operatives will be inducted to the presence of the species and their working limits and legal responsibilities.
- All site operatives will be inducted as to identifying potential badger setts, and should remain vigilant for new setts forming. If they suspect they locate a new sett during works, all works must cease and the project ecologist should be informed immediately.

- Where possible, all excavations will be battened at a 45-degree angle, or a ramp installed, to allow escape should animals become trapped.
- All site machinery and materials will be appropriately stored to avoid harm to the species, notably between July and November each year when extra care is needed to avoid potential impacts on pregnant females.

It is not anticipated that the development will have a negative impact on badgers within the local area.

4.4.4. HEDGEHOGS

Hedgehog may be present in the fields immediately adjacent to the site . As such, if during construction a hedgehog is encountered, it should be carefully moved by hand to a safe off-site location.

4.4.5. BROWN HARE

Brown hare may be present in the fields immediately adjacent to the site. As such, if any works are proposed to the boundary drystone walls during brown hare breeding season (March-September, inclusive), a check for young hare should be completed immediately prior to the start of the works.

4.5. INVASIVE PLANT SPECIES

Field horsetail was identified on the poor semi-improved grassland roadside verge on the northern site boundary. It is recommended that this be eradicated due to the damage it can cause to areas of hardstanding. Field horsetail is not listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and therefore does not legally require removal.

5. FURTHER SURVEYS

No further surveys are recommended in support of a planning application.

6. DESIGN ADVICE FOR BIODIVERSITY NET GAIN

The scheme should strive to achieve biodiversity net gain, as per "Biodiversity Net Gain; Good Practice Principles for Development" CIEEM, CIRIA, IEMA (2016). The following habitat measures will increase the on-site biodiversity:

- Enhancement of the improved grassland to wildflower meadow.
- Native scrub planting.
- Broadleaved trees.

7. REFERENCES

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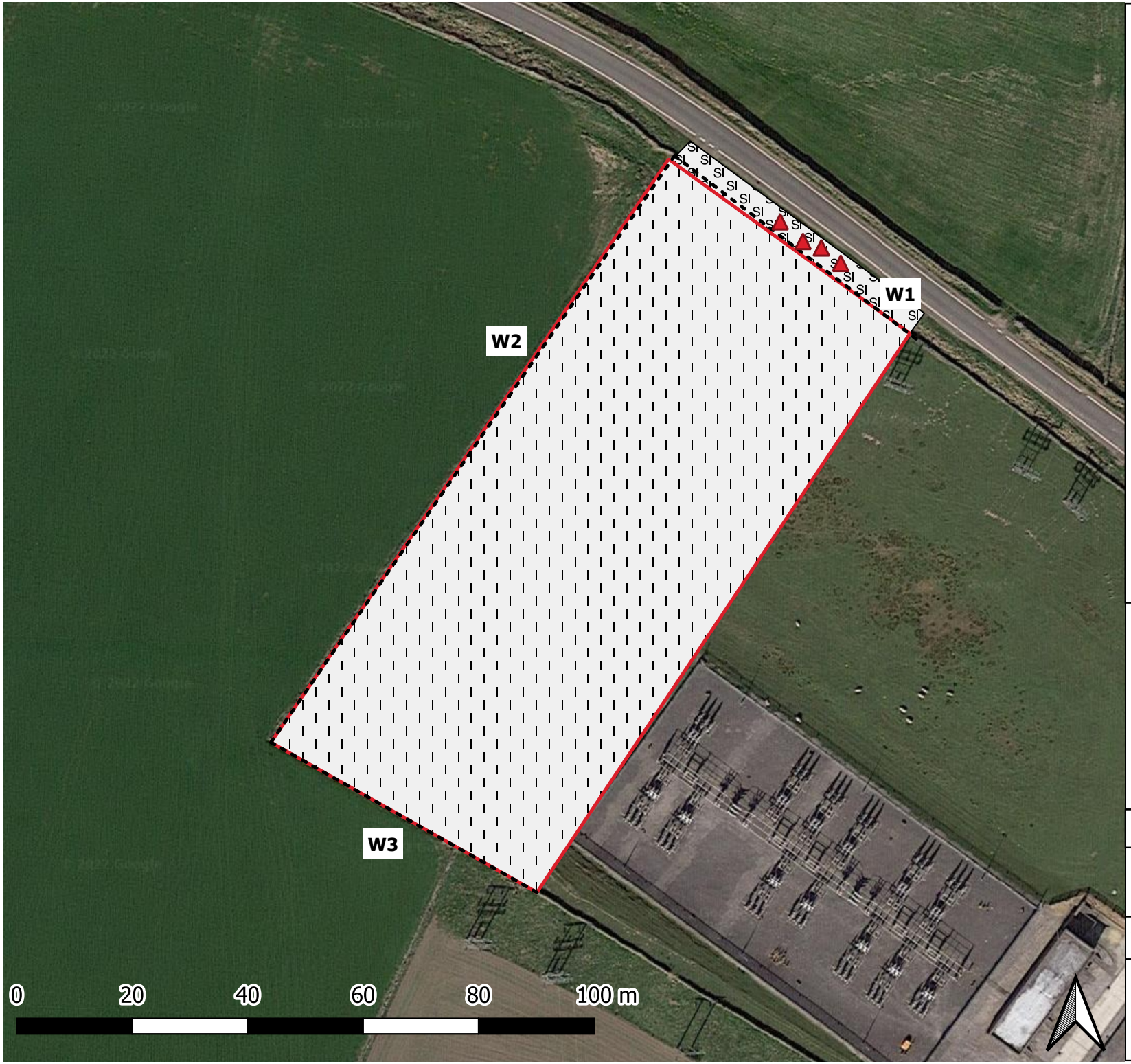
- Stace, C. A. (2019). New Flora of the British Isles. Fourth Edition. Cambridge University Press.
- Wildlife and Countryside Act (2010) Schedule 9 of the Wildlife and Countryside Act 1981.

END OF REPORT

APPENDIX I
PHASE 1 HABITAT PLAN



Key:

- Field horsetail
- Walls
- Site boundary
- Poor semi-improved grassland
- Improved grassland

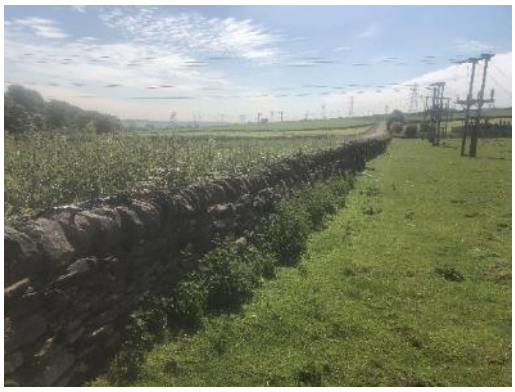
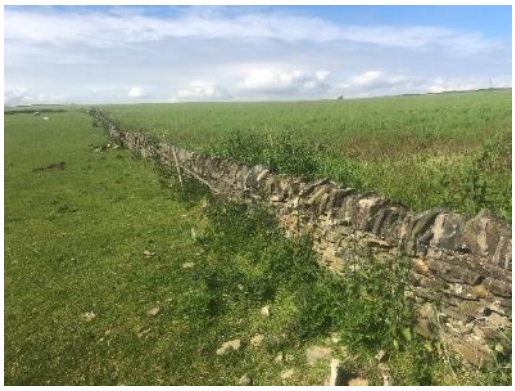
Notes

Issue:	Revision:	Date:	Drawn:	Authorised:
1	1	09/06/2022	CJ	OM

Client: PWA Planning	Job No. 80-863	Date: 09/06/2022
	Drawing No. 80-863-001	Scale: 1:1500 @ A4
Job title: Hunshelf BESS	Drawing title: Phase 1 Habitat Plan	

e3p
Environmental Engineering Partnership Ltd
Manchester Office
Taylor Road, Urmston M41 7JQ
Tel: 0161 707 9612
Email: info@e3p.co.uk
Website: www.e3p.co.uk

APPENDIX II
WALL DESCRIPTION

REF.	DESCRIPTION	PHOTOGRAPH
W1	W1 formed the northern boundary of the improved grassland field and was approximately 1 m tall and 50 m long. W1 was a drystone wall with numerous crevices present. The crevices were deemed to be too low to support roosting bats. W1 was assessed as having Negligible bat roosting potential.	
W2	W2 formed the western site boundary and was approximately 1 m tall and 110 m long. W2 was a drystone wall with numerous crevices present. The crevices were deemed to be too low to support roosting bats. W2 was assessed as having Negligible bat roosting potential.	
W3	W3 formed the sothern site boundary and was approximately 1 m tall and 50 m long. W3 was a drystone wall with numerous crevices present. The crevices were deemed to be too low to support roosting bats. W3 was assessed as having Negligible bat roosting potential.