



Frodsham Solar

Environmental Statement: Volume 2

Appendix 7-1: Habitats Baseline Report

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Frodsham Solar

on behalf of Axis PED

Technical Appendix 7.1: Habitats and Vegetation Baseline Report



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1 INTRODUCTION

1.1 Background and Scope

- 1.1.1 This Technical Appendix has been prepared to accompany **Chapter 7: Terrestrial Ecology [EN010153/DR/6.1]** of the Frodsham Solar Environmental Statement (ES).
- 1.1.2 It presents detailed methodologies and results of desk study and field surveys completed to establish baseline habitat conditions of the Site.
- 1.1.3 The objectives of this report are to:
- Provide baseline information on the current habitats within the Site;
 - Identify the proximity of any designated sites for nature conservation interest with habitats and/or botanical interests; and,
 - Record the presence of any protected or non-native plant species listed on Schedule 8 and 9 of the Wildlife and Countryside Act 1981 (as amended), respectively.
- 1.1.4 The report has been informed by a desk-based review of relevant ecological information and extended habitat survey. Reference is made to relevant legislation, planning policy and guidance, as appropriate.
- 1.1.5 The desk-based review included a review of RSK Biocensus reports written for this Proposed Development (as detailed in **Table 2-1**). The Preliminary Ecological Appraisal undertaken by RSK Biocensus was based on a Preliminary Site Boundary; this Preliminary Site Boundary is shown in **Figure 2: Survey Areas**.
- 1.1.6 Consideration has been given to the potential presence of rare, protected, or notable habitats, and the location of nearby features including designated sites for nature conservation.
- 1.1.7 Throughout this report, common names for species are favoured over scientific names unless there is potential for confusion, in which case scientific names are also presented.
- 1.1.8 For the avoidance of doubt, the following areas are defined, as shown in **Figure 1**:
- the 'Solar Array Development Area (SADA)' comprising the area that would include solar photovoltaic (PV) modules and support frames, internal access tracks, cabling, inverters, transformers, the solar array substation (known as the 'Frodsham Solar Substation') and the BESS;
 - the 'Non-Breeding Bird Mitigation Area (NBBMA)' comprising land primarily within Cell 3, which currently forms part of the Frodsham Wind Farm mitigation. This area of land would be used as a mitigation area for the anticipated displacement of wetland birds associated with the Mersey Estuary;
 - the 'SPEN/National Grid Substation and Access' comprising the existing SPEN/National Grid Substation and access road;
 - the 'Skylark Mitigation Area' comprising land where it is anticipated that neutral grassland would be created during the operational lifetime of the Proposed Development for the benefit of skylarks;

- the ‘Main Site Access with Private Wire Connection’ comprising the access road with Protos private wire connection to the west of the SADA; and,
- the ‘Main Site Access without Private Wire Connection’ comprising the access road without private wire connection to the west of the SADA.

1.1.9 For the purpose of **Chapter 7: Terrestrial Ecology [EN010153/DR/6.1]** and this associated Appendix, the SADA, the NBBMA and the SPEN/National Grid Substation and Access are collectively termed the ‘Main Development Area’, as shown in **Figure 1**.

2 METHODOLOGY

2.1 Desk Study

2.1.1 A desk study was undertaken to identify the proximity of the Main Development Area to any statutory or non-statutory designated sites for nature conservation with habitat or botanical qualifying interest, and to obtain any existing records of protected and/or non-native flora within the Main Development Area and the surrounding area.

2.1.2 Key desk study sources, search areas and information obtained are summarised in **Table 2-1**.

Table 2-1: Desk study sources

| Key Source | Date of latest consultation | Information Sought | Study Area |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| The Multi Agency Geographic Information for the Countryside (MAGIC) website ¹ , Natural England’s Site Search ² and Joint Nature Conservation Committee (JNCC) ³ | April 2025 | Proximity to statutory designated sites, with habitats and/or botanical interests. Ancient Woodland Inventory | Within 2 km of the Main Development Area (extending to 10 km for internationally protected sites). |
| RECORD (Local Environmental Records Centre for Cheshire, Halton, Warrington and Wirral) | September 2024 | Existing records of protected and notable habitats and plant species ⁴ . Non-statutory designated sites, with habitats and/or botanical interests. | Within 2 km of the Main Development Area. |
| Cheshire West and Chester Public Interactive Map ⁵ | April 2024 | Non-statutory designated sites, with habitats and/or botanical interests. | Within 2 km of the Main Development Area. |

¹ Available at: <https://magic.defra.gov.uk/MagicMap.aspx> [Accessed 30/04/2025]

² Available at <https://designatedsites.naturalengland.org.uk/> [Accessed 30/04/2025]

³ <http://jncc.defra.gov.uk/> [Accessed 30/04/2025]

⁴ Only records dated within the last 10 years (dated from 2014 or later) were used, unless pre-2014 records were considered pertinent to the Proposed Development.

⁵ Available at: [Public Map Viewer \(cheshirewestandchester.gov.uk\)](https://publicmapviewer.cheshirewestandchester.gov.uk/) [Accessed 30/04/2025]

| Key Source | Date of latest consultation | Information Sought | Study Area |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------|---------------------------------------------|
| The Natural England Open Data Geoportal ⁶ | April 2025 | Existing records of peaty soils. | Within 0.5 km of the Main Development Area. |
| The Woodland Trust Ancient Tree Inventory ⁷ | April 2025 | Existing records of veteran and ancient trees. | Within 0.5 km of the Main Development Area. |
| Frodsham Renewable Energy Development: <ul style="list-style-type: none"> Preliminary Ecological Appraisal (PEA) Report (RSK Biocensus, 2023)⁸. | August 2024 | To provide context as to habitats present within the Preliminary Site Boundary. | The Preliminary Site Boundary. |

2.2 Field Survey

Habitat Survey

- 2.2.1 A habitat survey of the Site was undertaken in February 2023, July 2023, August 2024 and September 2024 by A. Hulme *BSc (Hons)*, a suitably experienced ecologist. The survey followed UK industry standard UKHab Methodology V2.0⁹ with reference to the CIEEM, guidance (2017)¹⁰.
- 2.2.2 The survey covered the whole Site as presented in **Figure 2: Survey Areas**.
- 2.2.3 Initial surveys, undertaken in February and July 2023, focused on updating the habitat survey results undertaken by RSK in 2022 from Phase 1 to UKHab. These survey visits focused on habitats within the Preliminary Site Boundary deemed as moderate distinctiveness or above (i.e.: areas of semi-improved grassland, marshy grassland, swamp, dense scrub, woodland, hedgerows and waterbodies).
- 2.2.4 August 2024 and September 2024 surveys updated the remaining RSK Phase 1 habitat survey results to UKHab, and also involved surveying any additional areas of land subsequently added to the Site boundary.
- 2.2.5 Habitats were mapped and described to the highest level of UK habitat classification as possible, with each habitat feature being assigned to a primary habitat and then described with secondary codes if applicable. The survey was extended to include the additional recording of specific features indicating the presence, or likely presence, of protected species, invasive species and other species of conservation significance using a series of ‘target notes’ (TNs).
- 2.2.6 Habitats recorded within the Site are shown in **Figure 6 (a-e) Habitat Plan**, with associated target notes provided in **Table 3-5**. Accompanying photographs are provided in **Annex 1**.

⁶<https://naturalengland-defra.opendata.arcgis.com/datasets/Defra::peaty-soils-location-england/explore?location=53.163227%2C-0.801927%2C10.71> [Accessed 30/04/2025]

⁷<https://ati.woodlandtrust.org.uk/> [Accessed 30/04/2025]

⁸ RSK Biocensus (2023). Frodsham Renewable Energy Development Preliminary Ecological Appraisal Report. RSK Biocensus.

⁹<http://www.ukhab.org> [Accessed 15/07/2024]

¹⁰ CIEEM. (2017). *Guidelines for Preliminary Ecological Appraisal (2nd edition)*. Chartered Institute of Ecology and Environmental Management, Winchester.

Limitations

Extended Habitat Survey

- 2.2.7 The survey does not constitute a detailed botanical survey or faunal species list or provide a full protected species survey but, enables competent ecologists to ascertain an understanding of the ecology of the Site in order to:
- Broadly identify the nature conservation value of a site and assess the significance of any potential impacts on habitat/species recorded; and/or,
 - Confirm the need and extent of any additional specific ecological surveys that are required to identify the true nature conservation value of a site (if any).
- 2.2.8 Access to the Skylark Mitigation Area was limited to public right of ways located within and surrounding this area. As such, the habitats within this area were surveyed from available vantage points. Habitats within this area comprise modified grassland and associated neutral grassland field margins, together with boundary ditches; the modified grassland is of low ecological value. Furthermore, the Skylark Mitigation Area would not be directly impacted by the Proposed Development, with the exception of the anticipated creation of neutral grassland, as such, this is not considered a significant limitation to the assessment.

3 RESULTS

3.1 Desk Study

- 3.1.1 This section provides details of existing habitat information and existing records of protected and notable plant species identified within and in proximity to the Main Development Area from desk study sources listed in Section 2.1.

Statutory Designated Sites for Nature Conservation

- 3.1.2 A summary of statutory designated sites with qualifying habitat and/or botanical interest located within 2 km of the Main Development Area (extending to 10 km for internationally protected sites) is presented in **Table 3-1** and locations are presented in **Figure 3**.
- 3.1.3 The Main Development Area is also located within several Site of Special Scientific Interest (SSSI) Impact Risk Zones (IRZ).

Table 3-1: Statutory Designated Sites (SSSI: Site of Special Scientific Interest; LNR: Local Nature Reserve)

| Designated Site | Distance and Direction from the Main Development Area | Botanical and/or Habitat Qualifying Features |
|----------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mersey Estuary SSSI | Within Main Development Area (NBBMA and SADA) | Saltmarsh and boulder clay cliffs. |
| Flood Brook Clough SSSI | 0.56 km northeast | A deep wooded valley cutting with an ash and wych elm woodland. Many of the plants present are characteristic of ancient woodland on base-rich soils. |
| Dunsdale Hollow SSSI | 1.58 km south | Acidic lowland birch and sessile oak woodland. |
| Runcorn Hill LNR | 1.65 km north | Dry heath/acid grassland, woodland, scrub and two ponds. |
| Midland Meres & Mosses - Phase 1 Ramsar site | 6.59 km southeast | Ramsar criterion 1: The site comprises a diverse range of habitats from open water to raised bog. Ramsar criterion 2: Supports a number of rare species of plants associated with wetlands including five nationally scarce species (six-stamened waterwort, hair grass, cowbane, marsh fern and elongated segde). |
| Midland Meres & Mosses Phase 2 Ramsar site | 8.05 km southeast | Ramsar criterion 1: The site comprises a diverse range of habitats from open water to raised bog. Ramsar criterion 2: Number of rare species of plants associated with wetlands, including the nationally scarce cowbane and elongated sedge. Also present are the nationally scarce bryophytes <i>Dicranum affine</i> and <i>Sphagnum pulchrum</i> . |

Non-statutory Designated Sites

- 3.1.4 The Main Development Area is located within three non-statutory designated sites for nature conservation; Frodsham, Helsby and Ince Marshes Local Wildlife Site (LWS), Frodsham Field Studies Centre LWS and Easton Clifton Tip LWS. A further eighteen LWSs are located within 2 km of the Main Development Area. These sites are summarised in **Table 3-2** and are shown in **Figure 4**.

Table 3-2: Non-statutory Designated Sites (LWS: Local Wildlife Site)

| Designated Site | Distance and Direction from the Main Development Area | Description of Botanical and/or Habitat Qualifying Features |
|---------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Frodsham, Helsby and Ince Marshes LWS | Within the Main Development Area (SADA, NBBMA and Skylark Mitigation Area) | Neutral grassland, floodplain, wetlands, wildlife corridors, saltmarsh and vascular plants. |
| Frodsham Field Studies Centre LWS | Within the Main Development Area (SPEN/National Grid Substation and Access) | Undetermined species-rich grassland, wetlands, ponds, wildlife corridors and vascular plants |
| Easton Clifton Tip LWS | Within the Main Development Area (SPEN/National Grid Substation and Access) | Calcareous grassland, wetland, open mosaics and vascular plants. |
| Clifton Lagoon LWS | 0.07 km east of the Main Development Area | Grassland of industrial origin. |
| Sutton Bridge Unused Lagoon LWS | 0.11 km southeast of the Main Development Area | Restorable grassland and wetlands. |
| Weston Marsh Lagoon LWS | 0.12 km north of the Main Development Area | Grassland of industrial origin. |
| Clifton Cloughs LWS | 0.29 km northeast of the Main Development Area | Ancient woodland |
| Upper Mersey Estuary LWS | 0.30 km north of the Main Development Area | Intertidal sand and mudflats, saltmarsh and estuarine. |
| Lowes Wood LWS | 0.66 km east of the Main Development Area | Deciduous woodland, wildlife corridor. |
| First Pit, Ellis Lane LWS | 0.84 km southeast of the Main Development Area | Ponds. |

| Designated Site | Distance and Direction from the Main Development Area | Description of Botanical and/or Habitat Qualifying Features |
|------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------|
| Lower Weaver Valley Woods LWS | 0.86 km southeast of the Main Development Area | Deciduous woodland, wildlife corridor, other qualifiers. |
| Hob Hey Wood LWS | 0.87 km south of the Main Development Area | Deciduous woodland, wildlife corridor, other qualifiers. |
| Beechwood LWS | 0.99 km east of the Main Development Area | No citation provided. |
| Lower Weaver Valley Floodplain LWS | 1.04 km southeast of the Main Development Area | Wetlands, wildlife corridors. |
| Frodsham and Overton Woods LWS | 1.06 km south of the Main Development Area | Deciduous woodland, heathland, wildlife corridors and other qualifiers. |
| Clough Wood LWS | 1.06 km east of the Main Development Area | No citation provided. |
| The Glen LWS | 1.30 km northeast of the Main Development Area | No citation provided. |
| South Verge Embankment LWS | 1.41 km east of the Main Development Area | No citation provided. |
| Land North of Hallwood Park LWS | 1.56 km northeast of the Main Development Area | No citation provided. |
| Runcorn Hill LWS | 1.65 km north of the Main Development Area | No citation provided. |
| Blackamoor Wood and Coppice LWS | 1.99 km southeast of the Main Development Area | Deciduous woodland. |

Priority Habitats: Existing Records

3.1.5 Information on Habitats of Principal Importance (HPI) (also known as Priority Habitats), as listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act, and habitats listed on the

Cheshire Region Biodiversity Action Plan¹¹ (Local Biodiversity Action Plan; LBAP), within 2 km of the Main Development Area is presented in **Table 3-3**.

- 3.1.6 Where numerous records of a particular habitat were identified on MAGIC, only the closest record to the Site boundary has been provided, to provide context for the Site and surrounding area. Locations of HPIs are presented in **Figure 5**.

Table 3-3: Priority Habitats

| Priority habitat | Designation | Approximate distance of nearest habitat from the Main Development Area |
|--------------------------------------|-----------------|------------------------------------------------------------------------|
| Reedbeds | NERC S.41, LBAP | Within the Main Development Area |
| Deciduous woodland | NERC S.41, LBAP | Within the Main Development Area |
| Coastal saltmarsh | NERC S.41, LBAP | Within the Main Development Area |
| Coastal and floodplain grazing marsh | NERC S.41, LBAP | 0.01 km southeast of the Main Development Area |
| Lowland calcareous grassland | NERC S.41, LBAP | 0.07 km east of the Main Development Area |
| Traditional orchard | NERC S.41, LBAP | 0.19 km east of the Main Development Area |
| Mudflats | NERC S.41, LBAP | 0.23 km north of the Main Development Area |
| Wood-pasture and parkland | NERC S.41, LBAP | 0.27 km south of the Main Development Area |
| Lowland fens | NERC S.41, LBAP | 0.28 km east of the Main Development Area |
| Lowland meadows | NERC S.41, LBAP | 1.28 km northeast of the Main Development Area |
| Purple moor grass and rush pastures | NERC S.41, LBAP | 1.66 km north of the Main Development Area |
| Lowland heathland | NERC S.41, LBAP | 1.84 km north of the Main Development Area |

Key

NERC S.41: Natural Environment and Rural Communities (NERC) Act (2006) Section 41.

LBAP: Cheshire Region Biodiversity Action Plan Priority Habitat

Ancient and Irreplaceable Habitats – Existing Records

- 3.1.7 No ancient woodland habitat listed on the Ancient Woodland Inventory is present on or within 0.5 km of the Main Development Area.
- 3.1.8 With reference to the Ancient Tree Inventory⁷, no ancient or veteran trees have been identified within 0.5km of the Main Development Area.
- 3.1.9 The majority of the Main Development Area is located within an area identified as ‘deep peaty soils’ on Natural England’s Open Data Geoportal peaty soils inventory.

Existing Protected, Notable and Non-Native Botanical Records

- 3.1.10 Botanical records provided by RECORD identified no protected or notable species from within the Main Development Area. Five records of English bluebell, which is listed under Schedule 8 the Wildlife &

¹¹ Cheshire Wildlife Trust (2011). Cheshire region Biodiversity Action Plan. Available at: [Cheshire region Biodiversity Action Plan](#). Accessed [01/05/2025]

Countryside Act 1981 (in respect of sale only) and under the LBAP, were returned from within 2 km of the Main Development Area, the closest of which was located approximately 1 km north. No other botanical records of species listed under Schedule 8 the Wildlife & Countryside Act 1981, the LBAP or as Species of Principal Importance (SPI) (also known as Priority Species), as listed under Section 41 of the NERC Act, were returned within 2 km of the Site.

- 3.1.11 Botanical records provided by RECORD identified six records of invasive non-native species listed under Part II of Schedule 9 of The Wildlife & Countryside Act 1981 within 2 km of the Main Development Area. These include montbretia (one record), Japanese knotweed (two records), Himalayan balsam (one record), and Rhododendron (two records). No records were returned from within the Main Development Area; however, the closest, comprising Himalayan balsam, was located outside the Site boundary immediately adjacent to the access road of the SPEN/National Grid Substation.

RSK Biocensus Preliminary Ecological Appraisal

- 3.1.12 A PEA undertaken by RSK Biocensus included a Phase 1 habitat survey of the Preliminary Site boundary, undertaken on the 22nd – 24th March 2022. The following habitat types (with Phase 1 habitat codes in brackets) were recorded within and adjacent to the Preliminary Site boundary:

- Broadleaved woodland, plantation (A1.1.2);
- Marginal vegetation (F2.1);
- Scrub, dense / continuous (A2.1);
- Standing water (G1);
- Scrub, scattered (A2.2);
- Arable (J1.1);
- Broadleaved scattered trees (A3.1);
- Introduced shrub (J1.4);
- Semi-improved neutral grassland (B2.2);
- Intact hedge, species poor (J1.1.2);
- Improved grassland (B4);
- Fence (J2.4);
- Marsh / marshy grassland (B5);
- Dry ditch (J2.6);
- Poor semi-improved grassland (B6);
- Buildings (J3.6);
- Tall ruderal (C3.1);
- Bare ground (J4); and,
- Swamp (F1);
- Hardstanding (J5).

- 3.1.13 Full habitat descriptions are included within the PEA Report, which is included as **Annex 2**.

- 3.1.14 The following invasive non-native species listed under Part II of Schedule 9 of The Wildlife & Countryside Act 1981 were recorded within the Preliminary Site Boundary during the PEA undertaken by RSK Biocensus in 2022:

- Variegated yellow archangel: at approximately SJ50787880 (see TN1 of the PEA; Annex 2);
- New Zealand pygmyweed: recorded at approximately SJ50877864 (see TN11 of the PEA; Annex 2); and,
- Cotoneaster species: at approximately SJ50837868 (see TN20 of the PEA; Annex 2).

3.2 Field Survey

UK Habitat Classification Survey

- 3.2.1 This section should be read in conjunction with the Habitat Plan as presented in **Figures 6 (a-e) Habitat Plan**; descriptions are provided in **Table 3-4**, target notes are presented in **Table 3-5** and photographs are presented in **Annex 1**.

Table 3-4: UKHab habitats Summary

| Habitat Code | Descriptions | Photo No |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| g3c | <p>Other neutral grassland</p> <p>Predominantly large areas of grazing pasture as well as on sloping banks by the riverside in the SADA and NBBMA comprising, some if not all of, the following species; perennial ryegrass, cocksfoot, creeping bent, false oat grass, rough-stalked meadow grass, tufted hair grass, Yorkshire fog, sweet vernal grass, crested dog's tail, nettle, white clover, red clover, creeping buttercup, greater plantain, creeping cinquefoil, mare's-tail, hard rush, common mouse-ear, knapweed and creeping thistle.</p> <p>Mounded area around north edge of the large grazing pasture in the SADA comprised many of the same species with the addition of; crested dogs' tail, Timothy, meadow barley, false fox sedge, broadleaved dock, meadow vetchling and red bartsia.</p> <p>Grassland strip on bank of ditch adjacent to Moorditch Lane at the south boundary of the Site. Species comprised; creeping bent, crested dog's tail, cocksfoot, perennial ryegrass, false oat grass, mugwort, white clover, ragwort, common fleabane, greater willowherb, creeping buttercup, greater plantain, hogweed, spear thistle, dandelion, nettle, prickly sow-thistle, burdock and hemlock.</p> <p>On part of access road within Frodsham Windfarm (Main Site Access with Private Wire Connection) where shallow soil as naturally formed. Species; creeping bent, Yorkshire fog, rough-stalked meadow grass, perennial ryegrass, false oat grass, lesser trefoil, teasel, ragwort, ribwort plantain, bristly oxtongue, creeping thistle, broadleaved dock, common fleabane, birds foot trefoil, coltsfoot, yarrow, white clover, rough hawkbit, dandelion and mosses.</p> | 1, 2 |
| g3c.10 | <p>Other neutral grassland with scattered scrub</p> <p>On bankside and top of ditch. Species comprised some, if not all; false oat grass, cocksfoot, perennial ryegrass, rough-stalked meadow grass, spear thistle, broadleaved dock, nettle, bramble, rosebay willowherb, ribwort plantain, burdock, meadowsweet, ragwort, white clover, cow parsley, hogweed, meadow vetchling, nettle, prickly sow-thistle and creeping thistle. Sporadic scattered bramble, elderberry and hawthorn present.</p> <p>In area north of Frodsham Substation in the SPEN / National Grid Substation and Access. Species comprised Yorkshire fog, false oat grass, red fescue, common fleabane, teasel, ragwort, creeping thistle, yellowwort, oxeye daisy, white clover, selfheal, nipplewort, common</p> | 3, 4 |

| Habitat Code | Descriptions | Photo No |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| | centaury, rosebay willowherb. Scattered scrub of bramble, willow and alder present. | |
| g3c.10.14 | Other neutral grassland with scattered scrub and scattered rushes Grazing pasture in the SADA comprising some, if not all, of the following species; perennial ryegrass, rough-stalked meadow grass, crested dogs' tail, tufted hair grass, Yorkshire fog, false oat grass, sweet vernal grass, Timothy, creeping bent, white clover, creeping buttercup, ragwort, greater willowherb and creeping thistle. Over grazing evident due to significant coverage of soft rush; c. 45% of total grassland area. Scattered scrub; hawthorn, dog rose and bramble, is sporadically present. | 5 |
| g3c.10.14.16 | Other neutral grassland with scattered scrub, scattered rushes and tall forbs Agricultural field in the SADA with somewhat recently disturbed ground; excavator tracks and large pieces of rubble evident within the grassland. Mainly grassland with patches of common reed, scattered scrub and areas where mosses were dominant. Grassland comprised some, if not all, of the following species; perennial ryegrass, rough-stalked meadow grass, crested dogs' tail, tufted hair grass, Yorkshire fog, false oat grass, sweet vernal grass, Timothy, creeping bent, white clover, creeping buttercup, ragwort, greater willowherb and creeping thistle. Scrub comprised bramble, elderberry and willow. | 6 |
| g3c.10.14.16.32 | Other neutral grassland with scattered scrub, scattered rushes, tall forbs and scattered trees Cattle grazed pasture in the SADA with varying sward heights evident. Grassland comprised of the following species; Yorkshire fog, false oat grass, tufted hair grass, perennial rye grass, crested dogs' tail, cocksfoot, red fescue, timothy, meadow foxtail, sweet vernal grass, common reed, spiked sedge, soft rush, hard rush, hairy sedge, creeping buttercup, meadow vetchling, creeping thistle, white clover, bird's foot trefoil, narrow leaved ragwort, broadleaved dock, knapweed, yarrow, greater willowherb and tufted vetch. Scrub and trees accounted for c. 15% of area, comprising; hawthorn, willow and dogwood. | 7 |
| g3c.10.14.16.521 | Other neutral grassland with scattered scrub, scattered rushes, tall forbs and unmanaged. In area north of Frodsham Substation in the SPEN/National Grid Substation and Access. Lack of management resulted in tall forbs and scattered scrub being present. Species comprised Yorkshire fog, false oat grass, red fescue, common fleabane, teasel, ragwort, creeping thistle, yellowwort, oxeye daisy, white clover, selfheal, nipplewort, common centaury, rosebay willowherb. Scattered scrub of bramble, willow and alder present. | N/A |
| g3c.10.14.501 | Other neutral grassland with scattered scrub, scattered rushes and mesic soils Cattle grazed pasture in the SADA with varying sward heights evident. Grassland comprised the following species; Yorkshire fog, false oat grass, perennial rye grass, crested dogs' tail, Timothy, soft rush, hard | 8 |

| Habitat Code | Descriptions | Photo No |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| | rush, ragwort, rosebay willowherb, white clover, spear thistle, creeping buttercup. Scattered scrub comprised hawthorn, dog rose and bramble. | |
| g3c.10.15 | <p>Other neutral grassland with scattered scrub and rushes dominant</p> <p>Grazing pastures within the SADA with soft rush dominant (c. 60%). The rest of the grassland comprised, some if not all of, the following species; perennial ryegrass, crested dog's tail, Timothy, Yorkshire fog, red fescue, creeping bent, rough-stalked meadow grass, common reed, white clover, red clover, creeping buttercup, tufted vetch, greater plantain, broadleaved dock and creeping thistle. Scattered scrub comprised sporadic hawthorn.</p> | 9 |
| g3c.10.15.501 | <p>Other neutral grassland with scattered scrub, rushes dominant and mesic soils</p> <p>Grazing pasture within the SADA with soft rush dominant (c. 60%). Wet underfoot at time of survey. The rest of the grassland comprised; Timothy, crested dog's tail, creeping bent, perennial ryegrass, rough stalked meadow grass, Yorkshire fog, ragwort, creeping buttercup, white clover, red clover, greater plantain, creeping thistle and broadleaved dock. Scattered scrub comprised sporadic hawthorn.</p> | 10 |
| g3c.10.16.32 | <p>Other neutral grassland with scattered scrub, tall forbs and scattered trees</p> <p>Areas of predominantly grassland with a mosaic of scattered scrub, scattered trees and common reed. Located on mound, by a track within the Site. Grassland species comprised rough-stalked meadow grass, nettle, cleavers and mosses. Scrub comprised elderberry, bramble and hawthorn and scattered trees comprised sycamore and poplar; including mature individuals.</p> | 11 |
| g3c.10.16 | <p>Other neutral grassland with scattered scrub and tall forbs</p> <p>Earth mound dominated by nettle with scattered elderberry located adjacent to the access road (Main Site Access with Private Wire Connection) and along track at the south boundary of the NBBMA. Other species comprised some, if not all; cocksfoot, creeping bent, Yorkshire fog, false oat grass, common reed, burdock, teasel, spear thistle, ragwort, dandelion, creeping cinquefoil, fox and cubs, willowherb and dandelion.</p> <p>Narrow area between two larger fields with limited grasses and dominant tall forbs located within the SADA. Species comprised false oat grass, cocksfoot, rosebay willowherb, common fleabane, soft rush, common reed, ragwort, creeping thistle, creeping buttercup, prickly sow-thistle and ribwort plantain. Scattered scrub comprised hawthorn, dog rose, bramble and willow.</p> <p>Triangular area with very long sward, likely not a grazing pasture, within the SADA. Species comprise; false oat grass, cocksfoot, common reed, rosebay willowherb, ragwort and broadleaved dock. Scattered scrub of hawthorn, bramble and willow sporadic.</p> | 12, 13, 14, 16 |

| Habitat Code | Descriptions | Photo No |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| | Earth mound around long, narrow waterbody within the NBBMA. Nettle dominant with common reed abundant. Scattered willow and elderberry also present. | |
| g3c.10.32 | <p>Other neutral grassland with scattered scrub and scattered trees</p> <p>Raised mound around edge of large grazing pasture within the SADA, comprising some if not all of, the following species; perennial ryegrass, cocksfoot, rough-stalked meadow grass, Yorkshire fog, creeping bent, Timothy, tufted hair grass, creeping thistle, nettle, wavy bitter cress, cow parsley, hogweed, cleavers, white clover, creeping buttercup, broad-leaved dock, mugwort, ragwort, teasel, burdock, soft rush, hard rush and bryophyte species. Scattered scrub comprised bramble, gorse and hawthorn. Scattered trees comprised ash, willow and elderberry.</p> <p>Grassland strip on bank of ditch adjacent to access road with Wire Connection (Main Site Access with Private Wire Connection). Scattered scrub abundant and trees sporadic. Species comprised; creeping bent, crested dog's tail, cocksfoot, perennial ryegrass, false oat grass, mugwort, white clover, ragwort, common fleabane, greater willowherb, creeping buttercup, greater plantain, hogweed, spear thistle, dandelion, nettle, prickly sow-thistle, burdock, hemlock and Himalayan balsam. Scrub and trees comprised; elderberry, sycamore, ash, bramble and hawthorn.</p> | 16 |
| g3c.10.501 | <p>Other neutral grassland with scattered scrub and mesic soils</p> <p>By edges of access road in Frodsham Windfarm (Main Site Access with Private Wire Connection and Main Site Access Without Private Wire Connection). Species comprise; false oat grass, cocksfoot, creeping bent, rosebay willowherb, teasel, nettle, ragwort, St John's wort sp., bramble, common fleabane, broadleaved dock, spear thistle, hawk's-beard sp., creeping thistle, cow parsley, white clover and black medic. Common reed occasional throughout suggests mesic soils. Scattered willow, elderberry, bramble and dog rose present.</p> <p>Within arable field margin within the SADA. Likely regularly wet soils as some species typically associated with swamp/fen were common; common reed, common club rush and reed canary grass. Other species comprise; Yorkshire fog, creeping bent, false oat grass, hard rush, false fox sedge, common fleabane (dominant forb), rosebay willowherb, white clover, creeping thistle, ribwort plantain, prickly sow-thistle and common vetch. Scattered scrub of willow and bramble present.</p> | 17, 18 |
| g3c.10.503 | <p>Other neutral grassland with scattered scrub and wet soils</p> <p>By river edge, extending out to raised mound containing public right of way. Species comprised some, if not all; false oat grass, cocksfoot, common couch, Timothy, white clover, hogweed, rosebay willowherb, cow parsley, creeping thistle, Himalayan balsam, broadleaved dock, nettle, common fleabane, prickly sow-thistle, bramble, hemp agrimony, burdock, creeping buttercup and marsh woundwort. Likely inundated at flood periods. Scattered scrub included; willow, alder, elderberry and bramble.</p> | 19 |
| g3c.14 | Other neutral grassland with scattered rushes | 20 |

| Habitat Code | Descriptions | Photo No |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| | Grazing pastures within the SADA comprising, some if not all of, the following species; Timothy, crested dog's tail, creeping bent, Yorkshire fog, perennial ryegrass, rough-stalked meadow grass, soft rush, common reed, ragwort, creeping buttercup, white clover, red clover, greater plantain, creeping thistle and broadleaved dock. | |
| g3c.16 | Other neutral grassland with tall forbs Grassland very much like other neutral grasslands within the NBBMA but with nettle dominant. | 21 |
| g3c.16.32 | Other neutral grassland with tall forbs and scattered trees Grazing pasture within the SADA comprising perennial ryegrass, Yorkshire fog, cocksfoot, false oat grass, red fescue, rough-stalked meadow grass, yellow sedge, white clover, nettle, thistles, ragwort, common mouse-ear, bird's foot trefoil, broadleaved dock, common reed, goats-beard, ribwort plantain, yarrow and hard rush. Scattered trees comprised willow, elderberry and hawthorn. | 22 |
| g3c.16.501 | Other neutral grassland with tall forbs and mesic soils Wet grassland at margin of large arable field. Predominantly comprises rosebay willowherb with a patch of common reed as well as reedmace, false oat grass, perennial ryegrass, creeping bent, false fox sedge, white clover, creeping buttercup and ragwort. | 23 |
| g4 | Modified grassland PRoW and along edge of track. Grassland species comprised rough-stalked meadow grass, cocksfoot, white clover and ribwort plantain. Improved meadow/pasture within the SADA. Species comprised predominantly perennial ryegrass with cocksfoot and false oat grass. Field edges also had nettle and burdock. Fields highly modified and likely cut for silage within the SADA. Species comprised predominantly perennial ryegrass with some if not all of the following; white clover, broadleaved dock, dandelion and creeping buttercup. | 24, 25 |
| g4.10.14 | Modified grassland with scattered scrub and scattered rushes Grazing pasture within the SADA comprising perennial ryegrass, cocksfoot, rough-stalked meadow grass, nettle, spear thistle, broadleaved dock and soft rush. | 26 |
| g4.15 | Modified grassland with rushes dominant Area of grassland by edge of reedbed within the SADA. Rushes dominant (c. 50%), with cocksfoot, Yorkshire fog and rough-stalked meadow grass. | 27 |
| g4.32 | Modified grassland with scattered trees Evidence of recent management activities; removal of scrub and mown grassland. Ground bare where scrub was removed. Grassland species comprised rough-stalked meadow grass, cocksfoot, nettle and cleavers. Scattered mature elderberry trees present. Located by the north-east Site boundary within the SADA. | 28 |

| Habitat Code | Descriptions | Photo No |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| g4.102.107.110 | <p>Modified grassland; sheep grazed, mown and collected for silage</p> <p>Sheep grazed pasture with areas recently mown and wrapped into silage bales. Species present in unmown areas; perennial ryegrass, meadow barley, cocksfoot, white clover, creeping thistle, nettle and creeping buttercup. Located within the SADA.</p> | 29 |
| f2.406 | <p>Fen marsh and swamp</p> <p>By river edge. Extensive area of common club-rush and soft rush.</p> | 30 |
| f2e | <p>Reedbed</p> <p>Majority adjacent to watercourses or within areas of shallow standing water within the SADA.</p> <p>Extensive area with common reed and common club-rush dominant. Other species comprise false fox sedge, marsh foxtail and creeping bent within the SADA.</p> | 31, 32 |
| f2e.10 | <p>Reedbed with scattered scrub</p> <p>Predominantly adjacent to ditches within the SADA. Scattered scrub containing some, if not all, of the following species; hawthorn, willow, elderberry, dog rose, spindle and bramble.</p> <p>Section by edge of river and on sloping bank close to the northern Site boundary, had other species within the reed; false oat grass, cocksfoot, common couch, Timothy, white clover, hogweed, great willowherb, cow parsley, creeping thistle, Himalayan balsam, broadleaved dock, nettle, common fleabane, prickly sow-thistle, bramble and marsh woundwort. As well as sporadic willow and elderberry.</p> <p>Extensive reedbed adjacent to access road within Frodsham Windfarm (Main Site Access with Private Wire Connection and Main Site Access without Private Wire Connection). Scattered willow present. Patches within where grassland species present comprising some, if not all of the following species; false oat grass, cocksfoot, creeping bent, great willowherb, teasel, nettle, ragwort, St John's wort sp., bramble, common fleabane, broadleaved dock, spear thistle, hawk's beard sp., creeping thistle, cow parsley, white clover and black medic.</p> | 33, 34 |
| f2e.10.32 | <p>Reedbed with scattered scrub and scattered trees</p> <p>Adjacent to or surrounding ditches or waterbodies within the SADA. Scattered willow, hawthorn and/or bramble scrub present. Scattered trees comprising some or all of the following also present; willow, sycamore, horse chestnut, elderberry and birch.</p> <p>By edge of carr woodland along the access road within Frodsham Windfarm (Main Site Access with Private Wire Connection). Willow and birch encroaching into reedbed.</p> | 35, 36 |
| f2e.500 | <p>Reedbed; dry</p> <p>Reedbed that appeared to be dry throughout. Located just north of the Frodsham Substation.</p> | 37 |
| h3d | <p>Bramble scrub</p> | 38 |

| Habitat Code | Descriptions | Photo No |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| | Patches of dense bramble scrub. Edges and areas within contain surrounding grassland or reedbed. | |
| h3d.16 | Bramble scrub with tall forbs Patch of dense bramble scrub with rosebay willowherb in amongst. Edges and areas within also contain surrounding grassland. | 39 |
| h3d.16.32 | Bramble scrub with tall forbs and scattered trees Patch of dense bramble scrub with rosebay willowherb, hogweed, hawthorn and willow in amongst. Edges and areas within also contain surrounding grassland. | 40 |
| h3d.32 | Bramble scrub with scattered trees Patches of dense bramble scrub with hawthorn or ash in amongst. Edges and areas within also contain surrounding grassland. | 41 |
| h3e | Gorse scrub Area of predominantly gorse with buddleia, bramble, bracken and creeping thistle. | 42 |
| h3f | Hawthorn scrub Small patch of dense hawthorn with sycamore. Patches of common reed and surrounding grassland mixed within. | 43 |
| h3h | Mixed scrub Areas of dense scrub all containing hawthorn with other species comprising blackthorn, bramble, dog rose or willow. Edges and areas within also contain surrounding grassland. | 44 |
| h3h.16.32 | Mixed scrub with tall forbs and scattered trees Areas of predominantly bramble and hawthorn with gorse and willow. Tall forbs of hogweed and rosebay willowherb in amongst. | 45 |
| h3h.32 | Mixed scrub with scattered trees Areas of predominantly bramble and hawthorn. Other species comprised gorse, elderberry and dog rose. Scattered trees comprised birch, sycamore, willow and or elderberry. Edges and areas within also contain surrounding grassland. Silver birch dominated with some larger trees. Other species comprised hawthorn, elderberry, alder, gorse and willow. | 46 |
| h3h.510 | Mixed scrub with bare ground Mostly bare ground with mixed scrub; silver birch, willow, elderberry, alder, sycamore. Also sporadic patches of common reed. | 47 |
| h3j | Willow scrub Young willow scrub (<10 years old). | 48 |
| h3j.32.206 | Willow scrub with scattered trees; some of which were felled Young willow scrub with some much older willow standards. Sporadic birch also. A section on the habitat edge was felled/coppiced. | 49 |
| w1d | Wet woodland | 50 |

| Habitat Code | Descriptions | Photo No |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| | Willow carr adjacent to access road within Frodsham Windfarm (Main Site Access without Private wire Connection). Other species comprise birch, hawthorn and spindle. Common reed is dominant in the ground flora with bramble and many species from the nearby grasslands. | |
| w1g | <p>Other broadleaved woodland</p> <p>Areas of natural succession woodland;</p> <p>Area comprised predominantly willow with birch and hawthorn. The ground flora comprised bramble, ivy, nettle, moss species and sporadic bracken. Located by the Site boundary adjacent to the M56.</p> <p>Area on slope of bank comprised mature hawthorn and elderberry with nettle and grasses below. Located within the SADA.</p> <p>Small area of likely partially planted woodland. Ash dominated with hawthorn, hazel, rowan and willow. Very open in areas with extensive ground flora; false oat grass, common reed, cocksfoot, hogweed, bramble, nettle, teasel and broadleaved dock. Located within the SADA.</p> <p>Small copse of likely partially planted woodland. Very open beneath canopy, with no understorey present. Tree species comprised; poplar sp., sycamore, willow, alder, elderberry and rowan. Ground flora the same as the surrounding grassland. Located within NBBMA.</p> <p>Small collection of trees on side of mounded area. Likely a tree line that expanded through natural regeneration. All species were cherry. Located at edge of NBBMA.</p> <p>Narrow area on sloped bank. Sycamore dominant standards with understorey of willow, hawthorn, elderberry and blackthorn. Ground flora limited to bracken, nettle and bramble. Located at Site boundary within the SADA.</p> <p>Small copse with sycamore and ash standards. Willow below and ground flora comprising predominantly nettle.</p> | 51, 52, 53 |
| w1g.847 | <p>Other broadleaved woodland with introduced shrub</p> <p>Small area of likely natural regeneration with planted or escaped introduced shrub and grass within the NBBMA. Ash and willow standards with an understorey of elderberry, cypress species, Wilson's honeysuckle and bamboo species.</p> | 54 |
| w1f7 | <p>Other lowland mixed deciduous woodland</p> <p>On the slopes of bank. Ash dominated with willow and horse chestnut and hawthorn beneath. The ground was mainly bare; with scattered bluebell, daffodil and herb Robert present. Located within the SADA.</p> | 55 |
| w1f7.10.30 | <p>Other lowland mixed deciduous woodland with scattered scrub; semi-natural woodland</p> | 56 |

| Habitat Code | Descriptions | Photo No |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| | Birch and willow woodland with ground flora comprised of; bramble, Yorkshire fog, wavy hair grass, cocksfoot, bracken and greater willowherb. Located immediately south of Frodsham Substation. | |
| r1f.42 | Temporary waterbodies; pond Shallow scrapes that are likely to dry up during drier months. The majority are likely man-made. Aquatic vegetation not present at all ponds; where it is present floating sweet grass and soft rush dominate, with reedmace sporadic. Located within the SADA. | 57 |
| r1f6.42 | Other temporary ponds and scrapes Significantly dried waterbody, with only deeper areas holding water. Aquatic vegetation sporadically at the margins; common club-rush and spiked rush. Droppings and feathers of wildfowl evident on banks of ponds. Evidence of livestock poaching. Located within the NBBMA. | 58 |
| r1g.41 | Other standing water; pond (non-priority) Multiple waterbodies within the Main Development Area of which waterbirds associated with the Mersey Estuary Special Protection Area (SPA) were observed using; Large pond, fed by ditch. Very likely that water levels naturally fluctuate with seasons. Wildfowl and waders regularly use the pond as a feeding resource. Located within the SADA. Shallow pond with aquatic vegetation limited to sporadic common club-rush at the margins. Evidence of livestock poaching at the edges. Teal and black-tailed godwit observed foraging. Located within the NBBMA. Another shallow pond with limited aquatic vegetation. Sporadic common reed and hard rush present at margins. Teal, gadwall, mallard, lapwing, coot, shoveler and mute swan observed loafing. Located within the NBBMA. | 59, 60 |
| r1g.41 | Other standing water; pond (non-priority) Large, likely deep ponds with water-lily dominant on the surface. Margins comprised some, if not all, of the following; spiked rush, hard rush, common reed, common club-rush, water mint and New Zealand pigmyweed. Located within the NBBMA. | 61 |
| r1g.41.49 | Other standing water; artificial pond (non-priority) Large fishing pond, likely stocked with large carp. Open water had c. 30% coverage of water-lily, with margins comprising hard rush, spiked rush, bur-reed, flag iris, common club-rush, common reed and New Zealand pigmyweed. Located within the NBBMA. | 62 |
| r1g.42 | Other standing water; pond Multiple waterbodies within the Main Development Area; Ponds of various sizes ranging from c. 30cm – 1m depth. Margins comprised some, if not all, of the following; floating sweet grass, soft rush, hard rush, water crows-foot, common reed. Majority of ponds showing evidence of drying (some more significantly than others), heavy livestock poaching and water bird usage. Droppings | 63, 64, 65 |

| Habitat Code | Descriptions | Photo No |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| | <p>and feathers of wildfowl evident on banks of ponds. No aquatic vegetation present.</p> <p>Small pond covered in extensive duckweed with spiked rush at margins. Evidence of livestock poaching. Located within the NBBMA.</p> <p>Long, narrow pond with steep sided banks that raise up into mounds. Common reed present in majority of pond margins and evidence of livestock poaching present at north pond edge. Located within the NBBMA.</p> | |
| u1 | Built-up areas and gardens Farm yard. | N/A |
| u1b.817 | Developed land, sealed surface; industrial building Frodsham Substation. | N/A |
| u1b | Developed land, sealed surface Wooden and metal bridge over ditch. | N/A |
| u1b5 | Buildings Buildings within the Site. | N/A |
| u1b6 | Other developed land Wooden bridge over ditch. | N/A |
| u1c | Artificial unvegetated, unsealed surface Stone tracks and areas of bare ground present within the Site. This makes up the majority of the access roads/tracks which are situated across the whole Proposed Development area. | N/A |
| u1e.800 | Built linear features; road Tarmac road. Access Road to the SPEN Grid Connection/Frodsham Substation. | N/A |
| u1f | Sparsely vegetated urban land Sparse grasses and mosses on bare stone track along the access road within Frodsham Windfarm (Main site Access without Private Wire Connection). Species comprised; creeping bent, dandelion, white clover, greater plantain and mosses. | 66 |
| r1.10.50 | Standing open water and canals; ditch with scattered scrub Very long agricultural field ditch with common reed at the margins and patches of duckweed in areas lacking common reed. Sporadic scrub present along extent; willow and bramble. Livestock poaching evident in places along extent. Located within the NBBMA. | 67 |
| r1.50 | Standing open water and canals; ditch Agricultural field ditches between 0.5 - 1.5m wide located within the SADA, NBBMA, Skylark Mitigation Area and along the Main Site Access without Private Wire Connection. Likely that the majority will totally or partially dry during drier months. Aquatic vegetation was lacking from the majority with the exception of common reed in ditches that were surrounded by reedbed and some of those adjacent to the access track | 68 |

| Habitat Code | Descriptions | Photo No |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| | that had duckweed and flag iris. Bankside vegetation composition was either like the surrounding grassland or reedbed. | |
| r1e | <p>Canal</p> <p>Wide, deep watercourse, >5m wide. Connected to River Weaver via pumping station. Aquatic vegetation in margins; flag iris, common reed and fool's watercress. Sloping banks contain grassland very much like others within the Site. Located within the SADA.</p> <p>Passes under bridge located along the access road with SPEN grid connection (within the SADA). Wide and deep; >5m wide. Duckweed extensive with common reed and flag iris at margins.</p> | 69, 70 |
| r2b | <p>Other rivers and streams</p> <p>Section of the River Weaver within the Site adjacent to the Frodsham Substation.</p> | 71 |
| w1g.33 | <p>Other broadleaved woodland; tree line</p> <p>Line of trees comprising either;</p> <ul style="list-style-type: none"> • mature elderberry and willow. • mature hawthorn and willow. • mature cherry with young regeneration. • elderberry, birch and sycamore on sloped field boundary. • elderberry, birch, willow and sycamore on sloped field boundary. • poplar, beech, elderberry, hawthorn and willow. • apple, hawthorn, rowan, willow, ash, poplar. | 72 |
| h2a5 | <p>Species-rich native hedgerow</p> <p>Mature hedgerows, some gappy and/or leggy, with hawthorn the main species in all. Height was 3 – 5m and width was 1.5 – 3m. Hedgerows comprised a variety of the following species; elderberry, dog rose, field maple, willow, damson and oak. With each comprising a combination of at least four of those species. Located predominantly within the SADA.</p> | 73 |
| h2a5.11 | <p>Species-rich native hedgerow, with trees</p> <p>Located within the SADA. Somewhat managed and leggy. Height was 4m and width was 2m. Single mature oak tree present. Hawthorn dominant species with dog rose, damson, oak and elderberry.</p> | N/A |
| h2a6 | <p>Other native hedgerow</p> <p>Unmanaged, mature hedgerows, some gappy, with hawthorn the main species in all. Height was 3 – 5m and width was 1.5 – 5m. Hedgerows also comprised a variety of the following species; blackthorn, cherry, field maple, dog rose, willow and hazel. With none comprising a combination of more than three of these species. Located predominantly within the SADA.</p> | 74 |
| h2a6.11 | <p>Other native hedgerow, with trees</p> <p>Located within the SADA. Somewhat managed and leggy. Height was 5m and width was 3m. Willow trees sporadic. Hawthorn dominant species with elderberry and dog rose.</p> | 75 |

| Habitat Code | Descriptions | Photo No |
|-----------------|-----------------------------------------------------------------------|----------|
| Individual tree | Two trees; semi-mature alder and willow by edge of river within SADA. | 76, 77 |

3.2.2 Table 3-5 details target notes recorded during the UKHab Survey.

Table 3-5: Target Notes

| Target Note | Description | Photo Reference |
|-------------|----------------------------------------------------|-----------------|
| TN1 | Scattered Himalayan balsam within reedbed. | 78 |
| TN2 | Himalayan balsam within reedbed. | 79 |
| TN3 | Himalayan balsam on banks of ditch. | 80 |
| TN4 | New Zealand pygmyweed within the four waterbodies. | 81 |
| TN5 | Himalayan balsam. | 83 |
| TN6 | Himalayan balsam. | 84 |

Priority Habitats

3.2.3 The UKHab survey identified the following habitats which constitute an HPI¹²:

- Hedgerows;
- Reedbeds; and
- Wet woodland.

3.2.4 Where existing records of HPI were returned from the MAGIC data search, from within the Proposed Development and 0.01km, the identification of presence/absence these habitats during the field survey are discussed below.

3.2.5 No habitat was assessed as meeting the Joint Nature Conservation Council¹³ (JNCC) or UKHab⁹ definition for Coastal Saltmarsh. JNCC guidance states that Coastal Saltmarsh is usually restricted to comparatively sheltered locations in five main physiographic situations: in estuaries, in saline lagoons, behind barrier islands, at the heads of sea lochs, and on beach plains. The Main Development Area, including areas identified as Coastal Saltmarsh, are separated from the estuarine sections of the River Mersey by Eastham locks. Although the Manchester Ship Canal, which runs along the bottom of a steep embankment (flood defence) adjacent the northern boundary of the Main Development Area, may be subject to tidal influences from the River Mersey and River Weaver, both the tidal nature and high salinity that underpin coastal saltmarsh habitats are not occurring at this location, in proximity to the Proposed Development. Additionally, the Proposed Development sits at a higher level than the

¹² .GOV (2022). Habitats of species and principal importance in England. Available at: [Habitats and species of principal importance in England - GOV.UK](#). Accessed: 01/05/2025.

¹³ JNCC (2008). UK Biodiversity Action Plan Priority Habitat Descriptions. Coastal Saltmarsh. Available at: [Coastal saltmarsh \(UK BAP Priority Habitat description\)](#). Accessed: 01/05/2025.

floodplain, due to this difference in height the Proposed Development is not situated within any habitat which would constitute Coastal Saltmarsh.

- 3.2.6 No habitat was assessed as meeting the JNCC¹⁴ or UKHab⁹ definition for Coastal Floodplain Grazing Marsh. Although parts of the site are periodically inundated (from surface and ground water) and comprise a network of ditches, extensive areas of reeds have been recorded (JNCC state that emergent swamp communities may be present, however, this does not include reeds). The Proposed Development is situated on top of a steep embankment (flood defence), separated from the Manchester Ship Canal, which as a canal has manually controlled water levels. The Proposed Development sits at a higher level than the floodplain, due to this difference in height the Proposed Development is not hydrologically connected to the floodplain and is assessed as not constituting Coastal Floodplain Grazing Marsh.

Ancient and Irreplaceable Habitats

- 3.2.7 No ancient woodland, ancient or veteran trees have been identified during field surveys.
- 3.2.8 No peat dependant ecological habitats were identified within the Main Development Area. Furthermore, ground investigation surveys undertaken of the SADA identified no peat to a depth of 5.5 m.

Protected and Notable Flora

- 3.2.9 One notable species, bluebell, was recorded during field surveys.

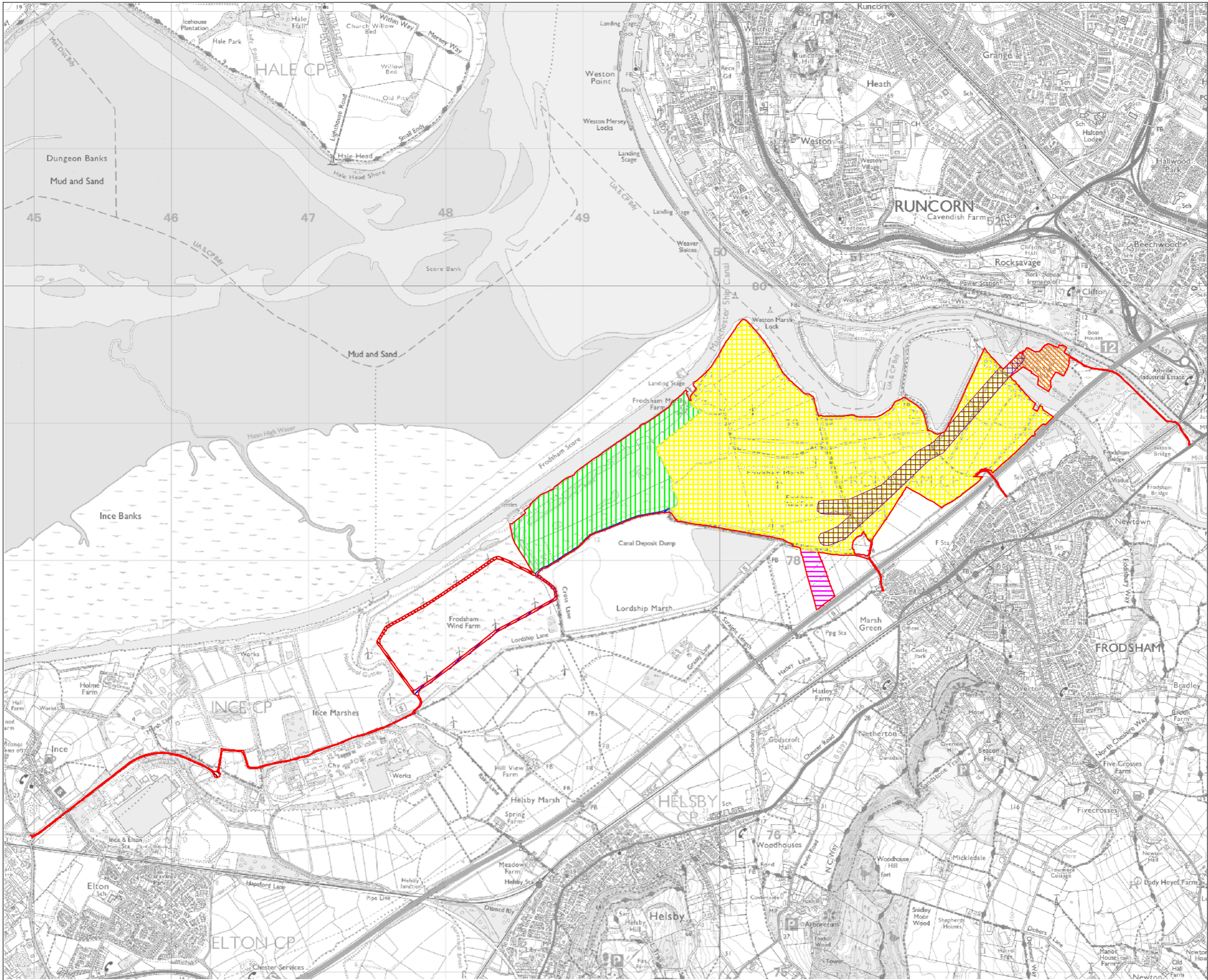
3.3 Invasive non-native species

Survey Results

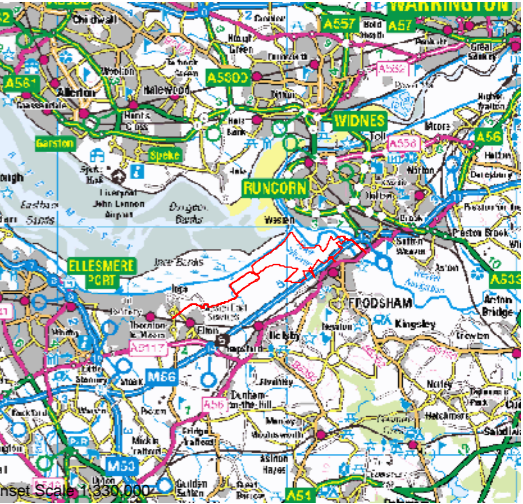
- 3.3.1 Himalayan balsam was observed in two areas of reedbed located on the banks of the River Weaver (TN1 and TN2), within a ditch along the Access Road with Grid Connection (TN3) and two areas within scrub located on the edge of Frodsham Substation (TN5 and TN6).
- 3.3.2 New Zealand pygmyweed was identified within the four waterbodies to the north of the NBBMA (TN4).

¹⁴ JNCC (2008). UK Biodiversity Action Plan Priority Habitat Descriptions. Coastal and Floodplain Grazing Marsh. Available at: [Coastal and floodplain grazing marsh \(UK BAP Priority Habitat description\)](#). Accessed: 01/05/2025.

FIGURES



- Order Limits
- Main Site Access with Private Wire Connection
- Main Site Access without Private Wire Connection
- Non-Breeding Bird Mitigation Area
- Skylark Mitigation Area
- Solar Array Development Area
- SPEN
- SPEN Grid Connection



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FRODSHAM SOLAR ENVIRONMENTAL STATEMENT

Figure Number

1

Figure Title

Proposed Development Area

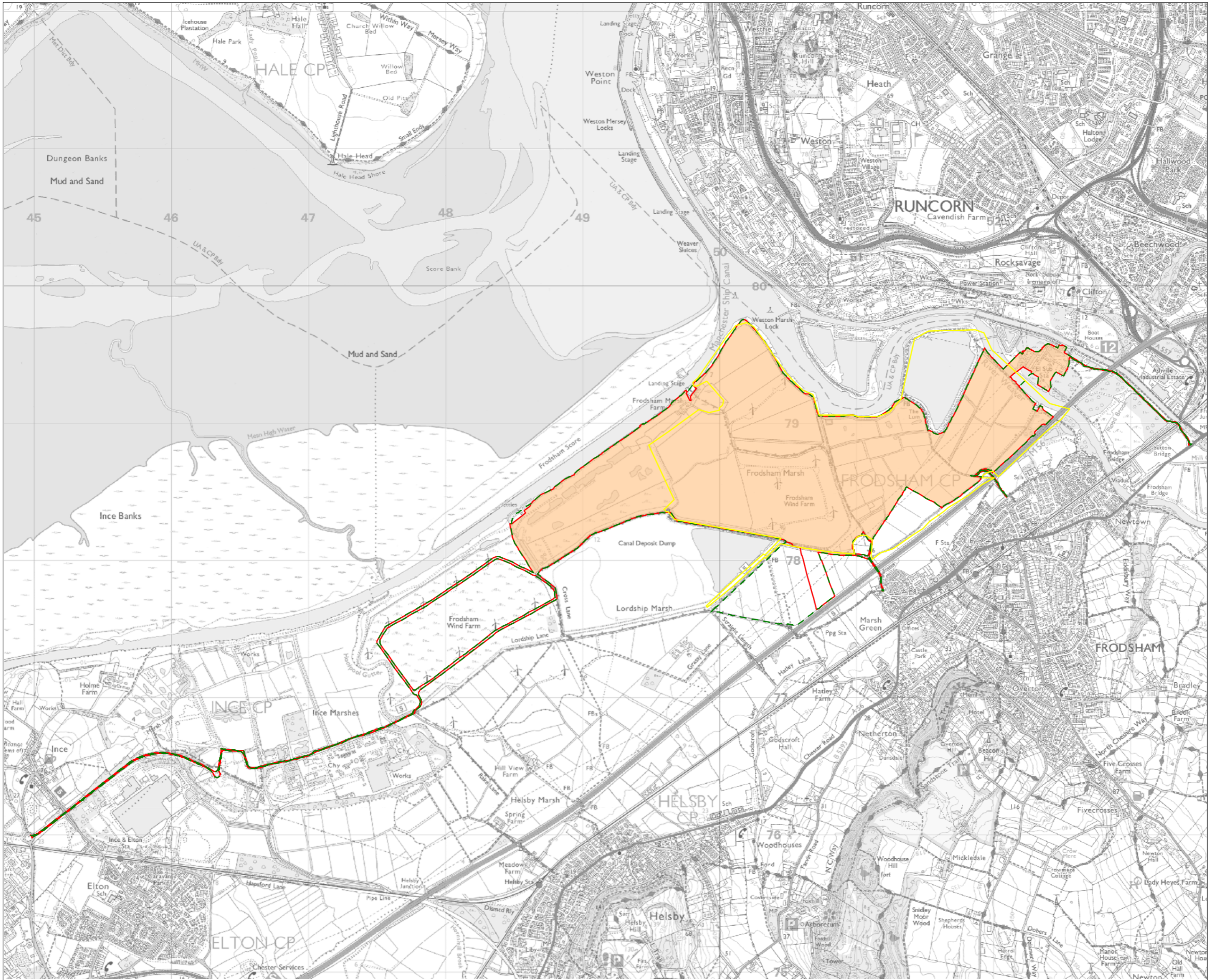
Scale

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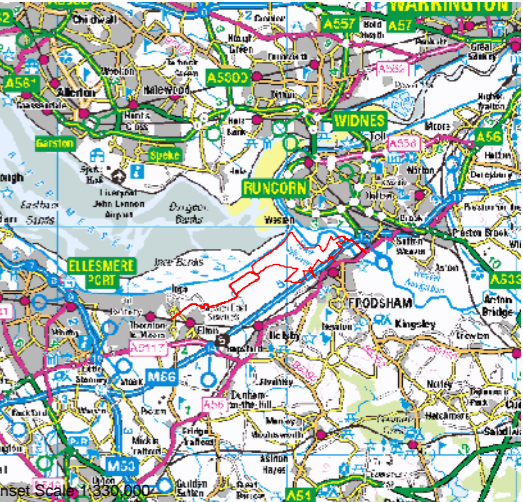
Date

May 2025





- Order Limits
- Preliminary Site Boundary
- Main Development Area
- Habitat Survey (Avian Ecology 2023/2024)



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FRODSHAM SOLAR ENVIRONMENTAL STATEMENT

Figure Number

2

Figure Title

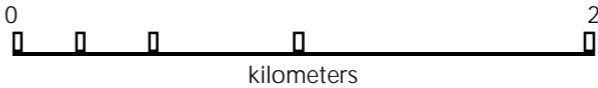
**Survey Areas (Extended Habitat
Survey)**

Scale

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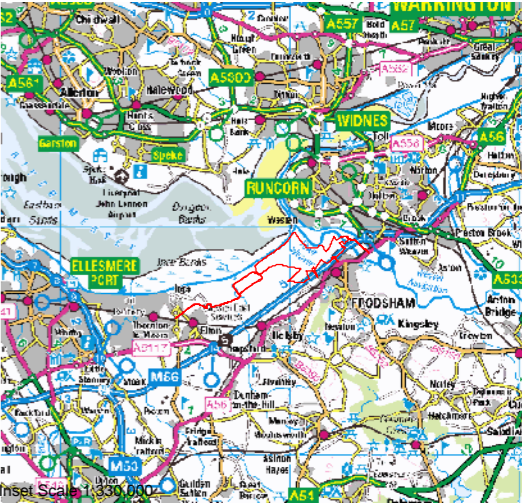
Date

May 2025





- Order Limits
- Main Development Area
- 2km Main Development Buffer
- 5km Main Development Buffer
- 10km Main Development Buffer
- Statutory Designated Sites Cited for Ecological Interest – National
 - Site of Special Scientific Interest (SSSI)
 - Local Nature Reserve (LNR)
- Statutory Designated Sites Cited for Ecological Interest – International
 - Ramsar Site



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FRODSHAM SOLAR ENVIRONMENTAL STATEMENT

Figure Number

3

Figure Title

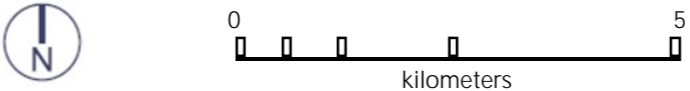
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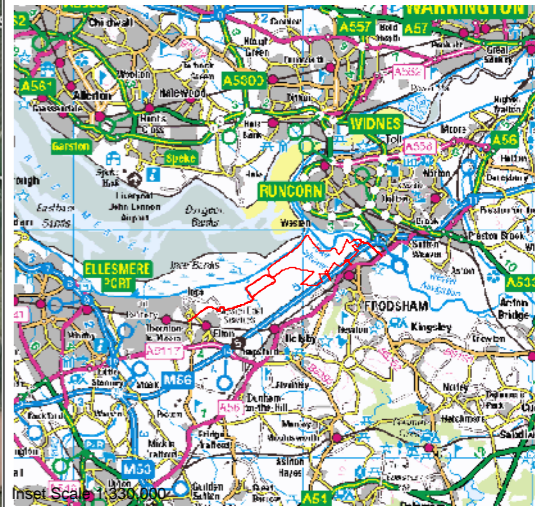
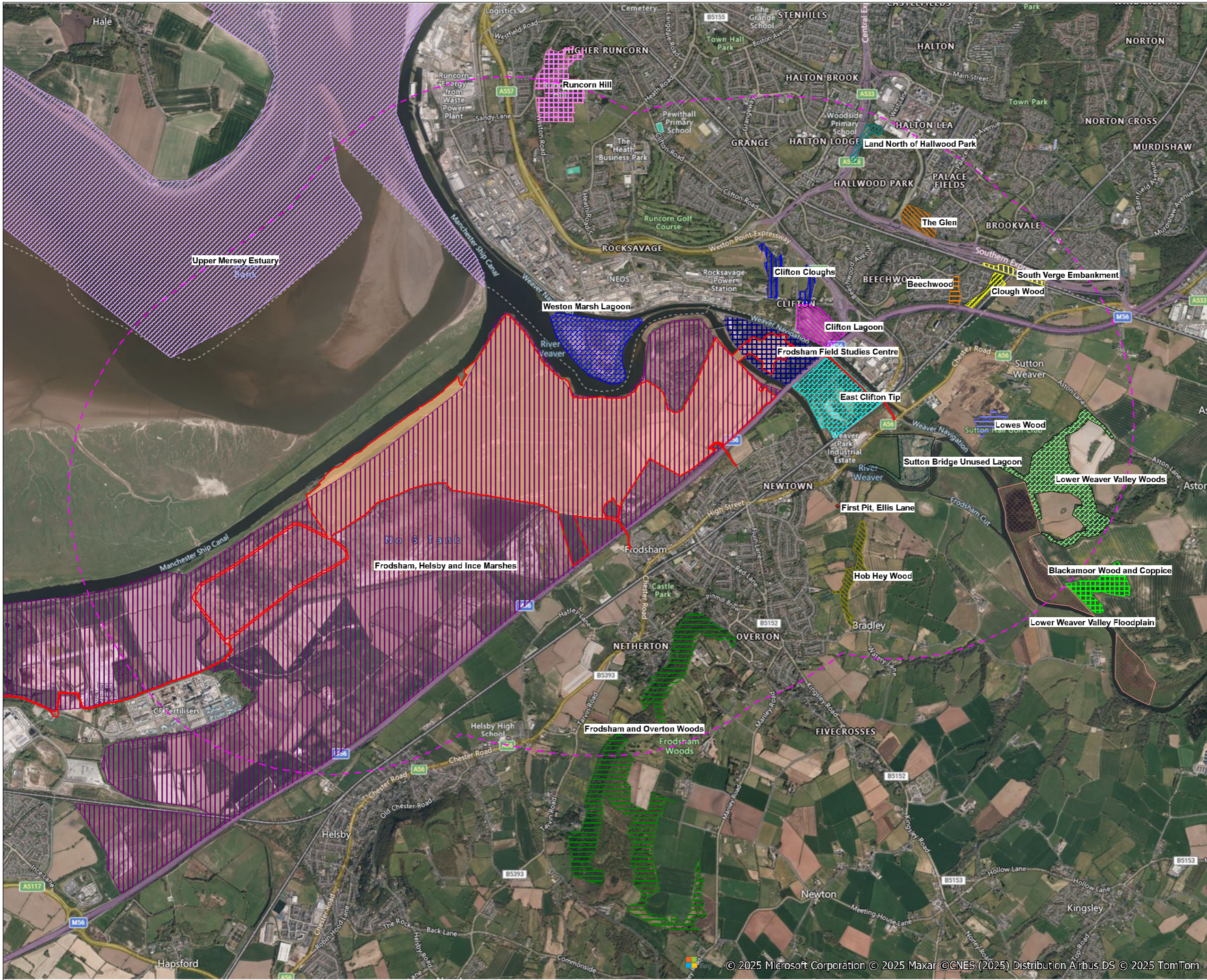
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Date

May 2025





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FRODSHAM SOLAR ENVIRONMENTAL STATEMENT

Figure Number

4

Figure Title

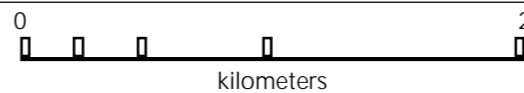
Non-Statutory Designated Sites Cited for Ecological Interest

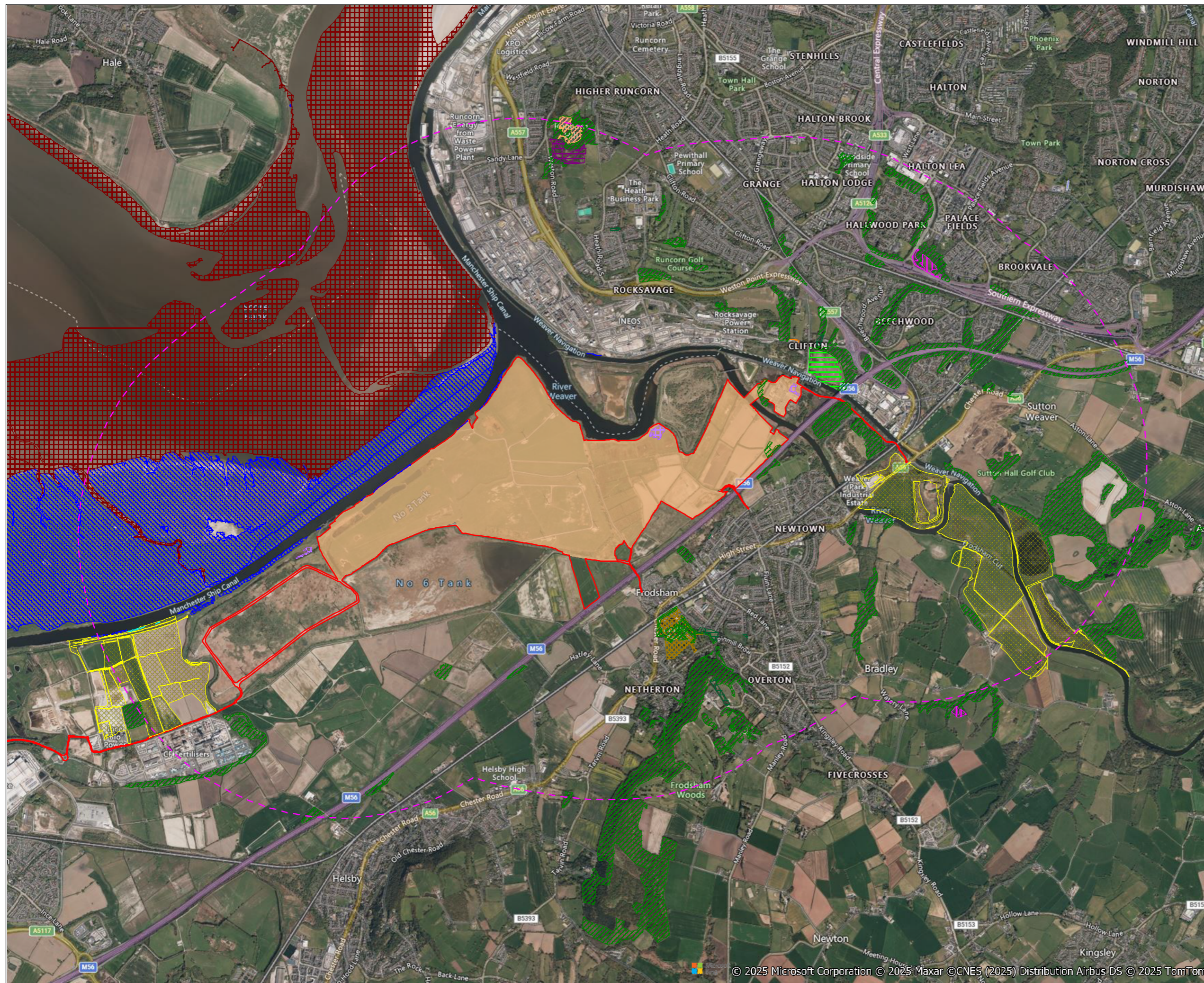
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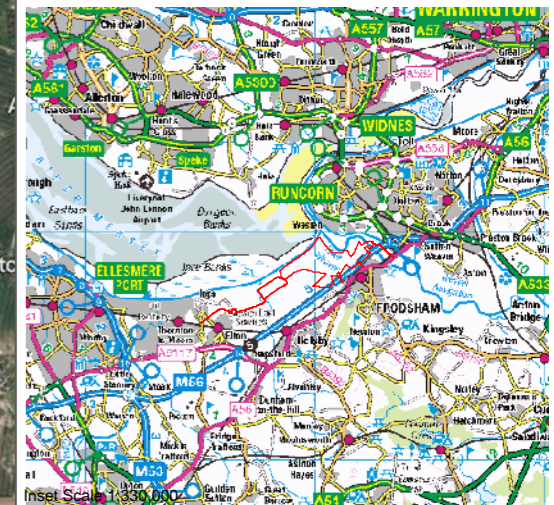
Date

May 2025





-
- Order Limits**
- Main Development Area**
- 2km Main Development Buffer**
- Priority Habitat**
- Coastal and floodplain grazing marsh
 - Coastal and floodplain grazing marsh, Coastal saltmarsh
 - Coastal saltmarsh
 - Coastal saltmarsh
 - Deciduous woodland
 - Lowland calcareous grassland
 - Lowland fens
 - Lowland heathland
 - Lowland meadows
 - Mudflats
 - Purple moor grass and rush pastures
 - Reedbeds
 - Traditional orchard
 - Wood-pasture and Parkland



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FRODSHAM SOLAR ENVIRONMENTAL STATEMENT

Figure Number

5

Figure Title

Habitats of Principal Importance (Existing Records)

Scale

1:30000 @A3

Date _____

May 2025

UK Habitat Classification

| | |
|--|---------------------------------------------------------------------------------------------------|
| | c1c-Cereal crops |
| | c1c6-Arable fields with wild bird mix |
| | c1c7-Other cereal crops |
| | f2e-Reedbeds |
| | f2e.10-Reedbeds;Scattered scrub |
| | f2e.10.32-Reedbeds;Scattered scrub,Scattered trees |
| | f2e.500-Reedbeds;Dry |
| | g3c-Other neutral grassland |
| | g3c.10-Other neutral grassland;Scattered scrub |
| | g3c.10.14-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs |
| | g3c.10.14.16-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs, scattered trees |
| | g3c.10.14.16.32-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs, unmanaged |
| | g3c.10.14.501-Other neutral grassland;Scattered scrub,Scattered rushes,Mesic |
| | g3c.10.15-Other neutral grassland;Scattered scrub,Rushes dominant |

| | |
|--|----------------------------------------------------------------------------------|
| | g3c.10.15.501-Other neutral grassland;Scattered scrub,Rushes dominant,Mesic |
| | g3c.10.16-Other neutral grassland;Scattered scrub,Tall forbs |
| | g3c.10.16.32-Other neutral grassland;Scattered scrub,Tall forbs,Scattered trees |
| | g3c.10.32-Other neutral grassland;Scattered scrub,Scattered trees |
| | g3c.10.501-Other neutral grassland;Scattered scrub,Mesic |
| | g3c.10.503-Other neutral grassland;Scattered scrub,Wet |
| | g3c.14-Other neutral grassland;Scattered rushes |
| | g3c.16-Other neutral grassland;Tall forbs |
| | g3c.16.32-Other neutral grassland;Tall forbs,Scattered trees |
| | g3c.16.501-Other neutral grassland;Tall forbs,Mesic |
| | g4-Modified grassland |
| | g4.10.14-Modified grassland;Scattered scrub,Scattered rushes |
| | g4.102.107.110-Modified grassland;Sheep grazed,Mown and collected,Silage and hay |
| | g4.15-Modified grassland;Rushes dominant |
| | g4.32-Modified grassland;Scattered trees |

| | |
|--|---------------------------------------------------------------|
| | h3d-Bramble scrub |
| | h3d.16-Bramble scrub;Tall forbs |
| | h3d.16.32-Bramble scrub;Tall forbs,Scattered trees |
| | h3d.32-Bramble scrub;Scattered trees |
| | h3e-Gorse scrub |
| | h3f-Hawthorn scrub |
| | h3h-Mixed scrub |
| | h3h.16.32-Mixed scrub;Tall forbs,Scattered trees |
| | h3h.32-Mixed scrub;Scattered trees |
| | h3h.510-Mixed scrub;Bare ground |
| | h3j-Willow scrub |
| | h3j.32.206-Willow scrub;Scattered trees,Felled |
| | r1e-Canals |
| | r1f.41-Temporary waterbodies;Pond (non-priority) |
| | r1f6.41-Other temporary ponds and scrapes;Pond (non-priority) |

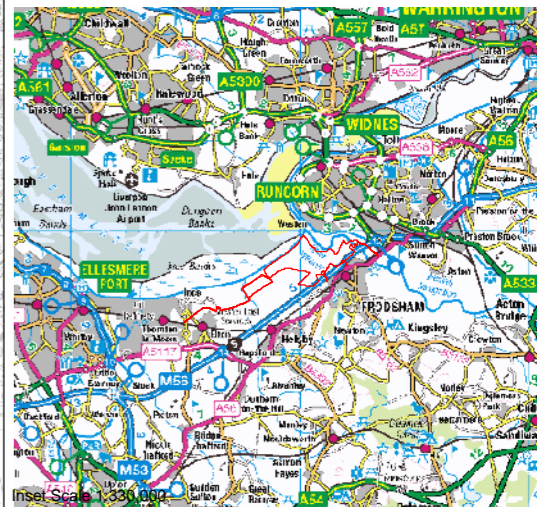
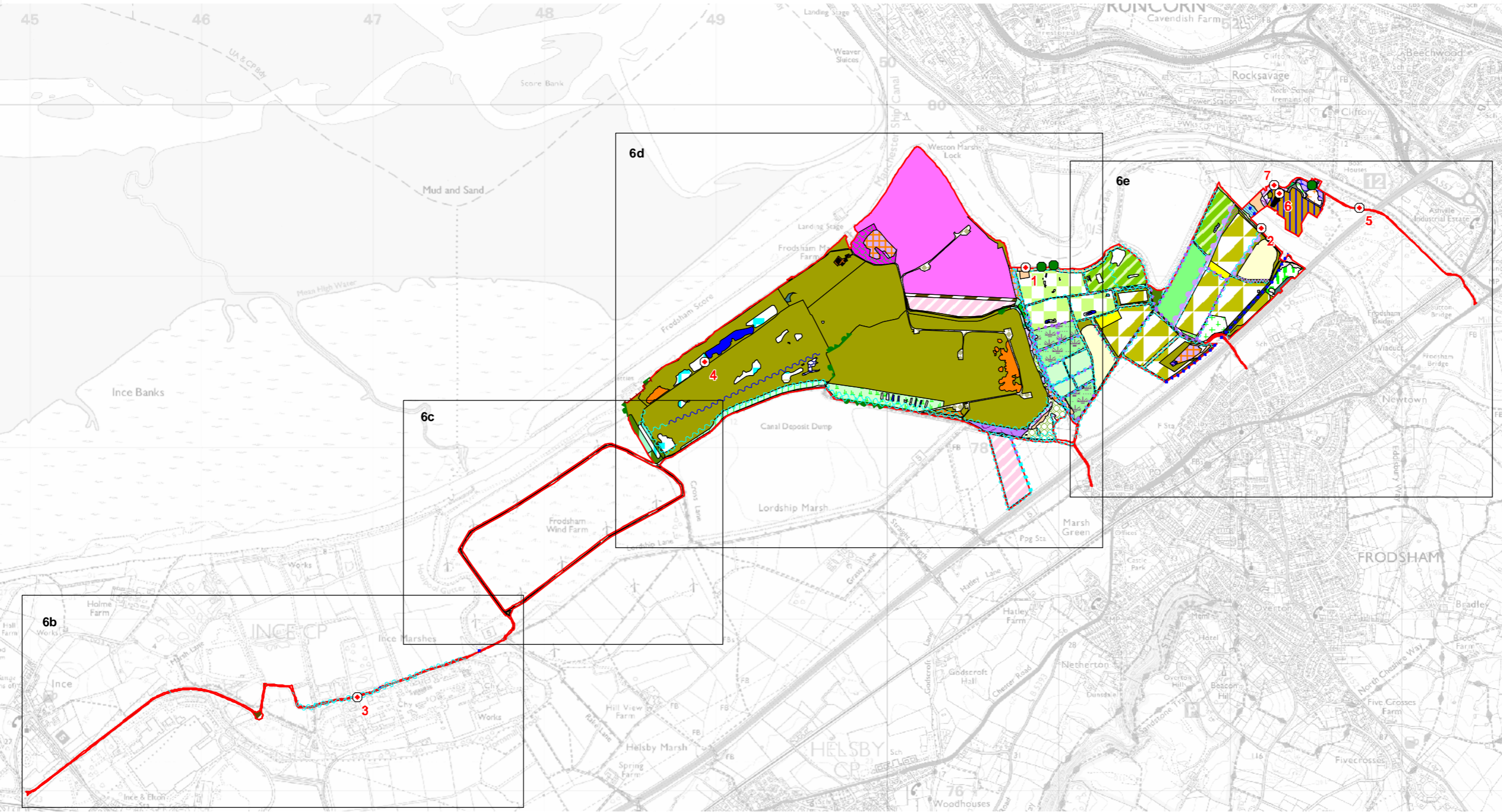
| | |
|--|-----------------------------------------------------------------------------------------|
| | r1g.41-Other standing water;Pond (non-priority) |
| | r1g.41.49-Other standing water;Pond (non-priority),Freshwater - artificial |
| | r2b-Other rivers and streams |
| | u1-Built-up areas and gardens |
| | u1b-Developed land; sealed surface |
| | u1b.817-Developed land; sealed surface;Industrial building |
| | u1b5-Buildings |
| | u1b6-Other developed land |
| | u1c-Artificial unvegetated, unsealed surface |
| | u1e.800-Built linear features;Road |
| | u1f-Sparsely vegetated urban land |
| | w1d-Wet woodland |
| | w1f7-Other Lowland mixed deciduous woodland |
| | w1f7.10.30-Other Lowland mixed deciduous woodland;Scattered scrub,Semi-natural woodland |
| | w1g-Other broadleaved woodland |

Order Limits

Target Note

UK Habitat Classification

| | |
|--|---------------------------------------------------------------|
| | h2a5-Species-rich native hedgerow |
| | h2a5.11-Species-rich native hedgerow;Hedgerow with trees |
| | h2a6-Other native hedgerows |
| | h2a6.11-Other native hedgerows;Hedgerow with trees |
| | r1-Standing open water and canals |
| | r1.10-Standing open water and canals;Scattered scrub |
| | r1.10.50-Standing open water and canals;Scattered scrub,Ditch |
| | r1.50-Standing open water and canals;Ditch |
| | u1e-Built linear features |
| | w1g.33-Other broadleaved woodland;Line of trees |
| | Individual Tree |



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**FRODSHAM SOLAR
ENVIRONMENTAL STATEMENT**

Figure Number

6a

Figure Title

Habitat Plan

Scale

1:26000@A3

Date

May 2025

UK Habitat Classification

- c1c-Cereal crops
- c1c6-Arable fields with wild bird mix
- c1c7-Other cereal crops
- f2e-Reedbeds
- f2e.10-Reedbeds;Scattered scrub
- f2e.10.32-Reedbeds;Scattered scrub,Scattered trees
- f2e.500-Reedbeds;Dry
- g3c-Other neutral grassland
- g3c.10-Other neutral grassland;Scattered scrub
- g3c.10.14-Other neutral grassland;Scattered scrub,Scattered rushes
- g3c.10.14.16-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs
- g3c.10.14.16.32-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs, scattered trees
- g3c.10.14.16.521-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs, unmanaged
- g3c.10.14.501-Other neutral grassland;Scattered scrub,Scattered rushes,Mesic
- g3c.10.15-Other neutral grassland;Scattered scrub,Rushes dominant

- g3c.10.15.501-Other neutral grassland;Scattered scrub,Rushes dominant,Mesic
- g3c.10.16-Other neutral grassland;Scattered scrub,Tall forbs
- g3c.10.16.32-Other neutral grassland;Scattered scrub,Tall forbs,Scattered trees
- g3c.10.32-Other neutral grassland;Scattered scrub,Scattered trees
- g3c.10.501-Other neutral grassland;Scattered scrub,Mesic
- g3c.10.503-Other neutral grassland;Scattered scrub,Wet
- g3c.14-Other neutral grassland;Scattered rushes
- g3c.16-Other neutral grassland;Tall forbs
- g3c.16.32-Other neutral grassland;Tall forbs,Scattered trees
- g3c.16.501-Other neutral grassland;Tall forbs,Mesic
- g4-Modified grassland
- g4.10.14-Modified grassland;Scattered scrub,Scattered rushes
- g4.102.107.110-Modified grassland;Sheep grazed,Mown and collected,Silage and hay
- g4.15-Modified grassland;Rushes dominant
- g4.32-Modified grassland;Scattered trees

- h3d-Bramble scrub
- h3d.16-Bramble scrub;Tall forbs
- h3d.16.32-Bramble scrub;Tall forbs,Scattered trees
- h3d.32-Bramble scrub;Scattered trees
- h3e-Gorse scrub
- h3f-Hawthorn scrub
- h3h-Mixed scrub
- h3h.16.32-Mixed scrub;Tall forbs,Scattered trees
- h3h.32-Mixed scrub;Scattered trees
- h3h.510-Mixed scrub;Bare ground
- h3j-Willow scrub
- h3j.32.206-Willow scrub;Scattered trees,Felled
- r1e-Canals
- r1f.41-Temporary waterbodies;Pond (non-priority)
- r1f6.41-Other temporary ponds and scrapes;Pond (non-priority)

- r1g.41-Other standing water;Pond (non-priority)
- r1g.41.49-Other standing water;Pond (non-priority),Freshwater - artificial
- r2b-Other rivers and streams
- u1-Built-up areas and gardens
- u1b-Developed land; sealed surface
- u1b.817-Developed land; sealed surface;Industrial building
- u1b5-Buildings
- u1b6-Other developed land
- u1c-Artificial unvegetated, unsealed surface
- u1e.800-Built linear features;Road
- u1f-Sparsely vegetated urban land
- w1d-Wet woodland
- w1f7-Other Lowland mixed deciduous woodland
- w1f7.10.30-Other Lowland mixed deciduous woodland;Scattered scrub,Semi-natural woodland
- w1g-Other broadleaved woodland

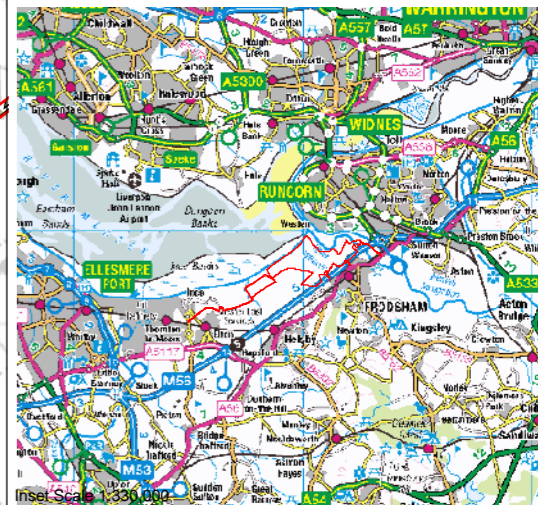
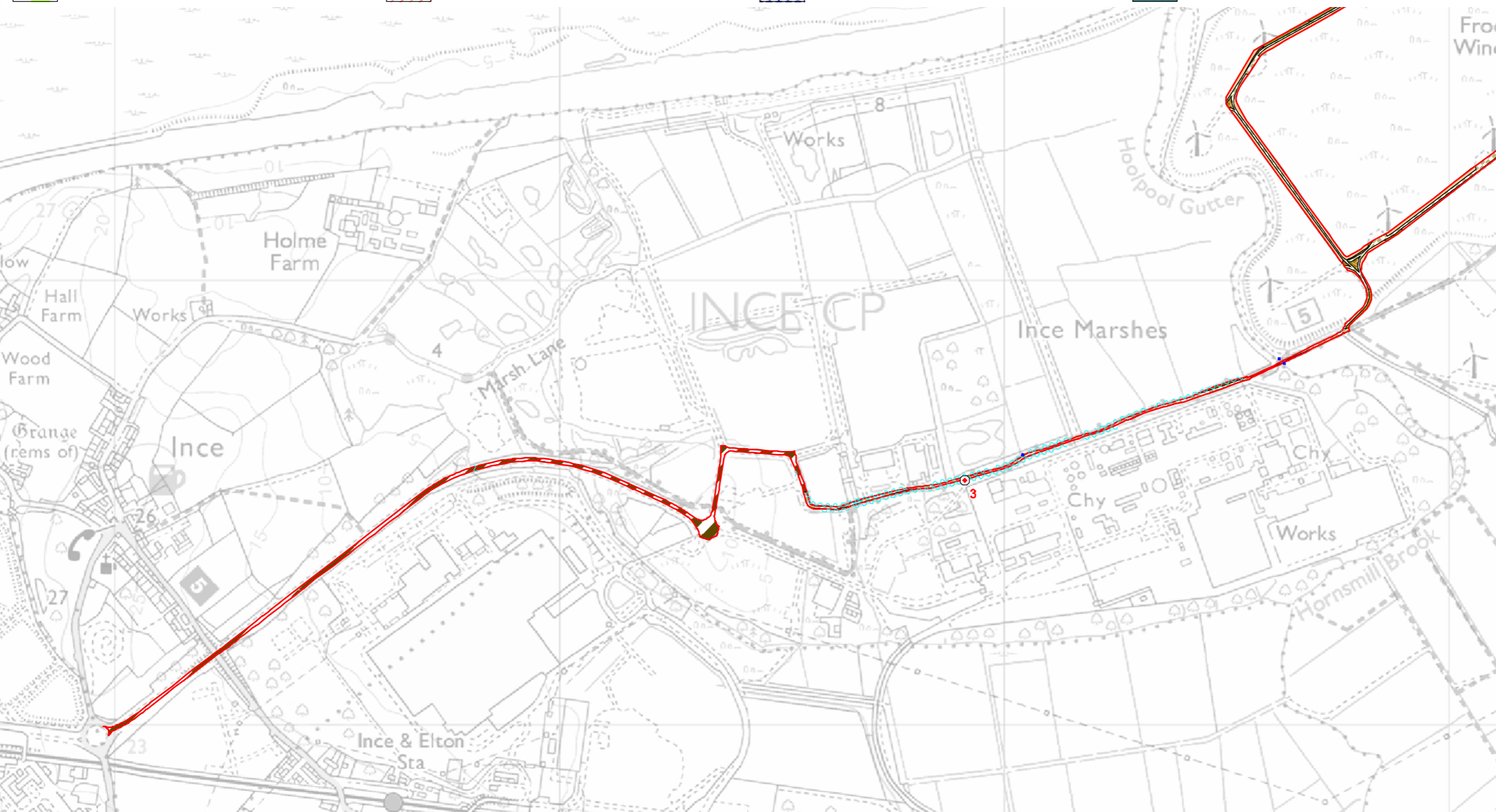
Order Limits

Target Note

UK Habitat Classification

- h2a5-Species-rich native hedgerow
- h2a5.11-Species-rich native hedgerow;Hedgerow with trees
- h2a6-Other native hedgerows
- h2a6.11-Other native hedgerows;Hedgerow with trees
- r1-Standing open water and canals
- r1.10-Standing open water and canals;Scattered scrub
- r1.10.50-Standing open water and canals;Scattered scrub,Ditch
- r1.50-Standing open water and canals;Ditch
- u1e-Built linear features
- w1g.33-Other broadleaved woodland;Line of trees

Individual Tree



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FRODSHAM SOLAR
ENVIRONMENTAL STATEMENT

Figure Number

6b

Figure Title

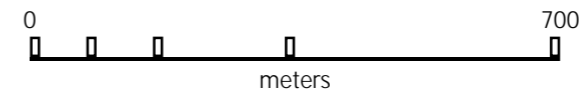
Habitat Plan

Scale

1:10000@A3

Date

May 2025



UK Habitat Classification

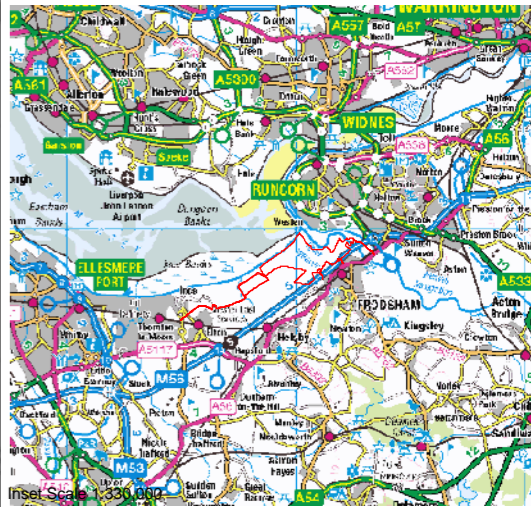
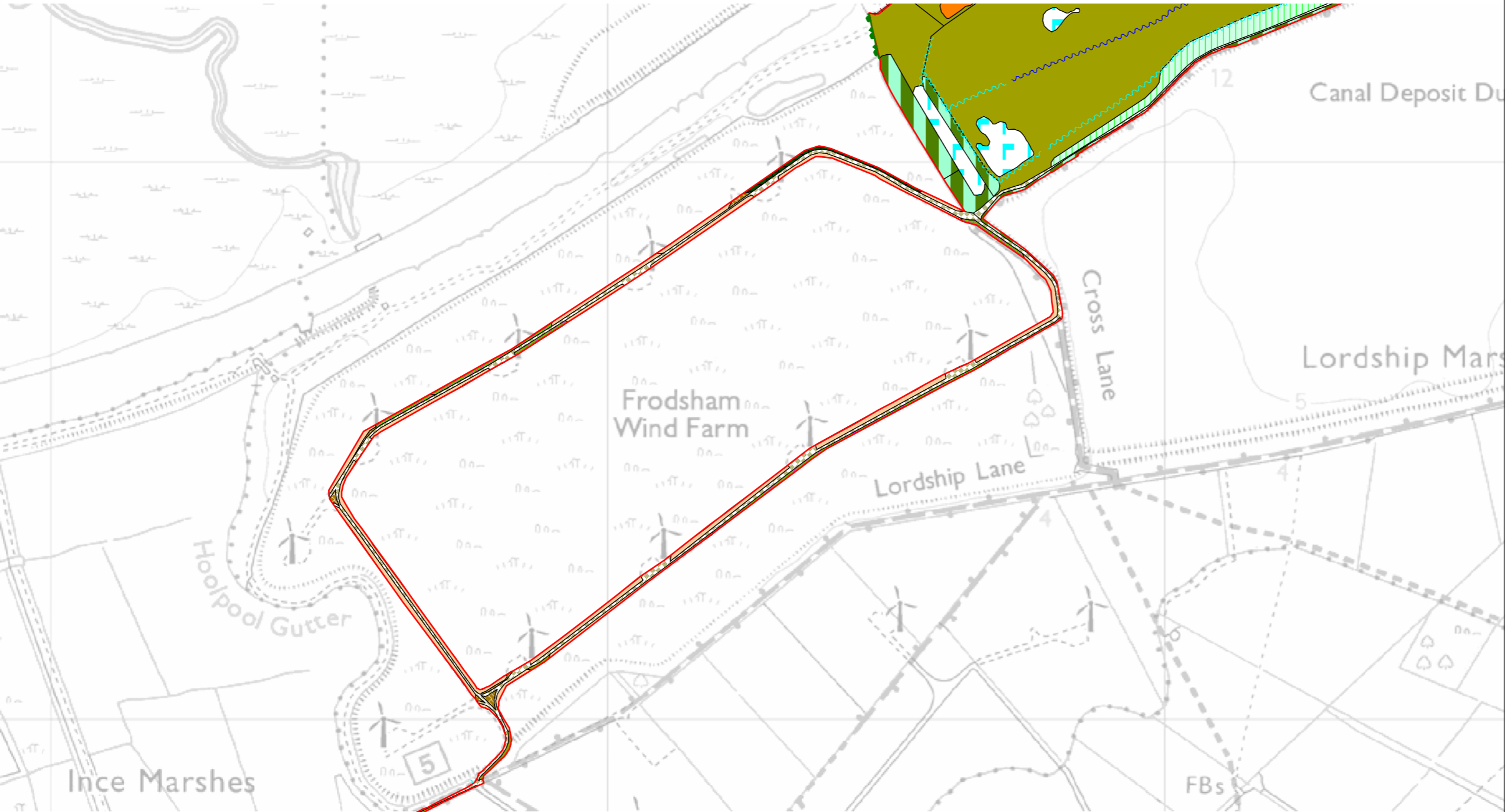
- c1c-Cereal crops
- c1c6-Arable fields with wild bird mix
- c1c7-Other cereal crops
- f2e-Reedbeds
- f2e.10-Reedbeds;Scattered scrub
- f2e.10.32-Reedbeds;Scattered scrub,Scattered trees
- f2e.500-Reedbeds;Dry
- g3c-Other neutral grassland
- g3c.10-Other neutral grassland;Scattered scrub
- g3c.10.14-Other neutral grassland;Scattered scrub,Scattered rushes
- g3c.10.14.16-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs
- g3c.10.14.16.32-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs, scattered trees
- g3c.10.14.16.521-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs, unmanaged
- g3c.10.14.501-Other neutral grassland;Scattered scrub,Scattered rushes,Mesic
- g3c.10.15-Other neutral grassland;Scattered scrub,Rushes dominant

- g3c.10.15.501-Other neutral grassland;Scattered scrub,Rushes dominant,Mesic
- g3c.10.16-Other neutral grassland;Scattered scrub,Tall forbs
- g3c.10.16.32-Other neutral grassland;Scattered scrub,Tall forbs,Scattered trees
- g3c.10.32-Other neutral grassland;Scattered scrub,Scattered trees
- g3c.10.501-Other neutral grassland;Scattered scrub,Mesic
- g3c.10.503-Other neutral grassland;Scattered scrub,Wet
- g3c.14-Other neutral grassland;Scattered rushes
- g3c.16-Other neutral grassland;Tall forbs
- g3c.16.32-Other neutral grassland;Tall forbs,Scattered trees
- g3c.16.501-Other neutral grassland;Tall forbs,Mesic
- g4-Modified grassland
- g4.10.14-Modified grassland;Scattered scrub,Scattered rushes
- g4.102.107.110-Modified grassland;Sheep grazed,Mown and collected,Silage and hay
- g4.15-Modified grassland;Rushes dominant
- g4.32-Modified grassland;Scattered trees

- h3d-Bramble scrub
- h3d.16-Bramble scrub;Tall forbs
- h3d.16.32-Bramble scrub;Tall forbs,Scattered trees
- h3d.32-Bramble scrub;Scattered trees
- h3e-Gorse scrub
- h3f-Hawthorn scrub
- h3h-Mixed scrub
- h3h.16.32-Mixed scrub;Tall forbs,Scattered trees
- h3h.32-Mixed scrub;Scattered trees
- h3h.510-Mixed scrub;Bare ground
- h3j-Willow scrub
- h3j.32.206-Willow scrub;Scattered trees,Felled
- r1e-Canals
- r1f.41-Temporary waterbodies;Pond (non-priority)
- r1f6.41-Other temporary ponds and scrapes;Pond (non-priority)

- r1g.41-Other standing water;Pond (non-priority)
- r1g.41.49-Other standing water;Pond (non-priority),Freshwater - artificial
- r2b-Other rivers and streams
- u1-Built-up areas and gardens
- u1b-Developed land; sealed surface
- u1b.817-Developed land; sealed surface;Industrial building
- u1b5-Buildings
- u1b6-Other developed land
- u1c-Artificial unvegetated, unsealed surface
- u1e.800-Built linear features;Road
- u1f-Sparsely vegetated urban land
- w1d-Wet woodland
- w1f7-Other Lowland mixed deciduous woodland
- w1f7.10.30-Other Lowland mixed deciduous woodland;Scattered scrub,Semi-natural woodland
- w1g-Other broadleaved woodland

- Order Limits
- Target Note
- UK Habitat Classification
 - h2a5-Species-rich native hedgerow
 - h2a5.11-Species-rich native hedgerow;Hedgerow with trees
 - h2a6-Other native hedgerows
 - h2a6.11-Other native hedgerows;Hedgerow with trees
 - r1-Standing open water and canals
 - r1.10-Standing open water and canals;Scattered scrub
 - r1.10.50-Standing open water and canals;Scattered scrub,Ditch
 - r1.50-Standing open water and canals;Ditch
 - u1e-Built linear features
 - w1g.33-Other broadleaved woodland;Line of trees
- Individual Tree



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ENVIRONMENTAL STATEMENT

Figure Number

6c

Figure Title

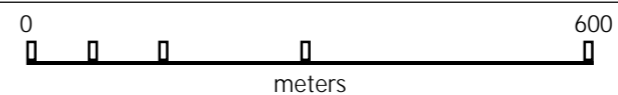
Habitat Plan

Scale

1:8000@A3

Date

May 2025



UK Habitat Classification

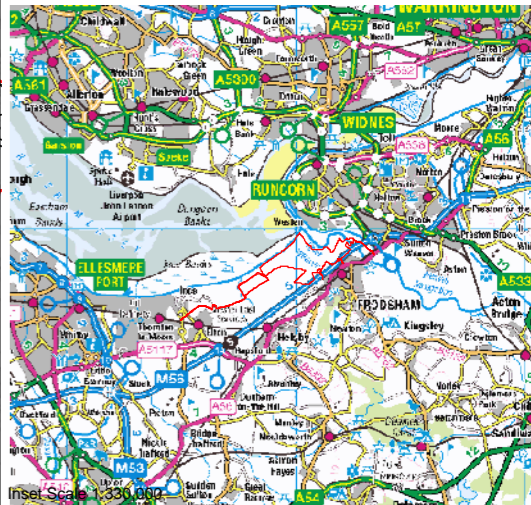
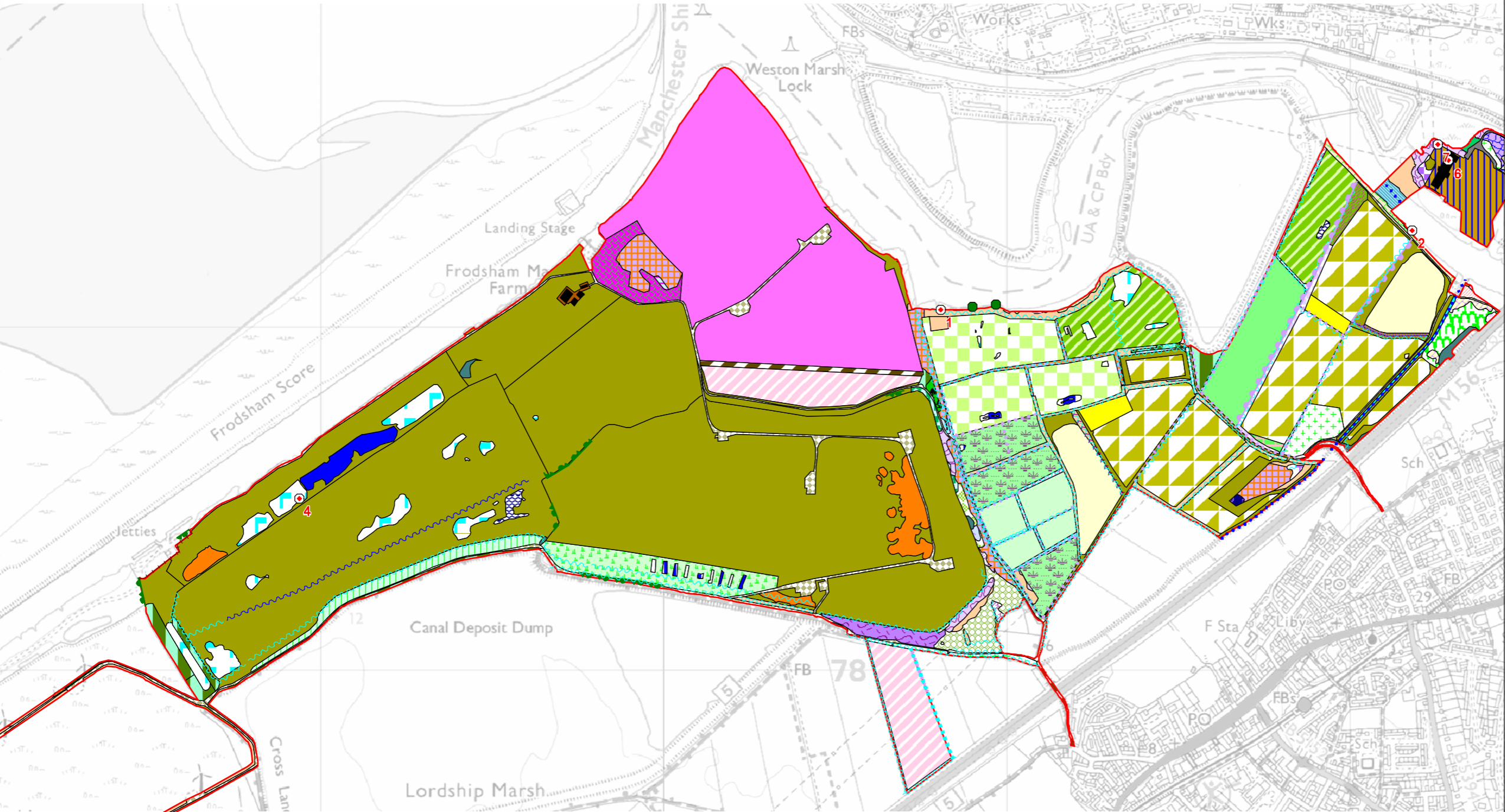
| | |
|--|---------------------------------------------------------------------------------------------------|
| | c1c-Cereal crops |
| | c1c6-Arable fields with wild bird mix |
| | c1c7-Other cereal crops |
| | f2e-Reedbeds |
| | f2e.10-Reedbeds;Scattered scrub |
| | f2e.10.32-Reedbeds;Scattered scrub,Scattered trees |
| | f2e.500-Reedbeds;Dry |
| | g3c-Other neutral grassland |
| | g3c.10-Other neutral grassland;Scattered scrub |
| | g3c.10.14-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs |
| | g3c.10.14.16-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs, scattered trees |
| | g3c.10.14.16.32-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs, unmanaged |
| | g3c.10.14.501-Other neutral grassland;Scattered scrub,Scattered rushes,Mesic |
| | g3c.10.15-Other neutral grassland;Scattered scrub,Rushes dominant |

| | |
|--|----------------------------------------------------------------------------------|
| | g3c.10.15.501-Other neutral grassland;Scattered scrub,Rushes dominant,Mesic |
| | g3c.10.16-Other neutral grassland;Scattered scrub,Tall forbs |
| | g3c.10.16.32-Other neutral grassland;Scattered scrub,Tall forbs,Scattered trees |
| | g3c.10.32-Other neutral grassland;Scattered scrub,Scattered trees |
| | g3c.10.501-Other neutral grassland;Scattered scrub,Mesic |
| | g3c.10.503-Other neutral grassland;Scattered scrub,Wet |
| | g3c.14-Other neutral grassland;Scattered rushes |
| | g3c.16-Other neutral grassland;Tall forbs |
| | g3c.16.32-Other neutral grassland;Tall forbs,Scattered trees |
| | g3c.16.501-Other neutral grassland;Tall forbs,Mesic |
| | g4-Modified grassland |
| | g4.10.14-Modified grassland;Scattered scrub,Scattered rushes |
| | g4.102.107.110-Modified grassland;Sheep grazed,Mown and collected,Silage and hay |
| | g4.15-Modified grassland;Rushes dominant |
| | g4.32-Modified grassland;Scattered trees |

| | |
|--|---------------------------------------------------------------|
| | h3d-Bramble scrub |
| | h3d.16-Bramble scrub;Tall forbs |
| | h3d.16.32-Bramble scrub;Tall forbs,Scattered trees |
| | h3d.32-Bramble scrub;Scattered trees |
| | h3e-Gorse scrub |
| | h3f-Hawthorn scrub |
| | h3h-Mixed scrub |
| | h3h.16.32-Mixed scrub;Tall forbs,Scattered trees |
| | h3h.32-Mixed scrub;Scattered trees |
| | h3h.510-Mixed scrub;Bare ground |
| | h3j-Willow scrub |
| | h3j.32.206-Willow scrub;Scattered trees,Felled |
| | r1e-Canals |
| | r1f.41-Temporary waterbodies;Pond (non-priority) |
| | r1f6.41-Other temporary ponds and scrapes;Pond (non-priority) |

| | |
|--|-----------------------------------------------------------------------------------------|
| | r1g.41-Other standing water;Pond (non-priority) |
| | r1g.41.49-Other standing water;Pond (non-priority),Freshwater - artificial |
| | r2b-Other rivers and streams |
| | u1-Built-up areas and gardens |
| | u1b-Developed land; sealed surface |
| | u1b.817-Developed land; sealed surface;Industrial building |
| | u1b5-Buildings |
| | u1b6-Other developed land |
| | u1c-Artificial unvegetated, unsealed surface |
| | u1e.800-Built linear features;Road |
| | u1f-Sparsely vegetated urban land |
| | w1d-Wet woodland |
| | w1f7-Other Lowland mixed deciduous woodland |
| | w1f7.10.30-Other Lowland mixed deciduous woodland;Scattered scrub,Semi-natural woodland |
| | w1g-Other broadleaved woodland |

| | |
|--|---------------------------------------------------------------|
| | Order Limits |
| | Target Note |
| | UK Habitat Classification |
| | h2a5-Species-rich native hedgerow |
| | h2a5.11-Species-rich native hedgerow;Hedgerow with trees |
| | h2a6-Other native hedgerows |
| | h2a6.11-Other native hedgerows;Hedgerow with trees |
| | r1-Standing open water and canals |
| | r1.10-Standing open water and canals;Scattered scrub |
| | r1.10.50-Standing open water and canals;Scattered scrub,Ditch |
| | r1.50-Standing open water and canals;Ditch |
| | u1e-Built linear features |
| | w1g.33-Other broadleaved woodland;Line of trees |
| | Individual Tree |



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Project

**FRODSHAM SOLAR
ENVIRONMENTAL STATEMENT**

Figure Number

6d

Figure Title

Habitat Plan
















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








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








May 2025

UK Habitat Classification


| | |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
|  | c1c-Cereal crops |
|  | c1c6-Arable fields with wild bird mix |
|  | c1c7-Other cereal crops |
|  | f2e-Reedbeds |
|  | f2e.10-Reedbeds;Scattered scrub |
|  | f2e.10.32-Reedbeds;Scattered scrub,Scattered trees |
|  | f2e.500-Reedbeds;Dry |
|  | g3c-Other neutral grassland |
|  | g3c.10-Other neutral grassland;Scattered scrub |
|  | g3c.10.14-Other neutral grassland;Scattered scrub,Scattered rushes |
|  | g3c.10.14.16-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs |
|  | g3c.10.14.16.32-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs, scattered trees |
|  | g3c.10.14.16.521-Other neutral grassland;Scattered scrub,Scattered rushes,Tall forbs, unmanaged |
|  | g3c.10.14.501-Other neutral grassland;Scattered scrub,Scattered rushes,Mesic |
|  | g3c.10.15-Other neutral grassland;Scattered scrub,Rushes dominant |

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
|  | g3c.10.15.501-Other neutral grassland;Scattered scrub,Rushes dominant,Mesic |
|  | g3c.10.16-Other neutral grassland;Scattered scrub,Tall forbs |
|  | g3c.10.16.32-Other neutral grassland;Scattered scrub,Tall forbs,Scattered trees |
|  | g3c.10.32-Other neutral grassland;Scattered scrub,Scattered trees |
|  | g3c.10.501-Other neutral grassland;Scattered scrub,Mesic |
|  | g3c.10.503-Other neutral grassland;Scattered scrub,Wet |
|  | g3c.14-Other neutral grassland;Scattered rushes |
|  | g3c.16-Other neutral grassland;Tall forbs |
|  | g3c.16.32-Other neutral grassland;Tall forbs,Scattered trees |
|  | g3c.16.501-Other neutral grassland;Tall forbs,Mesic |
|  | g4-Modified grassland |
|  | g4.10.14-Modified grassland;Scattered scrub,Scattered rushes |
|  | g4.102.107.110-Modified grassland;Sheep grazed,Mown and collected,Silage and hay |
|  | g4.15-Modified grassland;Rushes dominant |
|  | g4.32-Modified grassland;Scattered trees |












| | |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------|
|  | h3d-Bramble scrub |
|  | h3d.16-Bramble scrub;Tall forbs |
|  | h3d.16.32-Bramble scrub;Tall forbs,Scattered trees |
|  | h3d.32-Bramble scrub;Scattered trees |
|  | h3e-Gorse scrub |
|  | h3f-Hawthorn scrub |
|  | h3h-Mixed scrub |
|  | h3h.16.32-Mixed scrub;Tall forbs,Scattered trees |
|  | h3h.32-Mixed scrub;Scattered trees |
|  | h3h.510-Mixed scrub;Bare ground |
|  | h3j-Willow scrub |
|  | h3j.32.206-Willow scrub;Scattered trees,Felled |
|  | r1e-Canals |
|  | r1f.41-Temporary waterbodies;Pond (non-priority) |
|  | r1f6.41-Other temporary ponds and scrapes;Pond (non-priority) |

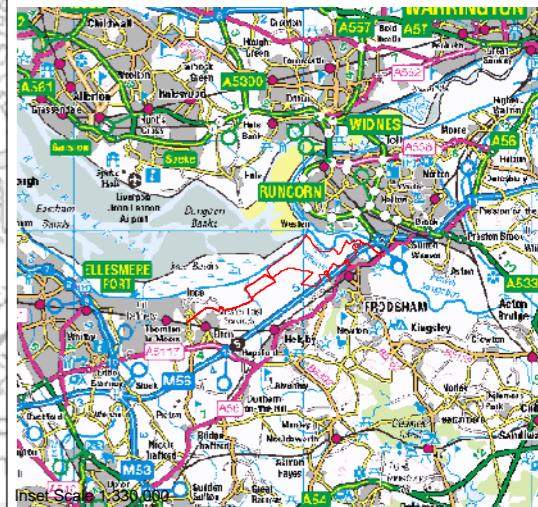
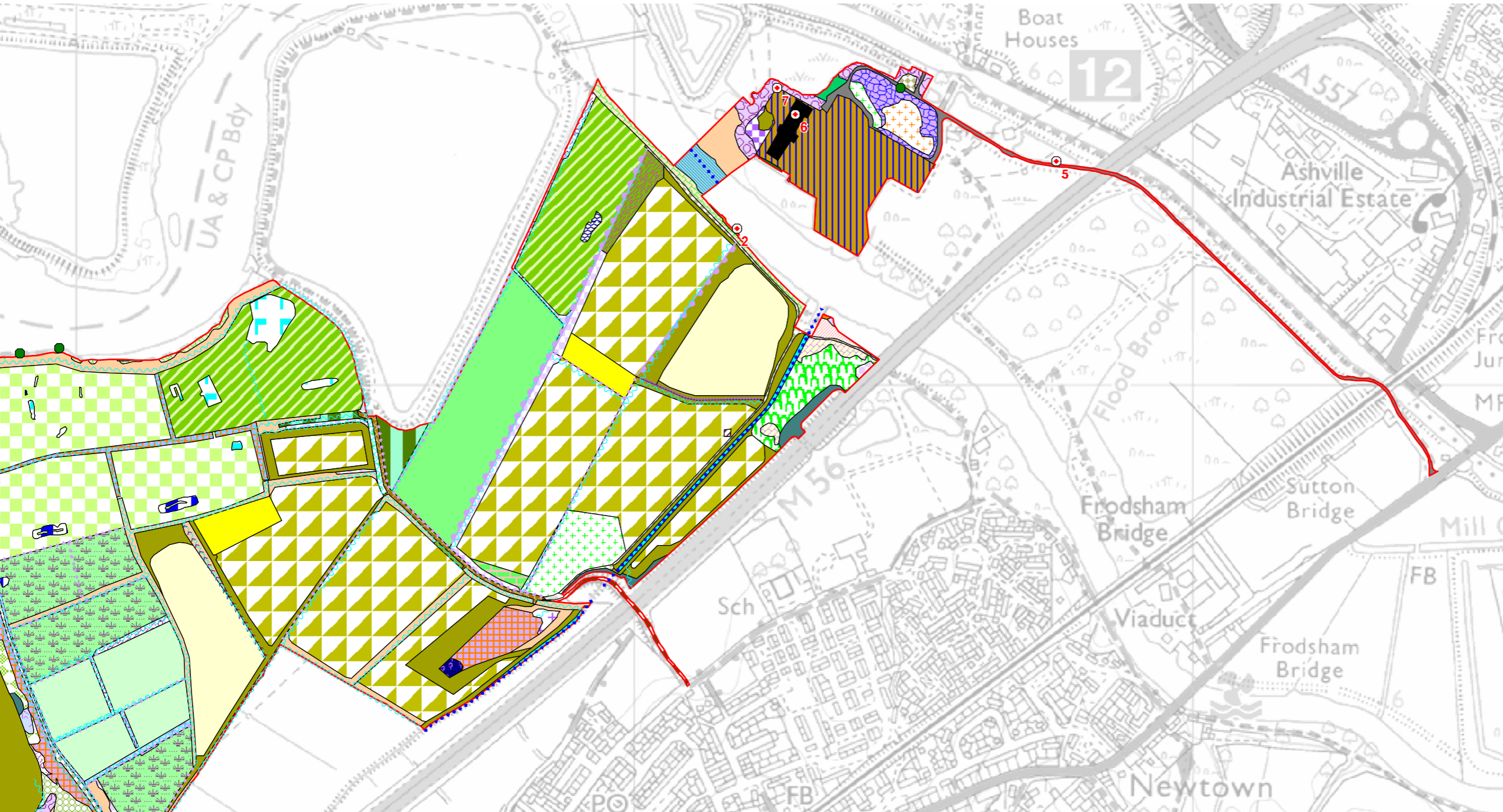
| | |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|  | r1g.41-Other standing water;Pond (non-priority) |
|  | r1g.41.49-Other standing water;Pond (non-priority),Freshwater - artificial |
|  | r2b-Other rivers and streams |
|  | u1-Built-up areas and gardens |
|  | u1b-Developed land; sealed surface |
|  | u1b.817-Developed land; sealed surface;Industrial building |
|  | u1b5-Buildings |
|  | u1b6-Other developed land |
|  | u1c-Artificial unvegetated, unsealed surface |
|  | u1e.800-Built linear features;Road |
|  | u1f-Sparsely vegetated urban land |
|  | w1d-Wet woodland |
|  | w1f7-Other Lowland mixed deciduous woodland |
|  | w1f7.10.30-Other Lowland mixed deciduous woodland;Scattered scrub,Semi-natural woodland |
|  | w1g-Other broadleaved woodland |

 Order Limits

 Target Note

UK Habitat Classification

| | |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------|
|  | h2a5-Species-rich native hedgerow |
|  | h2a5.11-Species-rich native hedgerow;Hedgerow with trees |
|  | h2a6-Other native hedgerows |
|  | h2a6.11-Other native hedgerows;Hedgerow with trees |
|  | r1-Standing open water and canals |
|  | r1.10-Standing open water and canals;Scattered scrub |
|  | r1.10.50-Standing open water and canals;Scattered scrub,Ditch |
|  | r1.50-Standing open water and canals;Ditch |
|  | u1e-Built linear features |
|  | w1g.33-Other broadleaved woodland;Line of trees |
|  | Individual Tree |



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Project

**FRODSHAM SOLAR
ENVIRONMENTAL STATEMENT**

Figure Number

6e

Figure Title

Habitat Plan

Scale

1:8000@A3



Date



May 2025



APPENDICES



Annex 1

Photographs

| Photo No | Photographs | Description |
|----------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 1 |  | Example of other neutral grassland (g3c) within the Main Development Area. |
| 2 |  | Example of other neutral grassland (g3c) on shallow soil by the Access Road within Frodsham Windfarm. |




| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 3 |  | <p>Other neutral grassland with scattered scrub (g3c.10) on bank of ditch within SADA.</p> |
| 4 |  | <p>Other neutral grassland with scattered scrub (g3c.10) adjacent to Frodsham Substation.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 5 |  | <p>Other neutral grassland with scattered scrub and scattered rushes (g3c.10.14) within the SADA.</p> |
| 6 |  | <p>Other neutral grassland with scattered scrub, scattered rushes and tall forbs (g3c.10.14.16) within the SADA.</p> |


| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 7 |  | <p>Other neutral grassland with scattered scrub, scattered rushes, tall forbs and scattered trees (g3c.10.14.16.32) within the SADA.</p> |
| 8 |  | <p>Other neutral grassland with scattered scrub, scattered rushes and mesic soils (g3c.10.14.501) within the SADA.</p> |




| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 9 |  | <p>Other neutral grassland with scattered scrub and rushes dominant (g3c.10.15) within the SADA.</p> |
| 10 |  | <p>Other neutral grassland with scattered scrub, rushes dominant and mesic soils (g3c.10.15.501) within the SADA.</p> |

| Photo No | Photographs | Description |
|----------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11 |  | <p>Other neutral grassland with scattered scrub, tall forbs and scattered trees (g3c.10.16.32) within the SADA.</p> |
| 12 |  | <p>Other neutral grassland with scattered scrub and tall forbs (g3c.10.16) located adjacent to the Access Road and along track at the south boundary of the NBBMA.</p> |
| 13 |  | <p>Other neutral grassland with scattered scrub and tall forbs (g3c.10.16) located between two larger fields within the SADA.</p> |



| Photo No | Photographs | Description |
|----------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 14 |  | Other neutral grassland with scattered scrub and tall forbs (g3c.10.16). Triangular area within the SADA. |
| 15 |  | Other neutral grassland with scattered scrub and tall forbs (g3c.10.16). Earth mound around waterbody within the NBBMA. |
| 16 |  | Other neutral grassland with scattered scrub and scattered trees (g3c.10.32) on raised mound of large grazing pasture within the SADA. |



| Photo No | Photographs | Description |
|----------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 17 |  | <p>Other neutral grassland with scattered scrub and mesic soils (g3c.10.501) by edges of Access Road in Frodsham Windfarm.</p> |
| 18 |  | <p>Other neutral grassland with scattered scrub and mesic soils (g3c.10.501) within arable field margin within the SADA.</p> |
| 19 |  | <p>Other neutral grassland with scattered scrub and wet soils (g3c.10.503) by river edge within the SADA.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| 20 |  | <p>Other neutral grassland with scattered rushes (g3c.14) within the SADA.</p> |
| 21 |  | <p>Other neutral grassland with tall forbs (g3c.16) within the NBBMA.</p> |



| Photo No | Photographs | Description |
|----------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| 22 |  | <p>Other neutral grassland with tall forbs and scattered trees (g3c.16.32) within the SADA.</p> |
| 23 |  | <p>Other neutral grassland with tall forbs and mesic soils (g3c.16.501) located at the margin of a large arable field.</p> |
| 24 |  | <p>Modified grassland (g4) within the SADA.</p> |



| Photo No | Photographs | Description |
|----------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| 25 |  | Modified grassland (g4) within the SADA. |
| 26 |  | Modified grassland with scattered scrub and scattered rushes (g4.10.14) within the SADA. |
| 27 |  | Modified grassland with rushes dominant (g4.15) by edge of reedbed within the SADA. |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| 28 |  | <p>Modified grassland with scattered trees (g4.32) by the north-east Site boundary within the SADA.</p> |
| 29 |  | <p>Modified grassland; sheep grazed, mown and collected for silage (g4.102.107.110) within the SADA.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|---------------------------------------------------------|
| 30 |  | Fen marsh and swamp (F2) by river edge. |
| 31 |  | Reedbed (f2e) adjacent to watercourses within the SADA. |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|-------------------------------------------------|
| 32 |  | Reedbed (f2e) within the SADA. |
| 33 |  | Reedbed with scattered scrub (f2e.10) by river. |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| 34 |  | <p>Reedbed with scattered scrub (f2e.10) adjacent to Access Road within Frodsham Windfarm.</p> |
| 35 |  | <p>Reedbed with scattered scrub and scattered trees (f2e.10.32) surrounding ditches within the SADA.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 36 |  | <p>Reedbed with scattered scrub and scattered trees (f2e.10.32) by edge of carr woodland along the Access Road within Frodsham Windfarm.</p> |
| 37 |  | <p>Reedbed; dry (f2e.500) located just north of the Frodsham Substation.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 38 |  | <p>Example of dense bramble scrub (h3d) within the Site.</p> |
| 39 |  | <p>Example of bramble scrub with tall forbs (h3d.16) within the Site.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 40 |  | <p>Example of bramble scrub with tall forbs and scattered trees (h3d.16.32) within the Site.</p> |
| 41 |  | <p>Example of bramble scrub with scattered trees (h3d.32) within the Site.</p> |




| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|---------------------------------------------------------|
| 42 |  | <p>Example of gorse scrub (h3e) within the Site.</p> |
| 43 |  | <p>Example of hawthorn scrub (h3f) within the Site.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 44 |  | <p>Example of mixed scrub (h3h) within the Site.</p> |
| 45 |  | <p>Example of mixed scrub with tall forbs and scattered trees (h3h.16.32) within the Site.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| 46 |  | <p>Example of mixed scrub with scattered trees (h3h.32) within the Site.</p> |
| 47 |  | <p>Example of mixed scrub with bare ground (h3h.510) within the Site.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 48 |  | <p>Example of willow scrub (h3j) within the Site.</p> |
| 49 |  | <p>Example of willow scrub with scattered trees, some of which were felled (h3j.32.206) within the Site.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 50 |  | <p>Wet woodland (w1d) adjacent to the Access Road within Frodsham Windfarm.</p> |
| 51 |  | <p>Other broadleaved woodland (w1g) located on slopes of banks within the NBBMA.</p> |




| Photo No | Photographs | Description |
|----------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| 52 |  | Other broadleaved woodland (w1g) located within the SADA. |
| 53 |  | Other broadleaved woodland (w1g) located within the SADA. |
| 54 |  | Other broadleaved woodland with introduced shrub (w1g.847) within the NBBMA. |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 55 |  | <p>Other lowland mixed deciduous woodland (w1f7) located on sloped bank within the SADA.</p> |
| 56 |  | <p>Other lowland mixed deciduous woodland with scattered scrub; semi-natural woodland (w1f7.10.30) located south of Frodsham Substation.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 57 |  | <p>Example of temporary waterbodies; pond (r1f.42) located within the SADA.</p> |
| 58 |  | <p>Example of other temporary ponds and scrapes (r1f6.42) located within the NBBMA.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 59 |  | <p>Example of other standing water; pond (non-priority) (r1g.41) within the SADA.</p> |
| 60 |  | <p>Example of other standing water; pond (non-priority) (r1g.41) within the NBBMA.</p> |




| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 61 |  | <p>Example of other standing water; pond (non-priority) (r1g.41) within the NBBMA.</p> |
| 62 |  | <p>Other standing water; artificial pond (non-priority) (r1g.41.49) within the NBBMA.</p> |




| Photo No | Photographs | Description |
|----------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 63 |  | <p>Example of other standing water; pond (r1g.42) located within the SADA.</p> |
| 64 |  | <p>Example of other standing water; pond (r1g.42) located within the NBBMA.</p> |
| 65 |  | <p>Example of other standing water; pond (r1g.42) located within the NBBMA.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 66 |  | <p>Sparsely vegetated urban land (u1f) on Access Road within Frodsham Windfarm.</p> |
| 67 |  | <p>Standing open water and canals; ditch with scattered scrub (r1.10.50) located within the NBBMA.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| 68 |  | <p>Example of standing open water and canals; ditch (r1.50) located within the Site.</p> |
| 69 |  | <p>Canal (r1e) located within the SADA.</p> |



| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| 70 |  | <p>Canal (r1e) located beneath bridge along the Access Road with Grid Connection.</p> |
| 71 |  | <p>Other rivers and streams (r2b); section of River Weaver within Site adjacent to Frodsham Substation.</p> |

| Photo No | Photographs | Description |
|----------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 72 |  | <p>Example of other broadleaved woodland; tree line (w1g.33) located within the Site.</p> |
| 73 |  | <p>Example of species-rich native hedgerow (h2a5) within the SADA.</p> |
| 74 |  | <p>Example of other native hedgerow (h2a6) located within the SADA.</p> |

| Photo No | Photographs | Description |
|----------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 75 |  | <p>Example of other native hedgerow with trees (h2a6.11) located within the SADA.</p> |
| 76 |  | <p>Individual semi-mature alder tree by edge of river within SADA.</p> |
| 77 |  | <p>Individual semi-mature willow tree by edge of river within SADA.</p> |

| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 78 |  | Scattered Himalayan balsam within reedbed as highlighted in TN1. |
| 79 |  | Himalayan balsam within reedbed as highlighted in TN2. |

| Photo No | Photographs | Description |
|----------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 80 |  | <p>Himalayan balsam on banks of ditch as highlighted in TN3.</p> |
| 81 |  | <p>New Zealand pigmyweed on surface of one of the four large waterbodies as highlighted in TN4.</p> |

| Photo No | Photographs | Description |
|----------|--------------------------------------------------------------------------------------|-----------------------------------------|
| 82 |  | Himalayan balsam as highlighted in TN5. |
| 83 |  | Himalayan balsam as highlighted in TN6. |

Annex 2

Frodsham Renewable Energy Development Preliminary Ecological Appraisal Report (RSK Biocensus, 2023) (Redacted)



Peel Cubico Renewables Limited

Frodsham Renewable Energy Development

Preliminary Ecological Appraisal Report

2483418

JANUARY 2023

RSK
biocensus
EXPERTS IN ECOLOGY

RSK GENERAL NOTES

Project No.: 2483418



Title: Frodsham renewable energy development - Preliminary Ecological Appraisal Report

Client: Peel Cubico Renewables Limited


Date: January 2023

Office: Helsby

Status: Rev01

| | | | |
|---------------|-------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------------------------------------|
| Author | Emily Clark | Technical & quality reviewer | Will Holden |
| Signature |  | Signature |  |
| Date: | 30 January 2023 | Date: | 30 January 2023 |

Project manager Will Holden

Signature 

Date: 30 January 2023

RSK Biocensus (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Biocensus.

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Peel Cubico Renewables Limited

Frodsham renewable energy development - Preliminary Ecological Appraisal
 2483418

EXECUTIVE SUMMARY

This report presents the results of a preliminary ecological appraisal (PEA), comprising a background data search (BDS) and a Phase 1 habitat survey with assessment for protected species at the Frodsham renewable energy development site in Frodsham, Cheshire.

The report identifies ecological constraints on the project, specifies any further survey or mitigation requirements, gives recommendations for avoidance and protection through design changes, and suggests opportunities for ecological enhancement. The appraisal was carried out for Peel Cubico Renewables Limited on behalf of any future project specific Special Purpose Vehicle (SPV) company.

The site is c.285 ha and contains predominantly marshy grassland (grazed by sheep and cattle), agricultural grassland fields and arable land with a grid of interconnected ditches forming the field boundaries. A large portion of the western section of the site is also utilized as a wind farm. The development area is to the north-west of the M56 motorway and 200m north-west of the town of Frodsham. The site is bordered by the Manchester Ship Canal and River Weaver to the north and east, and the M56 motorway and Frodsham to the south.

The results of the survey and desk study have highlighted the requirement for further work in relation to the following habitats and species, however some surveys may not be necessary if impacts can be avoided by development design:

- **Amphibians and reptiles** – reasonable avoidance measures (RAMs) to be implemented during the construction phase of the development.
- **Badger** – There are two main setts and five outlier setts present on the site. Appropriate development design may avoid impacts, but if the construction works are within 30m of the setts, further surveys are required to assess the usage of the setts.
- **Bats (roosting)** – If the building on the site is to be impacted or if any trees are to be removed, further surveys will be required to assess the building / trees potential to support roosting bats on site. There are a number of brick-built structures present within the western section of site that have been assessed as having low potential to support roosting bats. If the brick-built structures are impacted, further presence / absence surveys are required to assess whether bats are using the site for roosting purposes.
- **Bats (foraging and commuting)** – The quality of foraging and commuting habitat on the site is low. Further activity and static bat detector surveys are required to determine the species assemblage present on the site and identify any important foraging and commuting habitat on the site.
- **Birds (breeding and wintering)** – The site supports important breeding and wintering bird assemblages. Due to the importance of the bird populations recorded within the site, both in the context of the adjacent Mersey Estuary SPA/Ramsar site, and at a geographical level, a detailed Ecological Impact

Assessment of the potential effects of the proposed development on birds will be required. In addition, an HRA will be required to identify any potential adverse effects on the integrity of Mersey Estuary SPA/Ramsar site. Any future development will need to be designed carefully with proportionate mitigation to provide the range of habitat types required to support the current breeding bird assemblage.

- **Designated sites** – A habitat regulations assessment (HRA) should be undertaken to fully assess the impacts on designated sites as a result of the proposed development. The proposed development site also lies within a SSSI Impact Risk Zone (IRZ) within which Natural England request that they are consulted on all types of planning applications. Therefore, it is recommended that the local planning authority (LPA) consult with Natural England for any proposals.
- **Habitats** – Hedgerows, trees, ponds and areas of reedbed should be retained where possible or replaced as part of a detailed landscaping scheme. Root protection areas (RPAs) for trees and hedgerows should be maintained. Specific procedures and control measures to be implemented to ensure that there is no risk of pollution into watercourses, ponds or ditches on the site, including the retention of a buffer zone. The measures should be set out by the contractors prior to commencement of any works and agreed with the LPA and other statutory consultees.
- **Invasive species** – *Cotoneaster* (*Cotoneaster* sp), Variegated Yellow Archangel (*Lamium galeobdolon*) and New Zealand Pigmyweed (*Crassula helmsii*) should be subject to control measures prior to the commencement of works and are to be eradicated as part of the development.
- **Otters** – Appropriate development design may avoid impacts, but if large waterbodies or ditches are directly or indirectly impacted, RAMs will need to be implemented, which will include a pre-commencement inspection to assess whether any holts are present on the site.
- **Water vole** – If any ditches are impacted by the proposed development, further surveys are required to establish presence or likely absence of water vole.

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1.0 INTRODUCTION

1.1 Purpose of this report

- 1.1.1 This report presents the results of a preliminary ecological appraisal (PEA), comprising a background data search (BDS) and a Phase 1 habitat survey with assessment for the potential presence of protected species at the Frodsham renewable energy development site in Frodsham, Cheshire (OS grid reference: SJ 510 786). The survey area included the land within the red-line boundary (called 'the site' from this point forward – as shown in *Figure 1*), plus adjacent land up to 30 m where access allowed. Due to the size and scale of the development, the site has been split into ten monad 1km 'Plots', as shown in *Figure* . Plots 1 - 10 are referenced throughout the report for ease of reference.
- 1.1.2 The report identifies ecological constraints on the project and specifies any further surveys which may be required. The appraisal was carried out for Peel Cubico Renewables Limited on behalf of any future project specific Special Purpose Vehicle (SPV) company.

1.2 Landscape context

- 1.2.1 The site is c.285 ha and contains predominantly marshy grassland (grazed by sheep and cattle), agricultural grassland fields and arable land with a grid of interconnected ditches forming the field boundaries. A large portion of the western section of the site is also utilized as a wind farm. The development area is to the north-west of the M56 motorway and 200m north-west of the town of Frodsham. The site is bordered by the Manchester Ship Canal and River Weaver to the north and east, and the M56 motorway and Frodsham to the south.

1.3 Validity of data

- 1.3.1 According to Chartered Institute of Ecology and Environmental Management (CIEEM) advice (CIEEM 2019), survey data are valid for a period of 12 to 18 months from the date of the survey. The report highlights any circumstances where data may be valid for less than 18 months. Between 18 months and 3 years a professional ecologist will need to undertake a site visit and may also need to update desk study information (effectively updating the PEA) and then review the validity of the report.

2.0 METHODS

2.1 Overview

- 2.1.1 The preliminary ecological appraisal (PEA) was undertaken in line with guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017), and it therefore included:
- a desk study (including records of designated sites, protected and notable species; a review of aerial photographs; obtaining information from the DEFRA and JNCC websites, and the local authority website; and requesting data from the local records centre) here called a background data search (BDS); and
 - a field survey that informed phase 1 habitat mapping, an assessment of the possible presence of protected or priority species, and the likely importance of habitat features.
- 2.1.2 The PEA report includes an ecological description of the site and information about species that may occur there. Notes and mapping of any incidental sightings of invasive non-native plant species and protected or priority species are also provided.
- 2.1.3 The survey was carried out between 22 and 24 March 2022 by Emily Clark and Shona Redman of RSK Biocensus. Emily is a senior ecological consultant with over six years' experience in ecological consultancy. She is an associate member of CIEEM and has botanical skills rated at Field Identification Skills Certificate (FISC) level 4.

2.2 Background data search

- 2.2.1 A search was made in March 2022 for reference materials relating to the ecology of the Frodsham renewable energy development site, and a list of sources is given in *Table 1*.

Table 1: Data sources.

| Information Obtained | Available From |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protected and noteworthy species-records | Record - The Biodiversity Information System for Cheshire, Halton, Warrington and Wirral |
| Designated site locations and citations | Natural England website Record - The Biodiversity Information System for Cheshire, Halton, Warrington and Wirral |
| Designations and legal protection of noteworthy species | Joint Nature Conservation Committee (JNCC) website |
| Details of species and habitats listed on the LBAP | Local BAP website https://www.cheshirewildlifetrust.org.uk/wildlife/priority-species-and-habitats |

- 2.2.2 A search was made for information on statutory designated sites (often internationally and nationally important sites for ecology) within 2 km and non-statutory designated

sites (often important in a local context) within 1 km of the site boundary. The search was extended to 10 km for Ramsar sites, special areas of conservation (SACs) and special protection areas (SPAs). A search was also made for records of noteworthy species within 1 km of the site boundary.

2.2.3 Species included in the search parameters were:

- European protected species (listed on Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017);
- nationally protected species under Schedules 1, 5 and 8 of The Wildlife & Countryside Act 1981 and The Protection of Badgers Act 1992;
- species listed as critically endangered, endangered or vulnerable based on the IUCN Red List Categories and Criteria 2001;
- all species listed on the RSPB Birds of Conservation Concern 5 as red or amber;
- nationally rare or nationally scarce species;
- notable invertebrates; and
- species of principal importance under The Natural Environment and Rural Communities (NERC) Act (2006) or are priority species under the local biodiversity action plan.

2.3 Plants and habitats

Phase 1 habitat survey

2.3.1 The field survey was based on the phase 1 habitat survey approach (Joint Nature Conservation Committee 2010) as extended for use in environmental impact assessment (Institute of Environmental Assessment, 1995). This field survey was undertaken in line with CIEEM (2017) and involved the following elements:

- habitat mapping using a set of standard colour codes to indicate habitat types on a phase 1 habitat map (*Figure 1*); and
- a description of features of possible ecological or nature conservation interest in notes relating to numbered locations on the habitat map, called 'target notes'.

2.3.2 Phase 1 habitat survey methods are described in Joint Nature Conservation Committee (JNCC 2010). There are no firm guidelines to specify what extended phase 1 habitat survey involves, but the Institute of Environmental Assessment (1995) suggests that it simply involves more extensive and detailed target notes.

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

2.3.4 Plant nomenclature in this report follows Stace (2019) for native and naturalised species of vascular plant, and mosses and liverworts follow Hill *et al.* (2008). Introduced species and garden varieties were identified using relevant Floras. Plant names in the text are given with common names with the scientific name (in italics) immediately following the first time it is mentioned. Doubtful identifications are preceded by 'cf.' placed before

the specific epithet where the plant is very probably the species indicated, but it could not be distinguished from similar members of the genus with certainty.

Invasive non-native species (INNS)

- 2.3.5 The survey did not involve exhaustive surveying for individual plant species, and various invasive species may be little in evidence at various times of year (depending on the species). A survey seeking to identify habitat types cannot therefore be relied upon to provide firm information about the presence or extent of any invasive non-native species (even though some things may be evident). However, we have noted any such species seen during the course of the survey, e.g. Giant Hogweed (*Heracleum mantegazzianum*), Himalayan Balsam (*Impatiens glandulifera*) or Japanese Knotweed (*Reynoutria japonica*) among others, as well as any invasive non-native species of animals recorded during the survey.

2.4 Protected and notable animals

General

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

Invertebrates

- 2.4.2 The site was assessed for its suitability to support notable species and/or assemblage of invertebrates, but no specific surveys were undertaken. The habitat requirements of invertebrates are often species-specific. The assessment focused on the presence of features or habitats suitable for the notable species identified in the BDS.

Great crested newt

- 2.4.3 The suitability of aquatic and terrestrial habitat on the site and in the immediate vicinity to support great crested newts (*Triturus cristatus*) was considered, taking into consideration habitat connectivity between suitable habitat areas. Aerial photography and Ordnance Survey maps were examined for ponds or other suitable breeding habitat within 500 m of the site.

Reptiles

- 2.4.4 The site was assessed for its suitability for the four most widespread reptile species, with particular attention given to those features that provide suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (e.g. rough grassland and scrub).
- 2.4.5 Specific habitat requirements differ between species. Common lizards (*Zootoca vivipara*) and slow-worms (*Anguis fragilis*) favour rough grassland. Grass snakes (*Natrix*

helvetica) have broadly similar requirements with a greater reliance on ponds and wetlands. Adders (*Vipera berus*) use a range of fairly open habitats with some cover but are most often found in dry heath (Beebee & Griffiths, 2000).

Birds

- 2.4.6 Birds nest and forage in a wide variety of habitats including scrub, woodland, hedges and trees, open ground and man-made structures. The site was assessed for its suitability to support nesting and foraging birds, with an emphasis on the Schedule 1 and notable species recorded in the BDS. This included any nests or incidental signs of nesting such as feathers or pellets in locations suitable for nests.

Bats

- 2.4.7 Habitats were assessed in respect of their suitability for foraging and commuting bats according to Collins (2016). Areas of particular interest vary between species, but generally include sheltered areas and habitats with good numbers of insects, such as woodland, scrub, rivers and species-rich or rough grassland.
- 2.4.8 A full preliminary roost assessment (PRA) was not undertaken during the survey but any trees or structures that may contain potential roosting features for bats were noted along with any incidental signs of bats or other evidence found (such as droppings, urine stains, odour, grease stains or feeding remains).

Water vole and otter

- 2.4.9 Watercourses on and/or adjacent to site and their surrounding habitats were assessed to determine whether they were suitable for water voles (*Arvicola amphibius*). Suitable habitats include vegetated earth banks, reed beds, flowing water and wet ditches. Incidental signs of water vole activity, including burrows, feeding platforms, food remains and latrines, were recorded if they were encountered.
- 2.4.10 Watercourses on and/or adjacent to site were also assessed for their suitability for otters (*Lutra lutra*). Otters require clean rivers and associated waterbodies with an abundant, varied supply of food and plenty of bank-side vegetation, offering secluded sites for their holts. Other suitable habitats include reed beds and interconnected ditches and streams. Incidental signs of otter activity, including holts, foraging signs, paths (runs), footprints and spraints, were recorded if they were encountered.

Badger

- 2.4.11 An initial assessment was carried out to identify areas that might be used by badgers (*Meles meles*) for commuting, foraging or setts within 30 m of all areas potentially affected by works (where access was possible). The area was systematically searched for signs of badgers including setts, foraging signs, paths (runs) and latrines where possible, and the category of sett and levels of recent activity visible at each sett recorded.

Other species of principal importance

- 2.4.12 The UK countries of England, Wales, Scotland and Northern Ireland are obliged by their individual laws to maintain lists of species and habitats of principal importance for biodiversity conservation. In England, this obligation derives from Section 41 of the NERC Act 2006. An assessment of the suitability and likelihood of the site supporting such species was made (for example, hedgehog (*Erinaceus europaeus*)).

2.5 Constraints and limitations

- 2.5.1 This preliminary appraisal as to whether protected species might occur on the site is based on the suitability of habitat, the known distribution of relevant species in the local area (from on-line sources and desk study), and any signs of the relevant species. It does not constitute a full and definitive survey of any protected species group.
- 2.5.2 Field signs for protected and valuable species are often difficult to find or absent from a site. The survey conducted was not intended to be a comprehensive presence/absence survey for all species, but rather to provide an indication of the likely presence of such species based on the field signs found, and the nature of the habitats present.

3.0 RESULTS

3.1 Background data search

Biodiversity action plans

- 3.1.1 Habitats classified as swamp on the site qualify as the priority habitat 'reedbeds' under Section 41 of the NERC Act 2006.
- 3.1.2 The latest Cheshire local biodiversity action plan (LBAP) lists 5 habitat action plans (HAPs) and 25 species and species group action plans (SAPs). None of the local HAPs are relevant to the proposed development. The local SAPs that are relevant to the proposed development are;
- Black-necked grebe (*Podiceps nigricollis*)
 - Barn owl (*Tyto alba*)
 - Club tailed dragonfly (*Gomphus vulgatissimus*)
 - Cuckoo bee (*Bombus campestris*)
 - Downy emerald (*Cordulia aenea*)
 - Lesser silver water beetle (*Hydrochara caraboides*)
 - Mining bee (*Andrena fulva*)
 - Ringlet (*Aphantopus hyperantus*)
 - Variable damselfly (*Coenagrion pulchellum*)
 - Common pipistrelle (*Pipistrellus pipistrellus*)
 - Whiskered bat (*Myotis mystacinus*)
 - Brandt's bat *Myotis brandti*)
 - Daubenton's bat (*Myotis daubentonii*)
 - Leisler's bat (*Nyctalus leisleri*)
 - Natterer's bat (*Myotis nattereri*)
 - Serotine (*Eptesicus serotinus*)

Designated sites

- 3.1.3 There are four statutory designated sites (designated for biological reasons) and two internationally designated sites within 2 km of the site boundary: Mersey Estuary Ramsar, Mersey Estuary special protection area (SPA), Mersey Estuary site of special scientific interest (SSSI), Flood Brook Clough SSSI, Runcorn Hill local nature reserve (LNR) and Dunsdale Hollow SSSI. Frodsham Railway and Road Cuttings SSSI is also present but it is designated for geological reasons and not ecological reasons.

- 3.1.4 The search was extended to 10 km for Ramsar sites, SACs and SPAs; with two additional sites identified; Midland Meres & Mosses - Phase 1 Ramsar and Midland Meres & Mosses - Phase 2 Ramsar. All sites are listed in Table 2 with their reasons for designation and distance from the site. See Figure 2 for plot reference.

Table 2: Statutory designated sites within 2 and 10 km of the site boundary.

| Site Name | Designation | Approximate distance and direction |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------|
| Mersey Estuary | SSSI | 60m north-west of Plot 5 |
| The Mersey Estuary is an internationally important site for wildfowl and consists of large areas of intertidal sand and mudflats. The site also includes an area of reclaimed marshland, salt-marshes, brackish marshes and boulder clay cliffs with freshwater seepages. The Manchester Ship Canal forms part of the southern boundary of the site and separates a series of pools from the main estuary. These pools together with Hale Marsh are important roosting sites for wildfowl and waders at high tide. | | |
| Mersey Estuary | Ramsar | 100m north-west of Plot 1 |
| The estuary includes large areas of saltmarsh, and intertidal sand and mudflats, with limited areas of brackish marsh, boulder clay cliffs and rocky shore. Internationally important numbers of waterfowl feed and roost on the site in winter and nationally important numbers occur during passage periods. The latter include common ringed plover (<i>Charadrius hiaticula</i>), redshank (<i>Tringa totanus</i>), dunlin (<i>Calidris alpina</i>). The Mersey Estuary also regularly supports over 20,000 waterfowl in winter. The site also supports nationally important wintering numbers of wigeon (<i>Anas penelope</i>), grey plover (<i>Pluvialis squatarola</i>), black-tailed godwit (<i>Limosa limosa</i>), and curlew (<i>Numenius arquata</i>). | | |
| Mersey Estuary | SPA | 100m north-west of Plot 1 |
| The special protection area (SPA) covers an estuarine area of 50.23 km ² including large areas of saltmarsh and extensive intertidal sand and mudflats, with limited areas of brackish marsh, rocky shoreline and boulder clay cliffs, within a rural and industrial environment. The intertidal flats and saltmarshes provide feeding and roosting sites for large populations of waterbirds. During the winter, the site is of major importance for ducks and waders. The site is also important during the spring and autumn migration periods, particularly for wader populations moving along the west coast of Britain. | | |
| Flood Brook Clough | SSSI | 1km north-east of Plot 4 |
| Flood Brook Clough is a deep wooded valley cutting through Keuper Marl with an Ash (<i>Fraxinus excelsior</i>) and Wych Elm (<i>Ulmus glabra</i>) woodland. Many of the plants present are characteristic of ancient woodland on base-rich soils, and are comparatively rare in Cheshire. | | |
| Dunsdale Hollow | SSSI | 1.5km south of Plot 7 |
| Dunsdale Hollow occurs on a steep north-west facing escarpment of Upper Mottled and | | |

| Site Name | Designation | Approximate distance and direction |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------|
| Keuper Sandstone. It is an acidic lowland Birch (<i>Betula spp.</i>) and Sessile Oak (<i>Quercus petraea</i>) woodland. This type of woodland is often found in the uplands but its occurrence in a lowland landscape is very unusual and it is found on only one other site in Cheshire on the Peckforton Hills. | | |
| Runcorn Hill | LNR | 1.7km north of Plot 3 |
| Runcorn Hill LNR includes the largest area of lowland heath in North Cheshire. The woodlands, ponds and scrub along with its geological structure complete a unique mosaic of habitats. | | |
| Midland Meres & Mosses – Phase 1 | Ramsar | 6.7km south-east of Plot 8 |
| The Meres and Mosses form a geographically diverse series of lowland open water and peatland sites in the north-west Midlands of England and north-east Wales. These have developed in natural depressions in the glacial drift left by receding ice sheets which formerly covered Cheshire/Shropshire Plain. The 18 component sites include open water bodies, the majority of which are nutrient rich with associated fringing habitats, reed swamp, fen, carr and damp pasture. The wide range of habitats support national important flora and fauna. | | |
| Midland Meres & Mosses – Phase 2 | Ramsar | 7km south-east of Plot 8 |
| As above. | | |

SSSI Impact Risk Zones

- 3.1.5 The proposed development site lies within a SSSI Impact Risk Zone (IRZ) within which Natural England request that they are consulted on all types of planning applications. Therefore, it is recommended that the planning authority consult with Natural England for this development.

Non-statutory sites

- 3.1.6 There are 10 non-statutory designated sites within 1 km of the site boundary, which are both local wildlife sites (LWSs). These sites are listed in *Table 3* along with their proximity to the site.

Table 3: Non-statutory designated sites within 1 km of the site boundary.

| Site Name | Designation | Approximate Distance and direction |
|-----------------------------------|-------------|----------------------------------------------------|
| Frodsham, Helsby and Ince Marshes | LWS | 0m, immediately adjacent to the boundary of Plot 5 |
| Frodsham Field Studies centre | LWS | 30m north-east of Plot 4 |

| Site Name | Designation | Approximate Distance and direction |
|-----------------------------|-------------|------------------------------------|
| Easton Clifton Tip | LWS | 80m south-east of Plot 4 |
| Weston Marsh Lagoon | LWS | 114m east of Plot 3 |
| Upper Mersey Estuary | LWS | 297m north of Plot 2 |
| Clifton Lagoon | LWS | 484m east of Plot 4 |
| Clifton Cloughs_B | LWS | 528m north of Plot 4 |
| Clifton Cloughs_A | LWS | 692m north of Plot 4 |
| Sutton Bridge Unused Lagoon | LWS | 877m south-east of Plot 4 |
| Frodsham and Overton Woods | LWS | 981m south of Plot 7 |

Habitats

- 3.1.7 On the UK Government Magic Maps website, there are two areas which are mapped as good quality semi-improved grassland on the site, located within the central section of the site, one area which is mapped as reedbed in the northern section of the site and one area is mapped as deciduous woodland, in the south-eastern corner of the site.
- 3.1.8 There are several areas of 'coastal saltmarsh', mudflats, good quality semi-improved grassland, lowland calcareous grassland, lowland fens, reedbeds and deciduous woodland, which are all listed under Section 42 of the NERC Act 2006 within 1 km of the site. The closest of which is the areas of coastal saltmarsh c. 100m north-west of the site.

Protected and noteworthy species

- 3.1.9 At least 241 protected and noteworthy species are recorded from places within 1 km of the site boundary. Noteworthy species include species of principal importance that are listed under Section 41 of the NERC Act 2006.
- 3.1.10 Of these, 15 are plants, 4 are lichens, 5 are amphibians, 4 are reptiles, 46 are invertebrates, 146 are birds and 21 are mammals. Species that are protected by law under Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017 (as amended), Schedules 1, 2, 5 and 8 of The Wildlife and Countryside Act 1981 (as amended) or The Protection of Badgers Act 1992 that have been recorded in the search area are highlighted in the full species list given in *Appendix B*. Those of relevance to the site and the current proposals are discussed in *Section 3.3*.

3.2 Plants and habitats

3.2.1 The Phase 1 Habitat map is provided as *Figure 1* and shows the location of the target notes referred to in the text below. A full description for each of the target notes is given in *Appendix A*. Due to the size and scale of the site, it has been split into 10 1km monad 'plots' which are referenced throughout the below subsections, see *Figure 2* for Plot locations. The following habitat types (with Phase 1 habitat codes in brackets) are present on and around the site:

- Broadleaved woodland, plantation (A1.1.2)
- Scrub, dense / continuous (A2.1)
- Scrub, scattered (A2.2)
- Broadleaved scattered trees (A3.1)
- Semi-improved neutral grassland (B2.2)
- Improved grassland (B4)
- Marsh / marshy grassland (B5)
- Poor semi-improved grassland (B6)
- Tall ruderal (C3.1)
- Swamp (F1)
- Marginal vegetation (F2.1)
- Standing water (G1)
- Arable (J1.1)
- Introduced shrub (J1.4)
- Intact hedge, species poor (J1.1.2)
- Fence (J2.4)
- Dry ditch (J2.6)
- Buildings (J3.6)
- Bare ground (J4)
- Hardstanding (J5)

Broadleaved woodland, plantation (A1.1.2)

3.2.2 There is a small area of plantation woodland in the north-eastern section of Plot 6 (see *Figure 2* for Plot locations) (TN 1, see Page 1 on *Figure 1*), adjacent to a footpath. All trees are young – semi-mature and comprise Silver Birch (*Betula pendula*), Black Pine (*Pinus nigra*), Grey Willow (*Salix cinerea*), and Horse-chestnut (*Aesculus hippocastanum*). The ground flora comprise Ivy (*Hedera helix*), Herb-Robert (*Geranium robertianum*), Cleavers (*Galium aparine*), Cock's-foot (*Dactylis glomerata*) and Yorkshire-fog (*Holcus lanatus*). A small number of introduced shrubs were also noted within the area of

woodland, including Flowering Currant (*Ribes sanguineum*) and Variegated Yellow Archangel (*Lamiastrum galeobdolon subsp. argentatum*)

Scrub, dense / continuous (A2.1)

- 3.2.3 There are a number of areas of dense, mixed scrub scattered across the site. The largest area is in Plot 3 while most of the other areas are along field boundaries or along the edges of pathways.
- 3.2.4 The area of scrub within Plot 3 (TN2, see Page 4 of 4 on Figure 1) is a large area containing a mixture of semi-improved neutral grassland and scrub habitat. The area also has areas of bare earth where motorbikes have illegally accessed the site and small patches of tall ruderal and swamp scattered throughout. The patches of scrub are a mixture of young – semi-mature trees with a height of c. 2 – 7m and as such have been mapped as dense scrub. Tree species present include Goat Willow (*Salix caprea*), Grey Willow, Ash (*Fraxinus excelsior*), Elder (*Sambucus nigra*), Aspen (*Populus tremula*), Dogwood (*Cornus sanguinea*) and Silver Birch (*Betula pendula*), but Goat and Grey Willow are the most frequent species present. There are also small areas with Bramble (*Rubus fruticosus*), Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Dog-rose (*Rosa canina*) and Field-rose (*Rosa arvensis*) are also present.



Plate 1 - Example of dense scrub in the north-eastern corner of the site.

- 3.2.5 The other areas of scrub are predominantly along field boundary edges within Plots 3, 4, 7 and 8. The most frequent species present are Bramble, Hawthorn and Blackthorn, but other species present include Broad-leaved Dock (*Rumex obtusifolius*), Common Nettle (*Urtica dioica*) and Creeping Thistle (*Cirsium arvense*), Gorse (*Ulex europaeus*), Willowherb (*Epilobium sp.*), Rosebay Willowherb (*Chamaenerion angustifolium*), Crack-willow (*Salix euxina*), Elder, Yorkshire-fog, Cleavers, Field-rose, Dog-rose, Poplar species (*Populus sp.*), Ash, Cock's-foot, Hogweed (*Heracleum sphondylium*), Cow Parsley (*Anthriscus sylvestris*) and Colt's-foot (*Tussilago farfara*).



Plate 2 – Example of dense scrub along field boundary edges.

Scrub, scattered (A2.2)

- 3.2.6 There are several areas of scattered scrub across the site, particularly within the areas of swamp or marginal vegetation. Species are similar to those described above, and the most frequent species present are Bramble, Hawthorn and Blackthorn, Grey Willow, Ash, Wild Cherry (*Prunus avium*), Elder and Field-rose.
- 3.2.7 However, the area of scattered scrub within Plot 6 (TN3, see Page 2 of 4 on Figure 1) contains scattered young – semi-mature trees, which are all below a height of 5m and as such have been mapped as scrub. Species present within the south-western section of site include Willow species (*Salix sp.*), Grey Willow and Elder.



Plate 3 – View of scattered scrub within south-western section of the site.

Broadleaved scattered trees (A3.1)

- 3.2.8 There are a small number of broadleaved scattered trees present within Plot 6 (TN4 and TN5, see Page 1 and 2 on Figure 1), all trees are semi-mature and are in good condition. Species include Silver Birch, Hawthorn and Sycamore (*Acer pseudoplatanus*) and Crack-willow.



Plate 4 - View of scattered trees (TN12).

Semi-improved neutral grassland (B2.2)

- 3.2.9 There are two areas of semi-improved neutral grassland present on the site, the first is in Plot 3 (TN6) while the second is in the southern section of the site (TN7), within Plot 6, see Pages 3 and 4 Figure 2.
- 3.2.10 The area within Plot 3 of the site (TN6) has been mapped as semi-improved neutral, but a number of species present indicate the grassland is slightly calcareous, including Yellow-wort (*Blackstonia perfoliata*) and Fairy Flax (*Linum catharticum*). However, the majority of species present indicate neutral grassland, as the most frequent grass species present are Common Bent (*Agrostis capillaris*), Perennial Rye-grass (*Lolium perenne*), Red Fescue (*Festuca rubra*), False Oat-grass (*Arrhenatherum elatius*) and Rough Meadow-grass (*Poa trivialis*). Other species include Southern Marsh Orchid (*Dactylorhiza praetermissa*), Black Medick (*Medicago lupulina*), White Clover (*Trifolium repens*), Red Clover (*Trifolium pratense*), Common Vetch (*Vicia sativa*), Meadow Buttercup (*Ranunculus acris*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Common Figwort (*Scrophularia nodosa*) and Self-heal (*Prunella vulgaris*). Furthermore, the area has previously been used to store material which was dredged from the Manchester Ship Canal and River Weaver, which may have influenced the soil and as such the species composition. The area is currently unmanaged, but the rabbits are present which graze a large proportion of the site. The area is occasionally illegally accessed by motorbikes which create areas of bare earth and small microhabitats, adding to the diversity of the area.



Plate 5 – View of grassland within north-eastern corner of the site.

- 3.2.11 The second area of semi-improved neutral grassland is in the south-eastern corner section of Plot 6 and is subject to low density, occasional grazing from sheep and cattle, as such the grass and rushes are still relatively tall and there is a variety of species present. Some sections are dominated by sedges and rushes, where the water table is higher, but most of the area is dominated by grasses and as such has been mapped as semi-improved neutral grassland. Species include Perennial Rye-grass, Hard Rush (*Juncus inflexus*), Red Fescue, Creeping Thistle, Common Vetch, Meadow Foxtail (*Alopecurus pratensis*), Yorkshire-fog, False Fox-sedge (*Carex otrubae*), Common Sorrel (*Rumex acetosa*), Hairy Sedge (*Carex hirta*), Marsh Thistle (*Cirsium palustre*), Yellow Vetchling (*Lathyrus aphaca*), Thyme-leaved Speedwell (*Veronica serpyllifolia*), Rosebay Willowherb, Oval Sedge (*Carex leporine*), Tufted Hair-grass (*Deschampsia cespitosa*), Sharp-flowered Rush (*Juncus acutiflorus*), Soft-rush (*Juncus effusus*), Common Sedge (*Carex nigra*), Crested Dog's-tail (*Cynosurus cristatus*), Carnation Sedge (*Carex panicea*), Marsh Bedstraw (*Galium palustre*), Lesser Stitchwort (*Stellaria graminea*), Greater Bird's-foot-trefoil (*Lotus pedunculatus*), Field Horsetail (*Equisetum arvense*) and Common Knapweed (*Centaurea nigra*).



Plate 6 – View of grassland withing southern section of the site.

Improved grassland (B4)

- 3.2.12 A large proportion of the western section of the site (Plot 1, 2, 5 and 6) is currently a windfarm with improved grassland below the turbines (TN8, see Page 2 on Figure 1). The grassland is subject to high intensity grazing from both sheep and cattle. Due to the intensive grazing regime, only a small number of species were identifiable, these include Annual Meadow-grass (*Poa annua*), Perennial Rye-grass, Red Fescue, Common Nettle, Creeping Thistle and White Clover.



Plate 7 – Looking across the western section of the site.

- 3.2.13 Two fields within the north-eastern section of the site (within north-eastern corner of Plot 7 and eastern section of Plot 3) are also considered to be improved grassland. Some sections of the field are heavily poached, indicating that it is grazed by cattle for a proportion of the year. Species present include Perennial Rye-grass, Spear Thistle (*Cirsium vulgare*), Creeping Thistle, White Clover, Creeping Buttercup (*Ranunculus repens*), Broad-leaved Dock, Common Mouse-ear (*Cerastium fontanum*). Soft-rush and Hard Rush are also scattered throughout the fields.
- 3.2.14 Finally, access was not permitted to one field in the southern section of Plot 7 (TN10, see Page 3 of Figure 1). As such, it has been assessed from a distance and a precautionary approach taken when determining the likely habitat present.

Marsh / marshy grassland (B5)

- 3.2.15 A large proportion of Plot 7 and the eastern section of Plot 6 is species poor, marshy grassland. The sward is dominated by Soft-rush but other frequent species include; Compact Rush (*Juncus conglomeratus*), Perennial Rye-grass, Rough Meadow-grass, Smooth Meadow-grass (*Poa pratensis*), Cock's-foot, False Oat-grass, Yorkshire-fog, Crested Dog's-tail, Meadow Foxtail, White Clover, Creeping Buttercup, Creeping Thistle and Spear Thistle. Furthermore, two fields in the central, southern-western section of the site are also considered to be marshy grassland, due to the dominance of Soft-rush.
- 3.2.16 All the fields are also subject to low-intensity grazing, indicated by presence of cow pats and poaching.



Plate 8 – View of marshy grassland within the central, northern section of the site.

- 3.2.17 Two fields, within the western section of Plot 7 and eastern section of Plot 6 (TN9, located on Page 3 on Figure 1) appears to have been managed for wildfowl purposes and it is owned by Frodsham & District Wildfowlers Club Ltd. The fields include areas of poor, semi-improved grassland with distinct lines of Soft and Compact Rush. The lines of rush are in shallow, man-made ditches to provide additional shelter for wildfowl species.



Plate 9 – View of fields with marshy grassland lines.

Poor semi-improved grassland (B6)

- 3.2.18 There are four fields within Plot 6 and 7 which have experienced a lower intensity of grazing and have a longer sward. As such, these areas have been classified as semi-improved grassland.
- 3.2.19 Furthermore, there are small sections of grassland at the boundaries of the improved fields within Plots 5 and 6 which have experienced a lower intensity of grazing and have a longer sward. As such, these areas are also considered to be semi-improved grassland.



Plate 10 – Poor semi-improved field in the central, southern section of the site (TN32)

- 3.2.20 The species in these areas are similar to those found in the improved grassland areas, but there is a greater diversity of species here and there are more patches which are succeeding into ruderal and scrub habitats. Species include Meadow Foxtail, Crested Dog's-tail, False Oat-grass, Red Fescue, Tufted Hair-grass, Cock's-foot, Common Nettle, Perennial Rye-grass, Hogweed, Common Sorrel, Creeping Buttercup, Broad-leaved Dock, Lesser Burdock (*Arctium minus*), Creeping Thistle, Teasel (*Dipsacus fullonum*), Primrose (*Primula vulgaris*), Spear Thistle, Common Ragwort (*Jacobaea vulgaris*), Daisy (*Bellis perennis*), Dandelion (*Taraxacum officinale* agg.), Yarrow (*Achillea millefolium*), Cleavers, Ribwort Plantain (*Plantago lanceolata*), Common Mouse-ear, Groundsel (*Senecio vulgaris*), Greater Plantain (*Plantago major*), Germander Speedwell (*Veronica chamaedrys*), Cow Parsley, Hairy Bittercress (*Cardamine hirsuta*), Dove's-foot Cranesbill (*Geranium mole*), Common Vetch, White Clover and Yorkshire-fog.

Tall ruderal (C3.1)

- 3.2.21 There are several small areas of tall ruderal vegetation in Plots 4 and 8. Species include Common Nettle, Red Dead-nettle (*Lamium purpureum*), Cleavers, Ground-ivy (*Glechoma hederacea*), Groundsel, False Oat-grass, Cow Parsley, Hogweed, Cock's-foot, Willowherb species, Rosebay Willowherb, young Hawthorn trees, Spear Thistle and Creeping Thistle.



Plate 11 – Area of tall ruderal within the north-eastern section of the site (TN15)

Swamp (F1)

- 3.2.22 There are a number of areas across the site which have been mapped as swamp habitat as they are 5m or wider and are dominated by Common Reed (*Phragmites australis*). Any areas less than 5m wide have been mapped as marginal vegetation. Other species recorded occasionally throughout the areas of swamp include Reed Canary-grass (*Phalaris arundinacea*), Common Nettle, Broad-leaved Dock, Creeping Thistle, Spear Thistle, Great Willowherb (*Epilobium hirsutum*) and Meadow Buttercup.



Plate 12 – View of area of swamp in the northern, central section of the site.

Marginal vegetation (F2.1)

- 3.2.23 There are several areas of marginal vegetation present throughout the site, particularly demarcating field boundaries within Plot 7 and surrounding the network of ditches. The areas of marginal vegetation are dominated by Common Reed and other species recorded are similar to those found within the areas of swamp.



Plate 13 – Example of marginal vegetation around one of the drainage ditches within the central section of the site.

Standing water (G1)

- 3.2.24 There are nine ponds and 36 ditches which hold water across the site, see Figure 3 – Pond and Ditch Plan. Most ponds are in the central section of the site while the ditches are spread across the site as field and drainage ditches creating a network between the fields. A detailed description and photographs for the ponds and ditches surveyed is provided within RSK (2023) *Frodsham renewable energy development - GCN Survey Report, REV02* and RSK (2023) *Frodsham renewable energy development - Water Vole Habitat Assessment Report, REV01*.

Arable (J1.1)

- 3.2.25 Several fields within the central southern section of Plot 7 and north-eastern section of Plot 7 are arable, utilised for growing crops. At the time of the survey the fields had either been recently ploughed or had seedlings growing.



Plate 14 – Example of ploughed arable field within the southern, central section of the site.

Introduced shrub (J1.4)

- 3.2.26 There are occasional areas across the site with scattered introduced shrub, including Cotoneaster (*Cotoneaster* sp.), Flowering Currant and Variegated Yellow Archangel. These areas tend to be near public footpaths. New Zealand Pigmyweed (*Crassula helmsii*) was also recorded within one waterbody on the site, located within eastern section of Plot 6 (TN11, see Page 3 on Figure 1).

Intact hedge, species poor (J1.1.2)

- 3.2.27 There are four hedges present across the site, see Figure 1 – Phase 1 Habitat Plan, located within Plot 6 and 7.
- 3.2.28 Hedge 1 is to the south of the central section of the site (within Plot 7, see TN12, Page 3 of 4 on Figure 1). It appears to have been recently planted and is c. 1m high and 0.5m wide. Hawthorn is dominant but other species include Blackthorn, Hazel (*Corylus avellana*), Wild Cherry and Holly (*Ilex aquifolium*).



Plate 15 – View of Hedge 1.

- 3.2.29 Hedge 2 is in between two fields of marshy grassland in the central section of the site (within Plot 7, see TN13 on Page 3 of 4 on Figure 1). The hedge is adjacent to a dry ditch and is c. 1m wide 4m high. Some sections of the hedge relatively young and may have been planted in last 5 years, evidenced by presence of tree guards. Hawthorn is the most frequent species, but other species include Blackthorn, Rose species (*Rosa* sp), Willow species and Holly.



Plate 16 - View of Hedge 2.

3.2.30 Hedge 3 is in between two fields of marshy grassland in the central section of the site (within Plot 7, see TN14 on Page 3 of 4 on Figure 1). The hedge is immediately adjacent to a wet ditch and is c. 1m wide and 4m high. Hawthorn is the dominant species but Rose, Blackthorn, Apple (*Malus sp.*) and Holly are also present. The hedge appears to have been planted or 'gapped up' recently as there are several trees with tree guards present.



Plate 17 - View of Hedge 3

3.2.31 Hedge 4 is in between two fields of marshy grassland in the central section of the site (across Plot 6 and 7, see TN 15 on Page 3 on Figure 1). The hedge is c. 1m wide and 4 - 5m high. Hawthorn is the dominant species but Rose, Blackthorn, Apple species and Holly are also present.



Plate 18 - View of Hedge 4

Fence (J2.4)

- 3.2.32 A mixture of wooden picket and barbed wire fences are present across the site. The barbed wire fences are present to demarcate the field boundaries, in between ditches and lines of scrub.

Dry ditch (J2.6)

- 3.2.33 There are three dry ditches present across the site, all within Plot 7, see TN16 on Page 3 on Figure 1 - Phase 1 Habitat Plan for locations. All ditches are c. 2m wide and are filled with marginal vegetation.

Buildings (J3.6)

- 3.2.34 There is one building in Plot 6 (TN17, on page 2 of Figure 1), within the windfarm. The building is a substation for the windfarm. It was not accessed during the initial PEA survey but is considered unlikely to be impacted as part of the proposed works and will be buffered from the works via the surrounding fence and hardstanding.



Plate 19 - View of Building 1 in western section of the site.

There are also a number of brick-built structures located around the boundary of the improved fields within Plots 2, 5 and 6 (TN18, see page 1 of 4 on Figure 1). The structures have no roof and are three sided, see



3.2.35 Plate 22 below.



Plate 20 - Example brick-built structure within the western section of the site.

Bare ground (J4)

3.2.36 There are two fields of bare ground in the eastern section of the site (Plots 4 and 8), both of which had been recently ploughed.



Plate 21 – Area of bare ground within the eastern section of the site.

- 3.2.37 Additionally, there is one small field in the central section of the site (within Plot 7) which has been mapped as bare ground (TN19, see Page 1 of Figure 1). As such, there are ephemeral / short perennial species and tall ruderal plants scattered throughout but are too small to map. Species include Broad-leaved Dock, Rosebay Willowherb, Square-stalked Willowherb (*Epilobium tetragonum*), Curled Dock (*Rumex crispus*), Creeping Thistle, Spear Thistle, Perennial Sow-thistle (*Sonchus arvensis*), Scented Mayweed (*Matricaria chamomilla*), Common Field-speedwell (*Veronica persica*), Cleavers and Scarlet Pimpernel (*Anagallis arvensis* ssp. *arvensis*).



Plate 22 – Area of bare ground within the central section of the site.

Invasive non-native plant species

- 3.2.38 Variegated Yellow Archangel (TN1, see Page 3 on Figure 1), New Zealand Pigmyweed (TN11 see Page 3 on Figure 1) and Cotoneaster species (TN20) have been recorded on the site, see eastern section of Plot 6. These species are non-native invasive, listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). No other invasive non-native species were observed during the survey.

3.3 Protected and notable species

Invertebrates

- 3.3.1 The BDS returned hundreds of records for 59 notable invertebrate species within 1km of the site, including four species of beetles, two species of butterflies, 9 species of dragonflies, 35 species of moth and two species of true fly. Furthermore, 16 records for notable invertebrates were recorded on the site, including 10 records of dragonflies, 5 records of moths and one butterfly.
- 3.3.2 A large proportion of the site is Bramble, species poor marshy grassland, improved grassland and arable fields, which are considered likely to support a common assemblage of invertebrate species, typical of Bramble and grassland habitats.
- 3.3.3 However, the ponds, ditches and areas of semi-improved neutral grassland and swamp may support a more diverse assemblage of invertebrate species.
- 3.3.4 No records for white-clawed crayfish (WCC) (*Austropotamobius pallipes*) were returned from within 1km of the proposed site boundary. The ditches on the site are generally considered unsuitable for WCC as they are stagnant, relatively shallow and lack any refugia, such as large rocks or boulders. As such WCC are not discussed further within this report.

Great crested newt and other amphibians

- 3.3.5 The BDS returned 71 amphibian records within 1km of the site boundary including:
- 20 records for common frog (*Rana temporaria*), with the closest record from 2008 and located 25m south,
 - 17 records for common toad (*Bufo bufo*), with the closest record from 2008 and for 8 individuals, located 25m south,
 - 12 records for GCNs, with the closest record from 2017 for a negative eDNA result 450m south-east of the proposed site boundary. The closest record of a GCN is from 2003 and is 450m north of the site, but the River Weaver will act as a barrier to movement between this record and the site.
 - 22 records for smooth newt (*Lissotriton vulgaris*), with five records from 2002 and within the proposed site boundary. Two records are in a pond in the north-eastern corner of the site (TN21) and three records are near a ditch on the site (TN22), see Figure 1 – Phase 1 Habitat Plan
- 3.3.6 The 36 ditches and 9 waterbodies on the site provide potential suitable breeding habitat for GCNs and other common amphibians. Furthermore, there are an additional 14 waterbodies were identified within 500m of the proposed site boundary.
- 3.3.7 The site provides suitable terrestrial habitat for GCNs and common amphibians as it contains predominantly marshy grassland (grazed by sheep and cattle), rough grassland, agricultural grassland fields and arable land with a grid of interconnected ditches forming the field boundaries. The areas of scrub, rough grassland, marshy grassland, emergent and swamp and rough grassland will provide foraging and

commuting opportunities for GCNs while the areas of scrub and scattered trees will also provide refuge opportunities. A large portion of the western section of the site is utilised as a wind farm and is intensively grazed by sheep and cattle, providing limited opportunities for GCNs within this section of the site. The development area is to the north-west of the M56 motorway and 200m north-west of the town of Frodsham. The site is bordered by the Manchester Ship Canal and River Weaver to the north and east, and the M56 motorway and Frodsham to the south and as such the site is relatively isolated.

- 3.3.8 All ditches and waterbodies on the site and within 500m were subject to a habitat suitability index (HSI) survey and water samples were collected from 21 of the most suitable and safely accessible waterbodies and analysed for the presence of GCN environmental DNA (eDNA), see RSK Biocensus (2023) *Frodsham renewable energy development Reptile Survey Report REV01*.
- 3.3.9 No positive eDNA results were recorded and the vast majority of the results returned were negative. Furthermore, reptile surveys were undertaken on the site between March and June 2022 and no GCNs were recorded using the refugia traps. Therefore, it is considered that GCNs are reasonably unlikely to be present on the site. However, common toads were identified on the site during the initial walkover survey and two toadlets were recorded during the reptile surveys, indicating that the site is used by common amphibians for foraging and commuting. No evidence of toads breeding within the on-site waterbodies was recorded but they were identified breeding within one off-site pond, 165m north-west of the site. Further information and detailed results can be found in RSK Biocensus (2023) - *Frodsham renewable energy development GCN Survey Report, REV02*.

Reptiles

- 3.3.10 The BDS returned two records for reptiles within 1km of the proposed site boundary, both of which are for common lizard from 2008 and both immediately adjacent to the to the M56 motorway, 40m south of site. Habitat suitability is similar to that described above for amphibians and the site is considered to be particularly suitable for grass snake due to the areas of ditches, swamp, marshy grassland and emergent vegetation. However, no reptiles were identified on the site during the suite of reptile surveys undertaken by RSK between March - July 2022, therefore reptiles are considered reasonably likely to be absent from the site or present in very low numbers. Further information and detailed results can be found in RSK Biocensus (2023) - *Frodsham renewable energy development Reptile Survey Report, REV01*.

Birds

- 3.3.11 The BDS returned numerous records for protected bird species within 1km of the site, including avocet (*Recurvirostra avosetta*), barn owl, Bewick's swan (*Cygnus columbianus bewickii*), black-necked grebe, black-tailed godwit (*Limosa limosa*), brambling (*Fringilla montifringilla*), Cetti's warbler (*Cettia cetti*), fieldfare (*Turdus pilaris*), garganey (*Anas querquedula*), goldeneye (*Bucephala clangula*), goshawk (*Accipiter gentili*), green sandpiper (*Tringa ochropus*), hobby (*Falco subbuteo*), kingfisher (*Alcedo atthis*), little

ringed plover (*Charadrius dubius*), long-tailed duck (*Clangula hyemalis*), marsh harrier (*Circus aeruginosus*), merlin (*Falco columbarius*), Mediterranean gull (*Larus melanocephalus*), peregrine (*Falco peregrinus*), pintail (*Anas acuta*), red kite (*Milvus milvus*), redwing (*Turdus iliacus*), ruff (*Calidris pugnax*), scaup (*Aythya marila*), Temminck's stint (*Calidris temminckii*) and whooper swan (*Cygnus cygnus*). Hundreds of species of conservation concern were also returned within 1km of the site.

- 3.3.12 The site is considered to provide suitable nesting habitat for a variety of common bird species such as song thrush (*Turdus philomelos*), robin (*Erithacus rubecula*) and woodpigeon (*Columba palumbus*), including hedgerows, scattered trees and scrub. In addition the areas of swamp, marginal vegetation and marshy grassland will provide nesting opportunities for a variety of wildfowl species.
- 3.3.13 Finally, the habitats on the site are broadly suitable for overwintering waders, particularly the northern central section with the areas of marshy grassland and larger areas of standing water.
- 3.3.14 A suite of wintering bird surveys and breeding bird were undertaken by RSK between November 2021 and June 2022. For further information and detailed results see *RSK Biocensus (2022) - Frodsham renewable energy development - Wintering Bird Survey Report* and *RSK Biocensus (2022) Frodsham renewable energy development - Breeding Bird Survey Report*.
- 3.3.15 The wintering bird surveys recorded a total of 84 species, including 54 specially protected and/or notable species. A diverse waterbird assemblage recorded included all seven species for which the adjacent Mersey Estuary SPA/Ramsar site is designated, with significant proportions (i.e. >1%) of the SPA and Ramsar site populations recorded for six species; notably Black-tailed Godwit (29.7% of the SPA population) and Golden Plover (19.7% of the SPA population). Thirteen wintering bird species were potentially recorded in numbers of county importance.
- 3.3.16 The breeding bird surveys identified that the site supports a regionally important population of breeding birds including 5 species receiving protection under the Wildlife and Countryside Act and a diverse assemblage of scarce species listed as either red or amber species of conservation concern including species such as lapwing which have suffered a drastic decline in recent decades.
- 3.3.17 The Frodsham section supported the greatest diversity of breeding birds, probably due to the greater habitat diversity, more scrub, and hedgerows than the Helsby section which is given over to intensive farming. However, lapwing, a bird that requires large open fields in which to breed, was present within the Helsby section and not the Frodsham section.
- 3.3.18 The area around the River Weaver, the flat fields adjacent to the Manchester Ship Canal and the mitigation area located between the two sections of wind turbines supports aggregations of wader and wildfowl species, many listed as interest features of the Mersey estuary. These areas therefore are functionally linked to the Mersey estuary as they provide a function (mainly high tide roosts) for these species. This usage was greatest in April as waders and wildfowl species prepare to head north for their

breeding grounds and will likely increase again over the autumn and winter months as birds head south to overwinter.

Bats

3.3.19 The BDS returned 43 records for bats within 2km of the site, including:

- Brown long-eared (*Plecotus auritus*) bat - Four field records were returned, the closest of which is c. 840m north-east of the site.
- Common pipistrelle (*Pipistrellus pipistrellus*) - 16 records were returned, one of which is a roost c. 1.9km south-west of the site. The closest field record is c. 350m south of the site.
- Daubenton's bat (*Myotis daubentonii*) - Two field records were returned, the closest of which is c. 1.3km east of the site.
- Noctule (*Nyctalus noctula*) - Five field records were returned, the closest of which is c. 465m north of the site.
- Pipistrelle species (*Pipistrellus sp.*) - 10 records were returned, one of which was for a roost c. 1.5km south of the site. The closest field record is c. 405m south of the site.
- Soprano pipistrelle (*Pipistrellus pygmaeus*) - Five field records were returned, two of which are in the western section of the site, west of the wind turbines.
- Whiskered bat (*Myotis mystacinus*) - One field record was returned, c. 2km east of the site.

3.3.20 The building (TN17 on Page 1 of Figure 1 – Plate 19) in Plot 6, within windfarm is unlikely to be impacted as part of the proposed works and will be buffered from the works via the surrounding fence and hardstanding. The habitats surrounding the building are of poor quality for foraging and commuting bats and there is no tree or hedge-line to the building, reducing its suitability for roosting bats.

3.3.21 The brick-built structures around the boundary of the improved fields within the western section of the site (Plots 2, 5 and 6 (TN18, see page 1 on Figure 1, Plate 20)) have no roof and are three sided. The structures are in poor condition, with several bricks missing or gaps in the mortar. However, on closer inspection most of the gaps are superficial. A small number of gaps are present, but these were fully inspected using a high-powered torch and no evidence of roosting bats was recorded. However, the gaps are considered suitable to support a single bat occasionally as a day roost.

3.3.22 No trees with features suitable to support roosting bats were recorded during the PEA. However, a detailed ground level tree assessment (GLTA) was not undertaken so if any trees are to be removed as part of the proposed development, it is recommended a survey of those trees is undertaken to confirm their potential to support roosting bats.

3.3.23 The development area is to the north-west of the M56 motorway and 200m north-west of the town of Frodsham. The site is bordered by the Manchester Ship Canal and River Weaver to the north and east, M56 motorway and Frodsham to the south. The areas of neutral semi-improved grassland, marshy grassland, swamp, emergent vegetation,

scrub and ponds and ditches on the site provide suitable habitat for foraging bats. Furthermore, the linear features such as areas of scrub, emergent vegetation and ditches along the field boundaries provide suitable habitat for commuting bats and connect the site to suitable habitat in the wider landscape. However, a large proportion of the site contains areas of low-quality habitat for foraging and commuting bats, with large areas of improved grassland, species poor marshy grassland, arable fields and bare ground, which provide limited opportunities for foraging and commuting bats. Therefore, site was assessed as having low suitability for foraging and commuting bats.

- 3.3.24 In the wider surrounding area, the habitats are similar in composition to the south, with the urban areas of Frodsham and Helsby bounded by hedge-lined fields and watercourses, however connectivity to these habitats from the site is limited by the M56 which will act as a barrier to movement. To the north and west the habitats are lower in quality with the town of Runcorn to the north and mixture of an industrial estate and agricultural fields to the west. The River Mersey to the north will provide a large area of foraging and commuting opportunities for bats.
- 3.3.25 At least five different species of bat were recorded during the seasonal transect surveys, in addition to *Myotis* species and *Nyctalus* species which have been taken to genus only. Recorded calls include the following species; common pipistrelle, soprano pipistrelle, *Nathusius'* pipistrelle, noctule and serotine.
- 3.3.26 Across the activity surveys bat activity was most concentrated along the Manchester Ship Canal and River Weaver and associated scrub and swamp habitats to the north and north-east of the site. Activity was also concentrated near the small portion of plantation woodland within the central-western section of site. Therefore, it is a reasonable assumption that these areas are of most value to bats using the site. Further information is provided within *RSK Biocensus (2023) Frodsham renewable energy development - Bat Activity Survey Report, REV01*.

Water vole

- 3.3.27 The BDS returned 32 records of water vole within 1 km of the site, including 15 records from within or immediately adjacent to the proposed site boundary, the most recent of which is from 2015. It should also be noted that three records of American mink (*Neovison vison*) were returned, including one record from within the proposed site boundary from 2009. American mink is known to predate on water voles (Dean et al 2021).
- 3.3.28 The central and south-eastern sections of the site (Plots 3, 4, 7 and 8 and eastern sections of Plots 2 and 6) are particularly suitable for water vole, with the network drainage ditches, ponds and areas of marshy grassland, swamp and emergent vegetation providing burrowing, foraging and commuting opportunities. However, the large areas of improved grassland and shallow ditches in the western section of the site provide limited opportunities for water vole.

Otter

3.3.29 The BDS returned two records for otter within 1 km of the site, the closest of which is c. 90m south-east, within Frodsham playing field ponds. The majority of the ditches and waterbodies on the site are generally considered unsuitable for otter as they do not support fish, are shallow and densely shaded. However, a number of the larger ditches (such as TN23 (within Plot 4 and 8, see page 4 on Figure 1), TN24 (within Plot 7, see Page 3 on Figure 1) and TN25 (Within Plot 10, see Page 2 of Figure 1)), have the potential to support foraging and commuting otter as they contain larger amounts of water and may support fish. No evidence of otter holts or resting places was recorded during the PEA walkover or subsequent habitat suitability surveys for both GCN and water vole.

Badger

3.3.30 The BDS returned 42 records of badger within 1 km of the site, including records for [REDACTED]. The site contains areas of scrub and a variety of grassland habitats, which provide suitable foraging and commuting habitats for badger, as-well as sett building opportunities. Furthermore [REDACTED]

- Main sett 1 [REDACTED] - A large main sett comprising 12 entrance holes, 7 of which are active, evidenced by presence of hairs, spoil piles, prints and well-used mammal paths. [REDACTED]

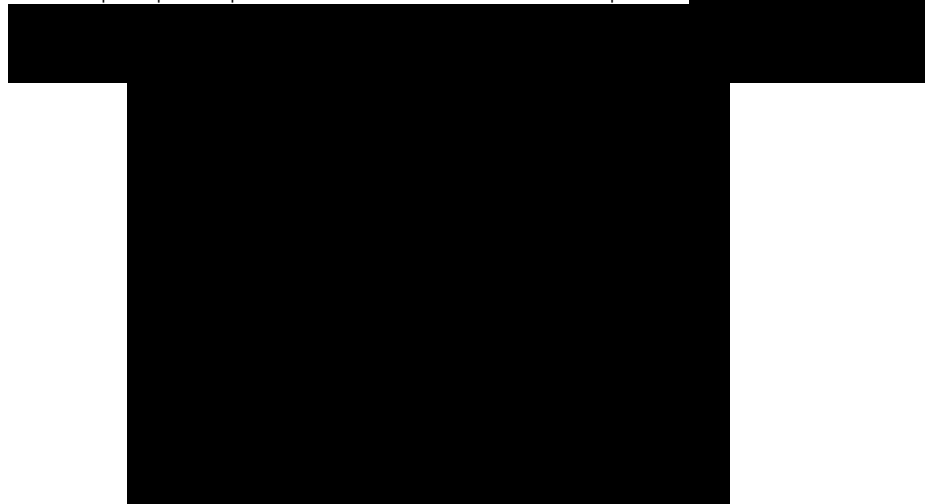


Plate 23 – View of main sett 1.

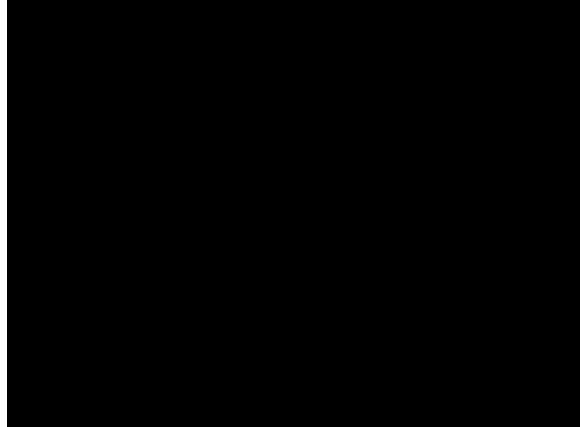


Plate 24 – View of main sett 1.



Plate 25 – Example badger hairs identified outside an entrance of Sett 1.

- Main sett 2 [REDACTED] – A main sett comprising 6 entrance holes, all of which are active. This is evidenced by presence of hairs at each entrance, spoil piles, two prints at one entrance and well-used mammal paths. [REDACTED]

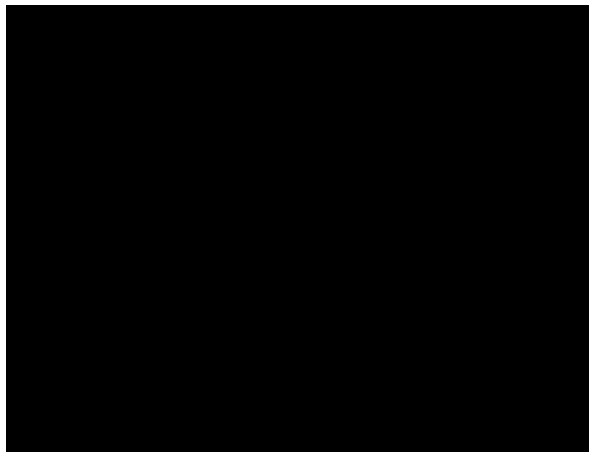


Plate 26 – Example badger hairs identified outside an entrance of Sett 1.

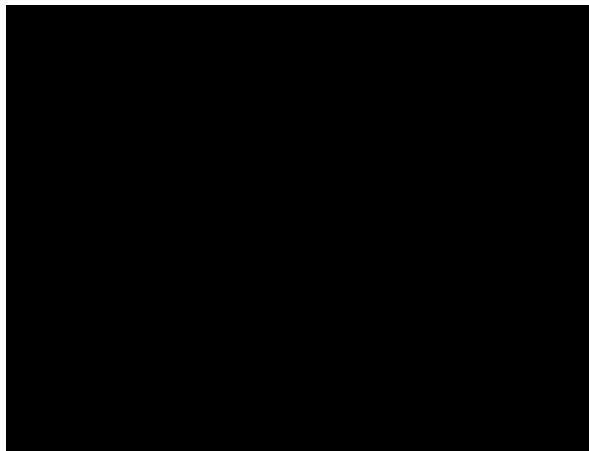


Plate 27 – View of Sett 2 and well-used mammal paths



Plate 28 – View of hair identified within entrance at Sett 2.

- Outlier 1 [REDACTED] – An outlier sett with one entrance hole. Sett is active as claw marks were recorded at the entrance and a fresh latrine was recorded adjacent to the entrance hole. [REDACTED]

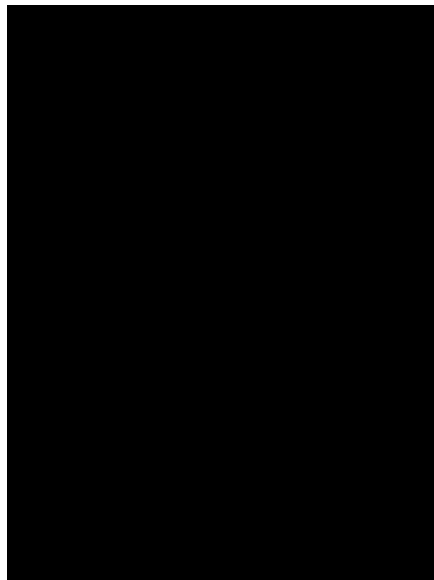


Plate 29 – View of Sett 2 and well-used mammal paths



Plate 30 - View of latrine.

- Outlier 2 [REDACTED] - An outlier sett with one entrance hole [REDACTED] Old bedding and spoil were recorded at the sett entrance but there is a well-used mammal path leading from hole, as such is currently considered to be partially active.
- Outlier 3 [REDACTED] - An outlier sett with one entrance hole [REDACTED] No recent evidence was recorded within the entrance hole, but a well-used mammal path was noted outside the entrance hole heading both north and south. As such, the sett is currently considered to be partially active.
- Outlier 4 [REDACTED] - One mammal hole [REDACTED] The mammal hole had a narrow entrance (c. 10cm wide) and was filled with leaves and surrounded by dense scrub. As such, the mammal hole is considered unlikely to be used by badger and is currently disused.
- Outlier 5 [REDACTED] - One outlier sett with one entrance hole [REDACTED] No recent evidence was recorded within the entrance hole, but a well-used mammal path was noted outside the entrance hole. As such, the sett is currently considered to be partially active.

Other notable species

- 3.3.31 Records for both hedgehog (*Erinaceus europaeus*) and polecats (*Mustela putorius*) were returned from within 1km of the proposed site boundary. The closest record for hedgehog is c. 520m north of the site while the closest record for polecat is 160m west of the site.
- 3.3.32 Hedgehogs and polecats occupy a range of lowland habitat which enough cover to allow nesting. Hedgehogs are particularly common in parks in urban and suburban

environments, farmland and gardens. The areas of grassland, swamp and scrub offers foraging opportunities for hedgehog and will support a range of small mammals, a key food source for polecats. The areas of scrub, scattered trees and woodland provide refuge and hibernation opportunities for both species. The site is relatively isolated due to the surrounding watercourses to the north and east and M56 motorway to the south, but the site is connected to suitable habitat to the west so hedgehogs and polecats may therefore be present on the site.

4.0 EVALUATION AND RECOMENDATIONS

4.1 Statutory designated sites

- 4.1.1 There are four statutory designated sites and two internationally designated sites within 2km of the site boundary, including Mersey Estuary Ramsar, Mersey Estuary special protection area (SPA), Mersey Estuary site of special scientific interest (SSSI), Flood Brook Clough SSSI, Runcorn Hill local nature reserve (LNR), Dunsdale Hollow SSSI. Many of these sites are designated for their wetland habitats and/or species including wintering birds. Any future development proposals are unlikely to directly impact habitats associated with the designated sites, however the construction phase of any future development may result in indirect impacts. Furthermore, the habitats within the site may be used as functional land for the wintering bird assemblage associated with the designated sites.
- 4.1.2 However, it should be noted that any future development may result in an indirect positive impact on the habitats and species associated with the designated sites via reduced recreational pressure. The site is currently illegally accessed by members of the public and dog walkers by a network of paths across the site. Any future proposed development should seek to retain the public rights of way, but other pathways should be removed to reduce recreational pressure on the designated sites. Furthermore, information boards could be situated along public rights of way to inform residents of the nearby protected sites and the recreational pressure affecting them, to educate the residents and help to alleviate these pressures.
- 4.1.3 Therefore, a habitat regulations assessment (HRA) should be undertaken to fully assess the impacts (both negative and positive) on designated sites as a result of any future proposed development. Furthermore, the survey information gathered for breeding and wintering birds should be used to inform the HRA.
- 4.1.4 Additionally, the site lies within a SSSI Impact Risk Zone (IRZ) within which Natural England request that they are consulted on all types of planning applications. Therefore, it is recommended that the planning authority consult with Natural England.

4.2 Non-statutory designated sites

- 4.2.1 There are 10 non-statutory designated sites within 1 km of the site boundary, which are all local wildlife sites (LWSs). Two sites (Frodsham, Helsby and Ince Marshes and Frodsham Field Studies centre) are within 30m of the proposed site boundary.
- 4.2.2 The sites are designated for similar reasons to the statutory designated sites, including wintering birds. As such, wintering bird surveys should be undertaken to inform the impact assessment on non-statutory designated sites. However, it is anticipated that any mitigation measures required to protect statutory sites would also serve to protect the non-statutory sites.

4.3 Habitats

- 4.3.1 Habitats on the site qualify as the priority habitat 'reedbeds' and 'ponds' under Section 41 of the NERC Act 2006. However, the reedbed and pond habitats on the site are in generally poor condition with minimal plant species diversity, but they do provide a valuable resource for a variety of wildlife in the local area. There are a number of species-poor hedgerows and scattered trees present on the site and watercourses nearby.
- 4.3.2 Site clearance and setting out may involve the direct loss of trees, hedgerows, ponds and reedbeds on the site as an ecological resource. Furthermore, construction activities could cause indirect impacts on ponds, reedbeds and nearby watercourses via pollution and dust or indirect damage to root protection areas (RPA) of hedgerows and trees.

4.4 Plants

- 4.4.1 Variegated Yellow Archangel, New Zealand Pigmyweed and Cotoneaster were recorded on the site. These species are non-native invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).
- 4.4.2 Site clearance and setting out could result in the disturbance and dispersal of invasive species on and off the site.
- 4.4.3 Although not a legal requirement, it is recommended that these species are treated and/or removed by a specialist contractor to eradicate them from site and prevent their spread. As a minimum, precautions should be taken to ensure these species are not spread during the works, or into the neighbouring natural habitats.

4.5 Protected and other notable species

Amphibians

- 4.5.1 Following the suite of eDNA surveys for GCN, which all returned negative or inconclusive results, GCN are not considered to be present on the site. However, common toads were identified on the site during the initial walkover survey and two toadlets were recorded during the reptile surveys and records for smooth newts on the site were returned, indicating that the site is used by low numbers of common amphibians for foraging and commuting. No evidence of breeding within the on-site waterbodies was recorded but toads were identified breeding within one off site pond, 165m north-west of the site. Therefore, the works should still be completed under a suite of reasonable avoidance measures (RAMs) to ensure that other common amphibian species are not affected by the works.

Reptiles

- 4.5.2 No reptiles were identified on the site during the suite of reptile surveys undertaken by RSK between March – July 2022, therefore reptiles are considered reasonably likely to be absent from the site or present in very low numbers.

- 4.5.3 It is anticipated that the mitigation measures set out for amphibians will also serve to protect any reptiles in the unlikely event they are found on the site.

Birds

- 4.5.4 The field surveys for wintering birds recorded a total of 84 bird species within the site, including 54 specially protected and/or notable species. All seven species for which the adjacent Mersey Estuary SPA/Ramsar site is designated were recorded during these field surveys. Significant proportions (i.e. >1%) of the SPA and/or Ramsar site populations were recorded within the development site for six species, including particularly significant populations of Black-tailed Godwit and Golden Plover. While during the breeding season, the site supports a regionally important population of breeding birds including 5 species receiving protection under the Wildlife and Countryside Act and a diverse assemblage of scarce species listed as either red or amber species of conservation concern including species such as lapwing.
- 4.5.5 Development of the site could potentially result in significant negative impacts on these populations and, therefore, on the integrity of Mersey Estuary SPA/Ramsar site
- 4.5.6 Furthermore, the loss of habitats could potentially result in a loss of resource for both breeding and wintering birds.

Bats

- 4.5.7 There are a number of brick-built structures which were assessed as having low suitability to support roosting bats. However, no trees with features suitable to support roosting bats were recorded during the PEA, but a detailed GLTA was not undertaken. Furthermore, one building could not be accessed to complete a detailed assessment.
- 4.5.8 The areas of neutral semi-improved grassland, marshy grassland, swamp, emergent vegetation, scrub and ponds and ditches on the site provide suitable habitat for foraging bats. Furthermore, the linear features such as areas of scrub, emergent vegetation and ditches along the field boundaries provide suitable habitat for commuting bats and connect the site to suitable habitat in the wider landscape. However, a large proportion of the site contains areas of low-quality habitat for foraging and commuting bats, with large areas of improved grassland, species poor marshy grassland, arable fields and bare ground, which provide limited opportunities for foraging and commuting bats. Therefore, site was assessed as having low suitability for foraging and commuting bats.
- 4.5.9 If bats are roosting within the building, brick-built structures or trees, they are at risk of direct harm and disturbance and the roosts will be lost permanently during construction of a development. Any future development may also result in loss of foraging habitat for bats and inappropriate design could result in the severing of commuting corridors used by bats.
- 4.5.10 If the building is to be impacted as part of any future development, a detailed external and internal inspection should be undertaken by a suitably licensed ecologist to determine the buildings suitability to support roosting bats, with further presence / absence surveys undertaken if necessary.

- 4.5.11 If the brick-built structures are to be impacted, one bat presence / absence survey per structure should be undertaken by a suitably experienced ecologist during the peak bat survey season, May to August inclusive.
- 4.5.12 If any trees are to be removed, it is recommended a GLTA and tree climbing survey (where required) of those trees is undertaken by a suitably licensed ecologist to confirm their potential to support roosting bats. If the trees are identified as having moderate or high potential to support roosting bats, further presence / absence surveys will be required.
- 4.5.13 The need for surveys can be avoided through development design, but if required the survey results will need to be submitted as part of the planning application, and will inform further mitigation or compensation measures, if required. It should be noted that these further measures may include an application for a European protected species (EPS) mitigation licence or bat mitigation class licence (BMCL) from Natural England (NE).
- 4.5.14 At least five different species of bat were recorded during the seasonal transect surveys undertaken in 2022, in addition to *Myotis* species and *Nyctalus* species which have been taken to genus only. Recorded calls include the following species; common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, noctule and serotine. Spatially, the highest levels of bat activity on the walked transects were recorded along linear features such as Manchester Ship Canal, River Weaver, ditches with marginal vegetation and lines of scrub, which provide a sheltered buffer for foraging. Where possible, these features should be retained as part of any future development.

Water vole

- 4.5.15 The central and south-eastern sections of the site are particularly suitable for water vole, with the network drainage ditches, ponds and areas of marshy grassland, swamp and emergent vegetation providing burrowing, foraging and commuting opportunities.
- 4.5.16 Any future development could potentially cause direct harm, injury and / or death to individuals. It could also cause disturbance and the direct loss of suitable habitat, as well as indirect habitat degradation through changes in the water quality.
- 4.5.17 If construction activities go within 10m of the ditches or cross any ditches, a suite of water vole surveys should be undertaken within the ditches which will be impacted by a suitably experienced ecologist to identify any burrows, latrines or other field signs indicating water vole presence. Surveys can be conducted mid-April to mid-September, but the optimal time to carry out surveys is in May and June during the peak breeding season. The results of this survey will then inform any further mitigation or compensation that may be required.

Otter

- 4.5.18 The majority of the ditches and waterbodies on the site are generally considered unsuitable for otter as they do not support fish, are shallow and densely shaded. No otter holts or evidence of otter was recorded during the PEA survey, but the larger ditches and waterbodies have the potential to support otter.

- 4.5.19 If any future development is undertaken within 10m of the larger waterbodies and ditches, the development could potentially cause direct harm, injury and / or death to individuals. It could also cause disturbance and the direct loss of suitable habitat, as well as indirect habitat degradation through changes in the water quality.
- 4.5.20 If the works are going to be within 10m of the larger waterbodies, an otter survey should be undertaken by a suitably experienced ecologist to identify any holts or other signs of how otters may be using the site. The results of this survey will then inform any further mitigation or compensation that may be required.
- 4.5.21 For works over 10m from the larger waterbodies, reasonable avoidance measures should be implemented to protect otters during the construction phase of the development.

Badgers

- 4.5.22 The site contains areas of scrub and a variety of grassland habitats, which provide suitable foraging and commuting habitats for badger, as-well as sett building opportunities. Furthermore, [REDACTED]
 [REDACTED] see Section 3.3.28 for further information.
- 4.5.23 Construction activities without mitigation could result in direct harm to badgers, disturbance, sett collapse, sett abandonment and loss of foraging habitats.
- 4.5.24 If the construction activities associated with any future development go within 30m of the setts, further badger activity surveys are required for each sett, The surveys should monitor the setts to determine the level of activity, the number of badgers using the setts and confirm the type of sett present (main, annexe, subsidiary or outlier). The surveys will also monitor how badgers are using the site to inform any necessary mitigation or compensation measures.
- 4.5.25 Furthermore, if the any future development design results in the loss of the setts, connectivity between setts, particularly the two main setts, and significant loss of habitat, badger bait marking surveys may be necessary to provide further information on the badger group(s) territory(ies) and how badgers are using the site to inform further mitigation or compensation measures.

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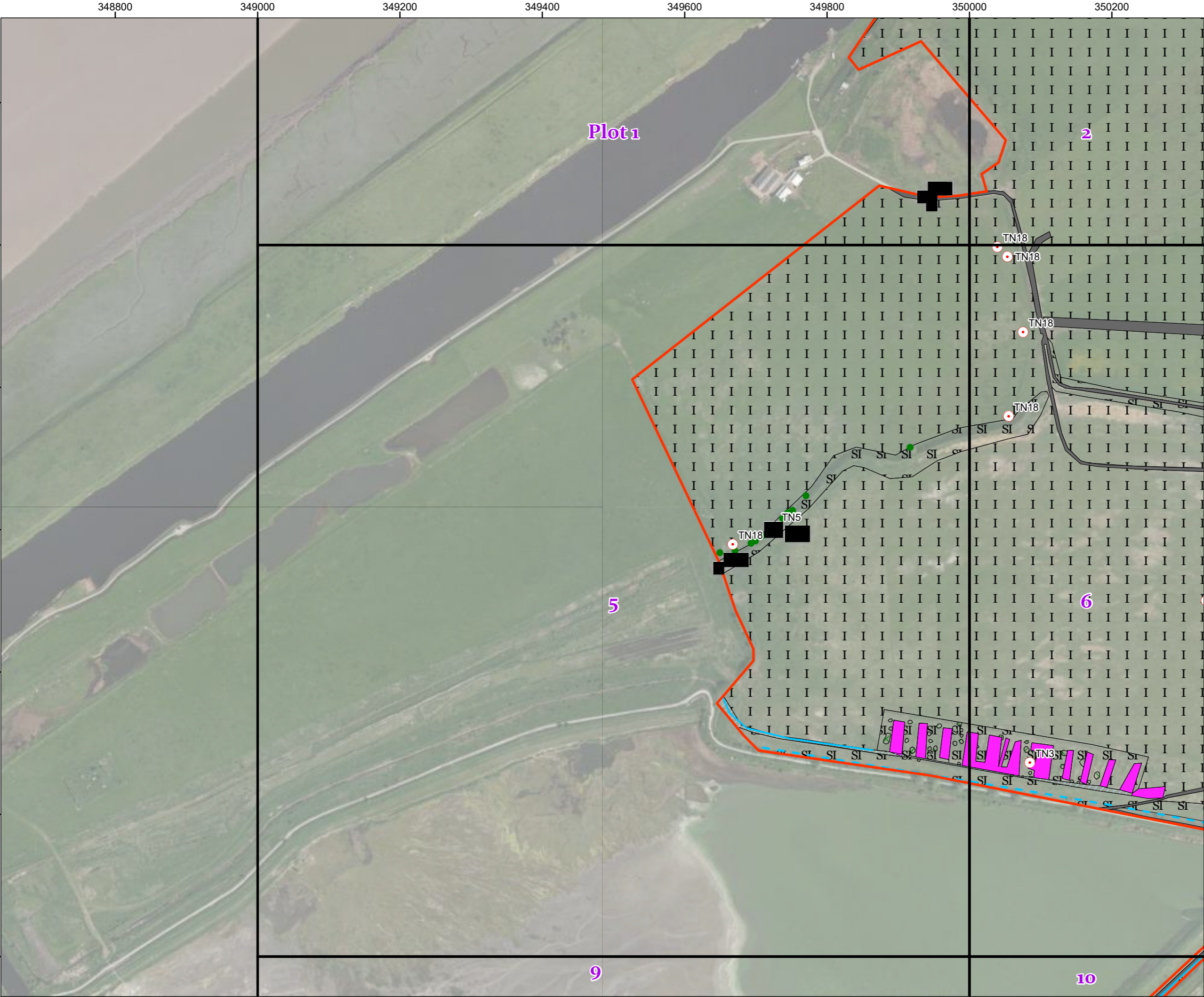
FIGURES

Figure 1 - Phase 1 Habitat Plan

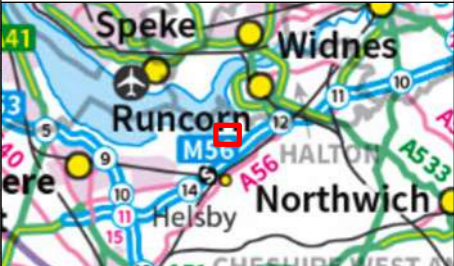
Figure 2 – Site reference plan

Figure 3 - Pond and Ditch Plan

Figure 1 - Phase 1 Habitat Plan



- Legend:
- Site boundary
 - OSGR 1km grid squares - Plots
 - Phase 1 Habitat Types
 - Hardstanding
 - Improved Grassland
 - Marginal Vegetation
 - Poor Semi-Improved Grassland
 - Scattered Scrub
 - Swamp
 - Dry Ditch
 - Standing Water
 - Broadleaved Trees
 - Target Notes

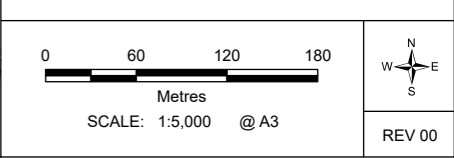


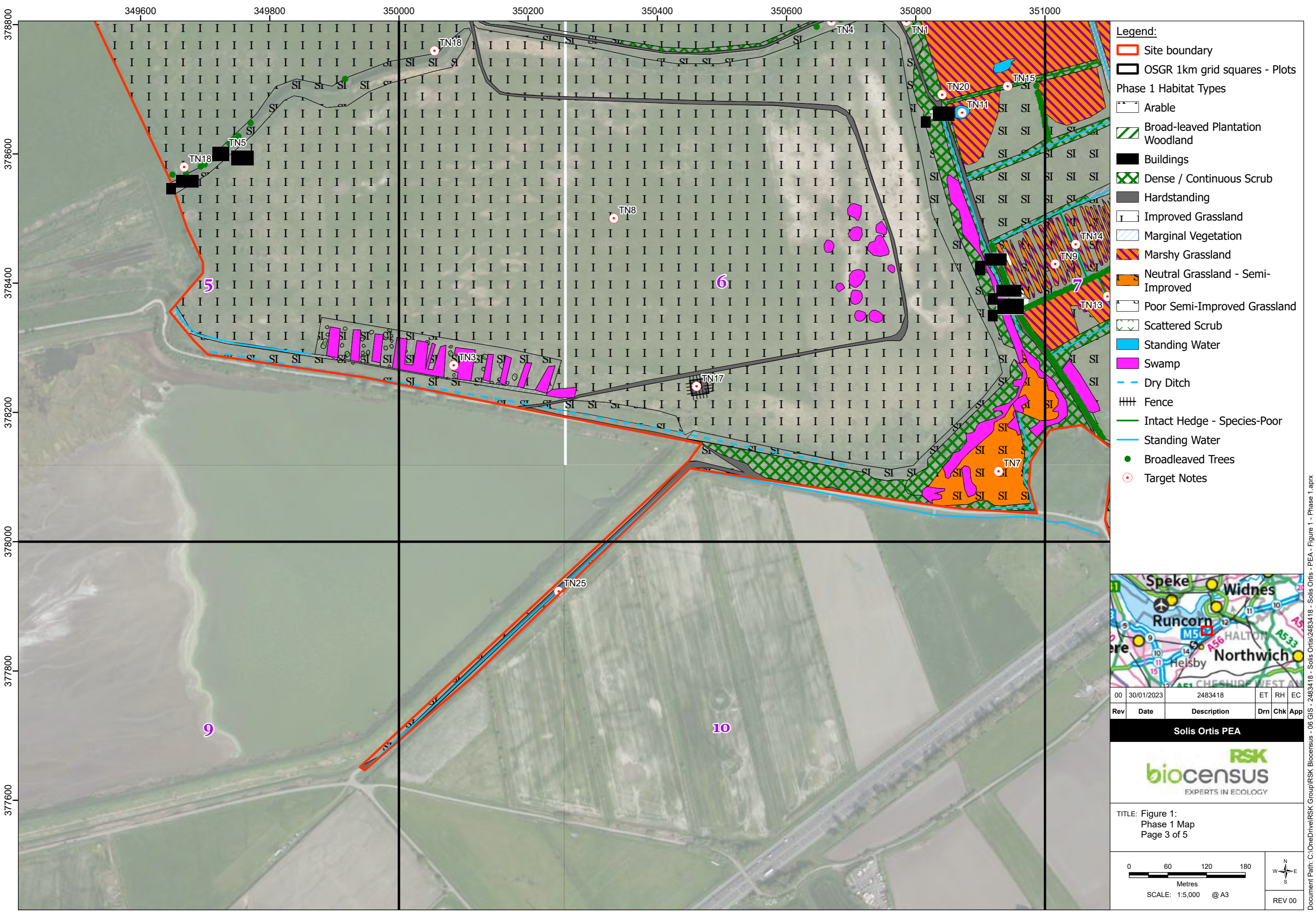
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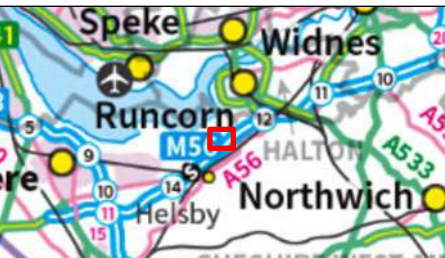


TITLE: Figure 1:
Phase 1 Map
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- Legend:**
- Site boundary
 - OSGR 1km grid squares - Plots
 - Phase 1 Habitat Types**
 - Arable
 - Broad-leaved Plantation Woodland
 - Buildings
 - Dense / Continuous Scrub
 - Hardstanding
 - Improved Grassland
 - Marginal Vegetation
 - Marshy Grassland
 - Neutral Grassland - Semi-Improved
 - Poor Semi-Improved Grassland
 - Scattered Scrub
 - Standing Water
 - Swamp
 - Dry Ditch
 - Fence
 - Intact Hedge - Species-Poor
 - Standing Water
 - Broadleaved Trees
 - Target Notes



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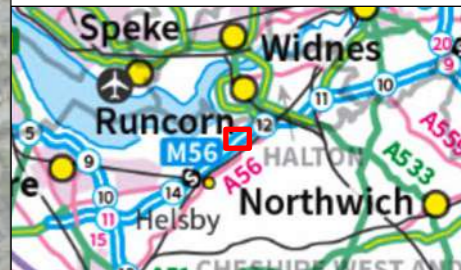
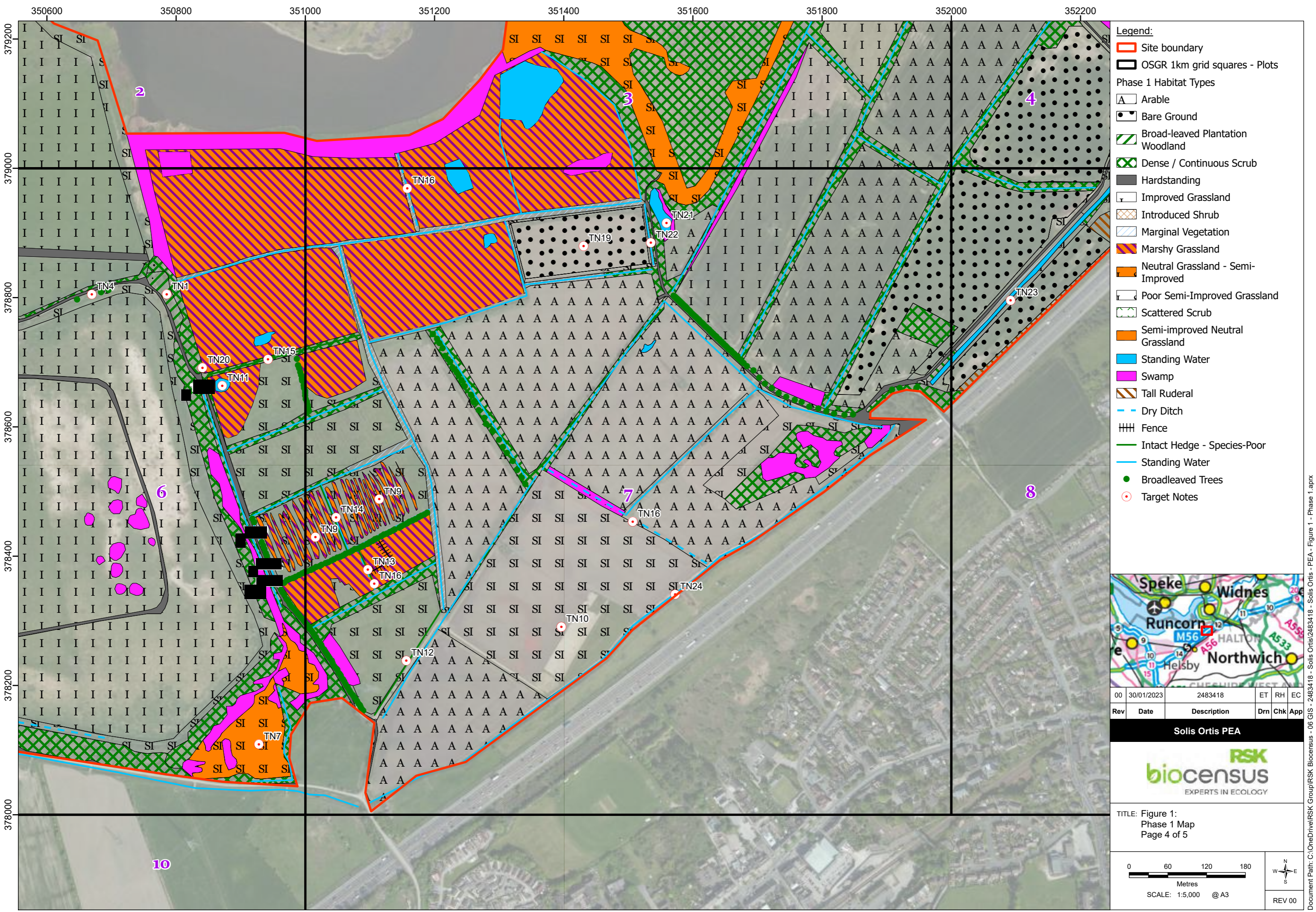
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Solis Ortis PEA



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Phase 1 Map
Page 4 of 5

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Figure 2 – Site reference plan

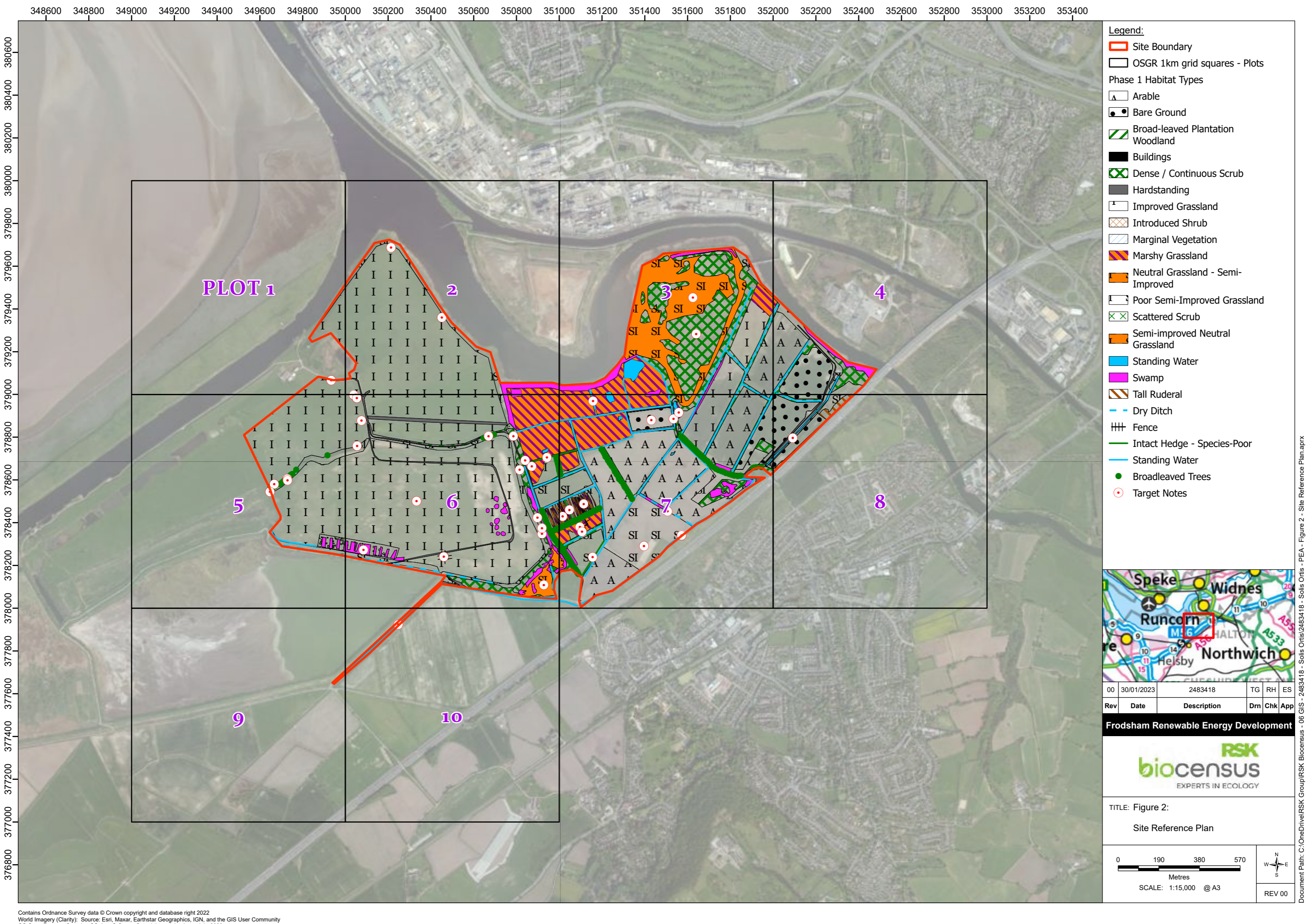
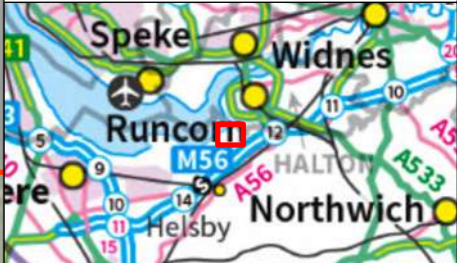


Figure 3 - Pond and Ditch Plan



- Legend:
- Site Boundary
 - 250m Site Boundary Buffer
 - Ponds for GCN Survey
 - Ditches for GCN Survey

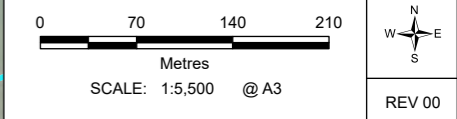


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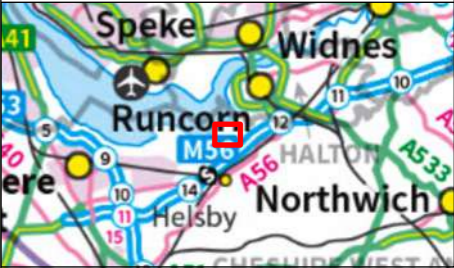


TITLE: Figure 3:
Pond and Ditch Plan
Page 1 of 5





- Legend:
- Site Boundary
 - 250m Site Boundary Buffer
 - Ponds for GCN Survey
 - Ditches for GCN Survey

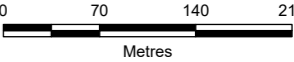


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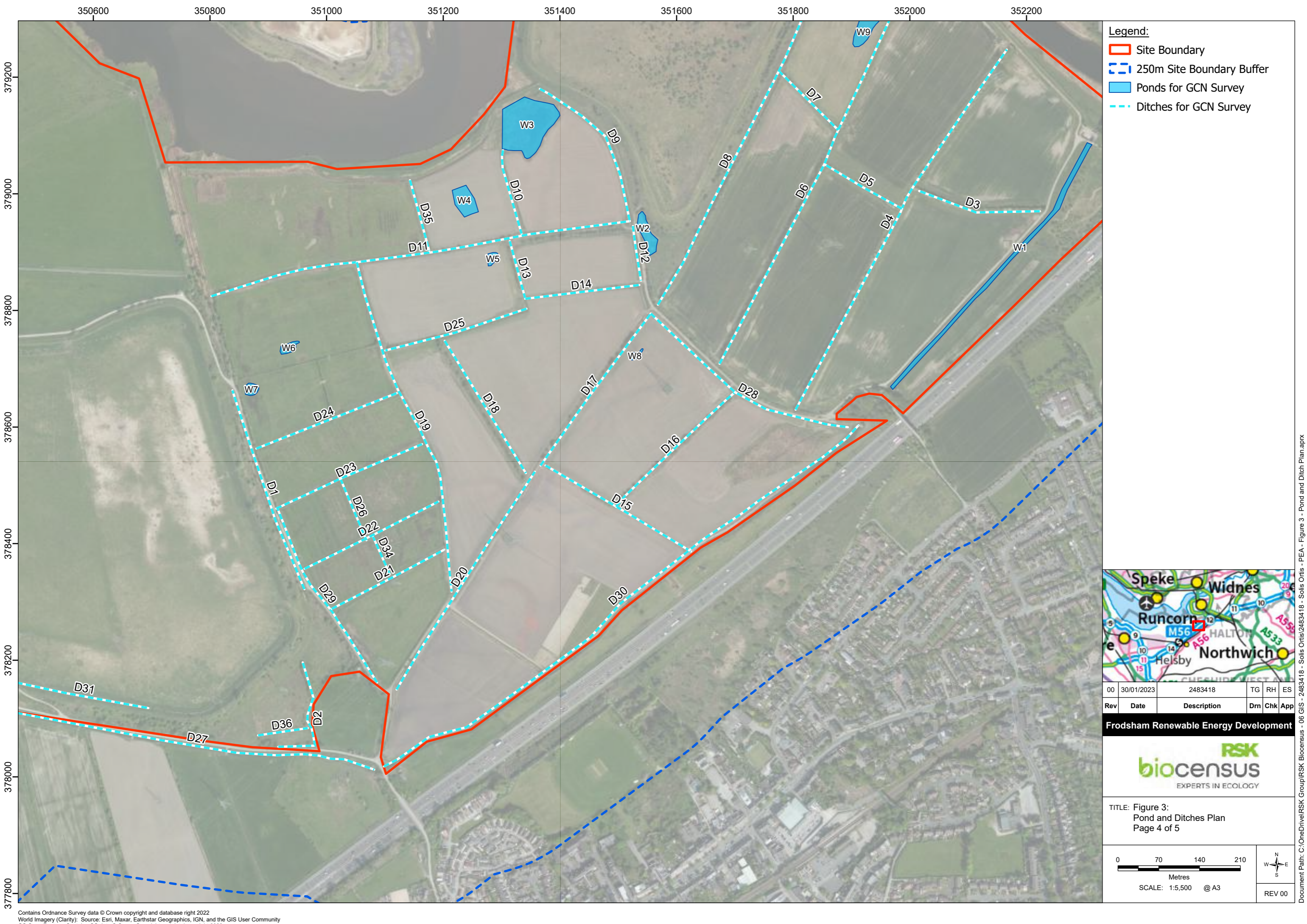
Frodsham Renewable Energy Development



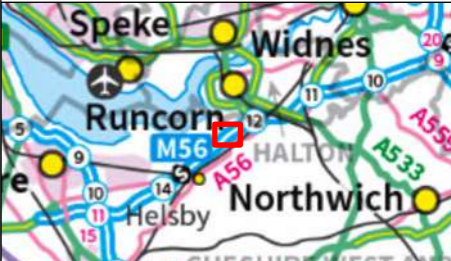
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Pond and Ditches Plan
Page 2 of 5







- Legend:
- Site Boundary
 - 250m Site Boundary Buffer
 - Ponds for GCN Survey
 - Ditches for GCN Survey

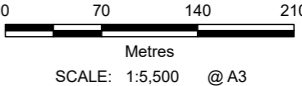


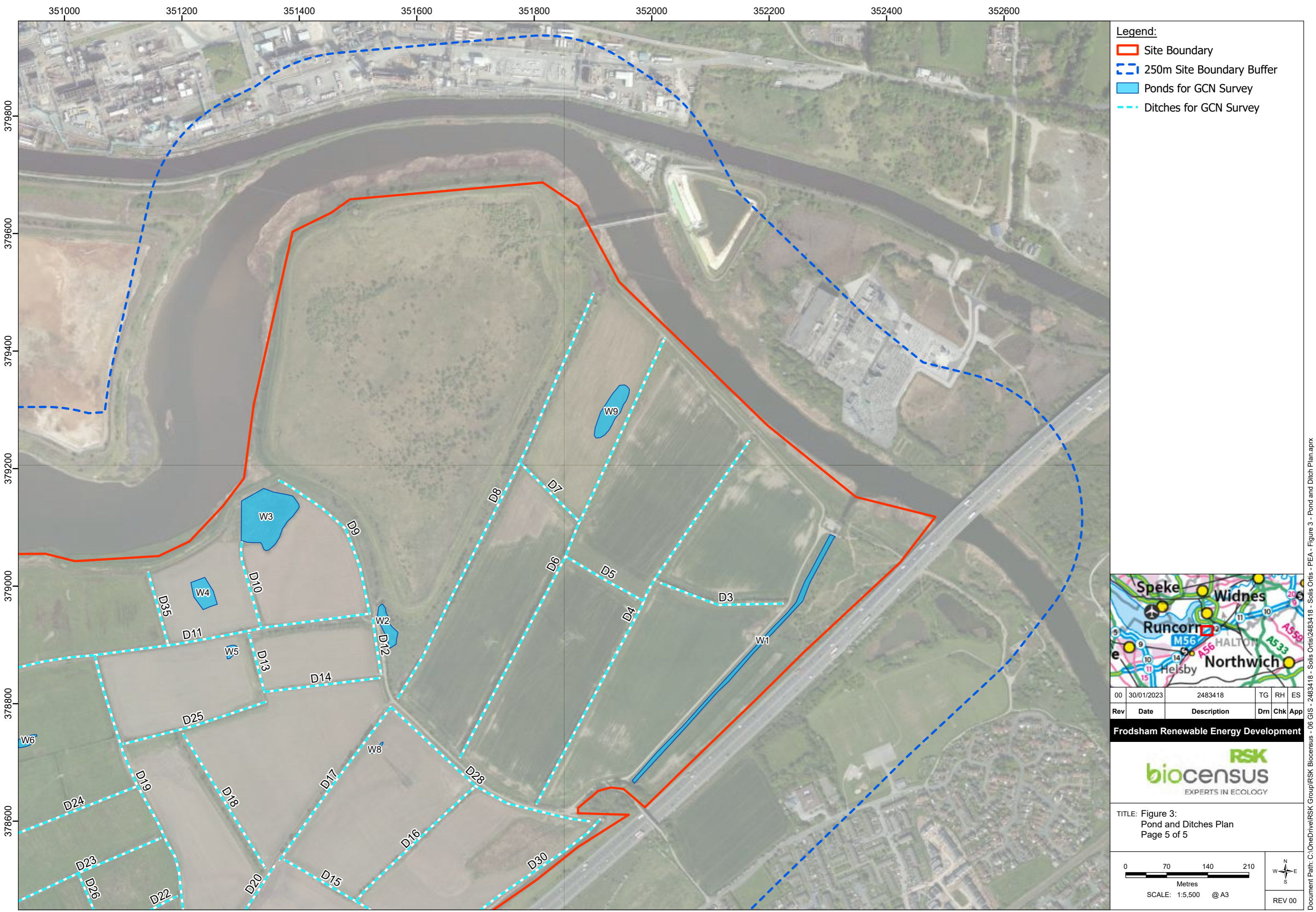
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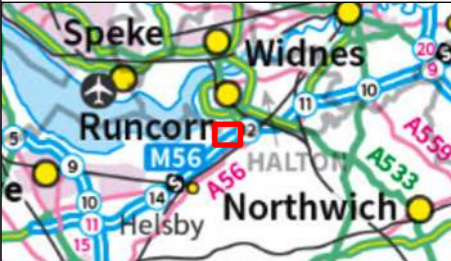


TITLE: Figure 3:
Pond and Ditch Plan
Page 4 of 5





- Legend:
- Site Boundary
 - 250m Site Boundary Buffer
 - Ponds for GCN Survey
 - Ditches for GCN Survey

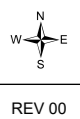
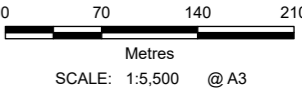


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Frodsham Renewable Energy Development



TITLE: Figure 3:
Pond and Ditch Plan
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APPENDIX A – TARGET NOTES

The locations of the following target notes are shown in *Figure 1*.

TN1 - Area of plantation woodland in the central section of the site (TN1), adjacent to a footpath. All trees are young – semi-mature and comprise Silver Birch (*Betula pendula*), Black Pine (*Pinus nigra*), Grey Willow (*Salix cinerea*), and Horse-chestnut (*Aesculus hippocastanum*). The ground flora comprise Ivy (*Hedera helix*), Herb-Robert (*Geranium robertianum*), Cleavers (*Galium aparine*), Cock's-foot (*Dactylis glomerata*) and Yorkshire-fog (*Holcus lanatus*). A small number of introduced shrubs were also noted within the area of woodland, including Flowering Currant (*Ribes sanguineum*) and Variegated Yellow Archangel (*Lamium galeobdolon* subsp. *argenteum*)

TN2 - Scrub within the north-eastern corner of the site.. The patches of scrub are a mixture of young – semi-mature trees with a height of c. 2 – 7m and as such have been mapped as dense scrub. Tree species present include Goat Willow (*Salix caprea*), Grey Willow, Ash (*Fraxinus excelsior*), Elder (*Sambucus nigra*), Aspen (*Populus tremula*), Dogwood (*Cornus sanguinea*) and Silver Birch (*Betula pendula*), but Goat and Grey Willow are the most frequent species present. There are also small areas with Bramble (*Rubus fruticosus*), Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Dog-rose (*Rosa canina*) and Field-rose (*Rosa arvensis*) are also present.

TN3 - Area of scattered scrub within the south-western section of the site contains scattered young – semi-mature trees, which are all below a height of 5m and as such have been mapped as scrub. Species present within the south-western section of site include Willow species (*Salix* sp.), Grey Willow and Elder.

TN4 - Area of broadleaved scattered trees

TN5 - Area of broadleaved scattered trees

TN6 - Area of semi-improved neutral grassland. However, a number of species present indicate the grassland is slightly calcareous, including Yellow-wort (*Blackstonia perfoliata*) and Fairy Flax (*Linum catharticum*). However, the majority of species present indicate neutral grassland, as the most frequent grass species present are Common Bent (*Agrostis capillaris*), Perennial Rye-grass (*Lolium perenne*), Red Fescue (*Festuca rubra*), False Oat-grass (*Arrhenatherum elatius*) and Rough Meadow-grass (*Poa trivialis*). Other species include Southern Marsh Orchid (*Dactylorhiza praetermissa*), Black Medick (*Medicago lupulina*), White Clover (*Trifolium repens*), Red Clover (*Trifolium pratense*), Common Vetch (*Vicia sativa*), Meadow Buttercup (*Ranunculus acris*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Common Figwort (*Scrophularia nodosa*) and Self-heal (*Prunella vulgaris*).

TN7 - Area of damp semi-improved grassland. Species: Perennial Rye-grass, Hard Rush (*Juncus inflexus*), Red Fescue, Creeping Thistle, Common Vetch, Meadow Foxtail (*Alopecurus pratensis*), Yorkshire-fog, False Fox-sedge (*Carex otrubae*), Common Sorrel (*Rumex acetosa*), Hairy Sedge (*Carex hirta*), Marsh Thistle (*Cirsium palustre*), Yellow Vetchling (*Lathyrus aphaca*), Thyme-leaved Speedwell (*Veronica serpyllifolia*), Rosebay Willowherb, Oval Sedge (*Carex leporine*), Tufted Hair-grass (*Deschampsia*

cespitosa), Sharp-flowered Rush (*Juncus acutiflorus*), Soft-rush (*Juncus effusus*), Common Sedge (*Carex nigra*), Crested Dog's-tail (*Cynosurus cristatus*), Carnation Sedge (*Carex panicea*), Marsh Bedstraw (*Galium palustre*), Lesser Stitchwort (*Stellaria graminea*), Greater Bird's-foot-trefoil (*Lotus pedunculatus*), Field Horsetail (*Equisetum arvense*) and Common Knapweed (*Centaurea nigra*).

TN8 - Windfarm.

TN9 - Fields managed for wildfowl purposes. The fields include areas of poor, semi-improved grassland with distinct lines of soft and compact rush present. The lines of rush are in shallow, man-made ditches to provide additional shelter for wildfowl species.

TN10 - Field where access was not permitted.

TN11 - Pond with New Zealand Pigmyweed (*Crassula helmsii*)

TN12 - Hedge 1, 1m high and 0.5m wide. Hawthorn is dominant but other species include Blackthorn, Hazel (*Corylus avellana*), Wild Cherry and Holly (*Ilex aquifolium*).

TN13 - Hedge 2, planted in last 5 years, evidenced by presence of tree guards. Hawthorn is the most frequent species, but other species include Blackthorn, Rose species (*Rosa* sp), Willow species and Holly.

TN14 - Hedge 3, in between two fields of marshy grassland in the central section of the site. The hedge is immediately adjacent to a wet ditch and is c. 1m wide and 4m high. Hawthorn is the dominant species but Rose, Blackthorn, Apple (*Malus* sp.) and Holly are also present. The hedge appears to have been planted or 'gapped up' recently as there are several trees with tree guards present.

TN15 - Hedge 4 - in between two fields of marshy grassland in the central section of the site. The hedge is c. 1m wide and 4 - 5m high. Hawthorn is the dominant species but Rose, Blackthorn, Apple species and Holly are also present.

TN16 - Dry ditch.

TN17 - Building within windfarm. It was not accessed during the initial PEA survey but is considered unlikely to be impacted as part of the proposed works and will be buffered from the works via the surrounding fence and hardstanding.

TN18 - Brick built structures.

TN19 - Area of bare ground with scattered ephemeral / short perennial plants.

TN20 - Location of cotoneaster plant.

TN21 - Pond with records of smooth newts.

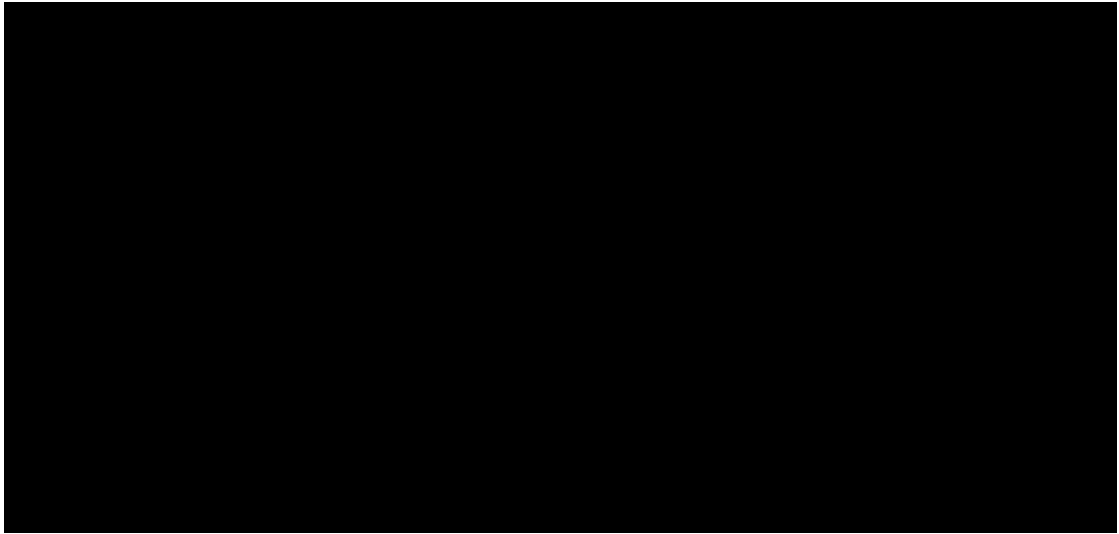
TN22 - Ditch with records of smooth newts.

TN23 - Watercourse suitable for otters.

TN24 - Watercourse suitable for otters.

TN25 - Watercourse suitable for otters.





APPENDIX B – PROTECTED AND NOTEWORTHY SPECIES RECORDS

Species that are protected by law under Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017, Schedules 2, 5 and 8 of The Wildlife and Countryside Act 1981 or The Protection of Badgers Act 1992 and have been recorded in the search area are listed in *Table 4* (excluding species protected only against collection for sale). These species records were obtained from Record – The Biodiversity Information System for Cheshire, Halton, Warrington and Wirral. The Latin and common names for species are given, along with the year of the most recent record and their level of designation.

Table 4: Protected species records within 1 km of the site boundary. Table 5 displays all noteworthy species that were returned within the search area. A glossary defining abbreviations used in the table is given in *Table 6, Appendix C*. If a species is not included in the tables below it does not necessarily mean the species is absent from the search area, but rather that data-holding organizations do not have records of it in these locations.

Table 4: Protected species records within 1 km of the site boundary.

| Scientific name | Common name | Designation | Year |
|----------------------------|----------------------|--------------------------------|------|
| Amphibians | | | |
| <i>Triturus cristatus</i> | Great Crested Newt | EPS(Sch2), WCA5, S41 | 2003 |
| Birds | | | |
| <i>Accipiter gentilis</i> | Goshawk | WCA1.1 | 2001 |
| <i>Alcedo atthis</i> | Kingfisher | WCA1.1, Amber | 2010 |
| <i>Anas acuta</i> | Pintail | WCA1.2, Amber, GB RDB(CR) | 2018 |
| <i>Anas querquedula</i> | Garganey | WCA1.1, Amber, GB RDB(CR) | 2004 |
| <i>Anser anser</i> | Greylag Goose | WCA1.2, Amber | 2018 |
| <i>Aythya marila</i> | Scaup | WCA1.1, S41, Red, GB RDB(EN) | 2004 |
| <i>Botaurus stellaris</i> | Bittern | WCA1.1, S41, Amber, GB RDB(VU) | 2002 |
| <i>Bucephala clangula</i> | Goldeneye | WCA1.2, Amber, GB RDB(VU) | 2017 |
| <i>Calidris pugnax</i> | Ruff | WCA1.1, Red, GB RDB(CR) | 2018 |
| <i>Calidris temminckii</i> | Temminck's Stint | WCA1.1 | 2008 |
| <i>Cettia cetti</i> | Cetti's Warbler | WCA1.1 | 2020 |
| <i>Charadrius dubius</i> | Little Ringed Plover | WCA1.1 | 2001 |
| <i>Circus aeruginosus</i> | Marsh Harrier | WCA1.1, Amber | 2010 |
| <i>Circus cyaneus</i> | Hen Harrier | WCA1.1, S41, Red, GB RDB(VU) | 2018 |
| <i>Clangula hyemalis</i> | Long-tailed Duck | WCA1.1, Red | 2003 |
| <i>Cygnus columbianus</i> | Bewick's Swan | WCA1.1, S41, Red, GB RDB(CR) | 2018 |
| <i>Cygnus cygnus</i> | Whooper Swan | WCA1.1, Amber, GB RDB(EN) | 2018 |
| <i>Falco columbarius</i> | Merlin | WCA1.1, Red, GB RDB(EN) | 2013 |

| Scientific name | Common name | Designation | Year |
|---------------------------|---------------------|------------------------------|------|
| Falco peregrinus | Peregrine | WCA1.1 | 2004 |
| Falco subbuteo | Hobby | WCA1.1 | 2017 |
| Fringilla montifringilla | Brambling | WCA1.1 | 2002 |
| Hydrocoloeus minutus | Little Gull | WCA1.1 | 2017 |
| Larus melanocephalus | Mediterranean Gull | WCA1.1, Amber | 2018 |
| Limosa limosa | Black-tailed Godwit | WCA1.1, S41, Red, GB RDB(EN) | 2018 |
| Milvus milvus | Red Kite | WCA1.1 | 2011 |
| Numenius phaeopus | Whimbrel | WCA1.1, Red, GB RDB(CR) | 2004 |
| Pandion haliaetus | Osprey | WCA1.1, Amber | 2018 |
| Podiceps nigricollis | Black-necked Grebe | WCA1.1, Amber, GB RDB(EN) | 2019 |
| Recurvirostra avosetta | Avocet | WCA1.1, Amber | 2018 |
| Tringa nebularia | Greenshank | WCA1.1, Amber | 2017 |
| Tringa ochropus | Green Sandpiper | WCA1.1, Amber, GB RDB(EN) | 2018 |
| Turdus iliacus | Redwing | WCA1.1, Amber, GB RDB(CR) | 2003 |
| Turdus pilaris | Fieldfare | WCA1.1, Red, GB RDB(CR) | 2018 |
| Tyto alba | Barn Owl | WCA1.1 | 2001 |
| Mammals | | | |
| Arvicola amphibius | European Water Vole | WCA5, S41, GB RDB(EN) | 2001 |
| Lutra lutra | European Otter | EPS(Sch2), WCA5, S41 | 2009 |
| Meles meles | Eurasian Badger | BA | 2003 |
| Myotis daubentonii | Daubenton's Bat | EPS(Sch2), WCA5 | 2007 |
| Myotis mystacinus | Whiskered Bat | EPS(Sch2), WCA5 | 2012 |
| Nyctalus noctula | Noctule Bat | EPS(Sch2), WCA5, S41 | 2012 |
| Pipistrellus pipistrellus | Common Pipistrelle | EPS(Sch2), WCA5 | 2013 |
| Pipistrellus pygmaeus | Soprano Pipistrelle | EPS(Sch2), WCA5, S41 | 2014 |
| Reptile | | | |
| Anguis fragilis | Slow-worm | WCA5, S41 | 2001 |
| Zootoca vivipara | Common Lizard | WCA5, S41 | 2008 |

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

| Scientific name | Common name | Designation |
|----------------------------------|--------------------|------------------------------|
| Plants | | |
| Bromus secalinus | Rye Brome | NS |
| Calystegia sepium subsp. roseata | Bindweed | NS |
| Catabrosa aquatica | Whorl-grass | GB RDB(VU), ENG BSBI RDB(VU) |
| Centaurea littorale | Seaside Centaury | NS |
| Eriophorum angustifolium | Common Cottongrass | GB RDB(VU), ENG BSBI RDB(VU) |
| Fritillaria meleagris | Fritillary | NS |
| Hottonia palustris | Water-violet | GB RDB(VU), ENG BSBI RDB(VU) |

| Scientific name | Common name | Designation |
|----------------------------|------------------------|----------------------------------|
| Hyacinthoides non-scripta | Bluebell | WCA8 - only inc in Appendix |
| Juncus filiformis | Thread Rush | NS |
| Lathyrus aphaca | Yellow Vetchling | GB RDB(VU), ENG BSBI RDB(VU), NS |
| Meconopsis cambrica | Welsh Poppy | NS |
| Pinus sylvestris | Scots Pine | NS |
| Ranunculus flammula | Lesser Spearwort | GB RDB(VU), ENG BSBI RDB(VU) |
| Trichomanes speciosum | Killarney Fern | EPS(Sch5), WCA8, NR |
| Amphibians | | |
| Bufo bufo | Common Toad | WCA5 |
| Lissotriton vulgaris | Smooth Newt | WCA5 |
| Rana temporaria | Common Frog | WCA5 |
| Birds | | |
| Acanthis flammea | Common (Mealy) Redpoll | Amber, GB RDB(CR) |
| Accipiter nisus | Sparrowhawk | Amber |
| Acrocephalus schoenobaenus | Sedge Warbler | Amber |
| Actitis hypoleucos | Common Sandpiper | Amber, GB RDB(VU) |
| Alauda arvensis | Skylark | S41, Red |
| Anas clypeata | Shoveler | Amber |
| Anas crecca | Teal | Amber |
| Anas penelope | Wigeon | Amber |
| Anas platyrhynchos | Mallard | Amber |
| Anas strepera | Gadwall | Amber |
| Anser brachyrhynchus | Pink-footed Goose | Amber |
| Anthus pratensis | Meadow Pipit | Amber |
| Anthus spinoletta | Water Pipit | Amber, GB RDB(VU) |
| Apus apus | Swift | Red, GB RDB(EN) |
| Arenaria interpres | Turnstone | Amber, GB RDB(VU) |
| Asio flammeus | Short-eared Owl | Amber, GB RDB(EN) |
| Aythya ferina | Pochard | Red, GB RDB(EN) |
| Branta leucopsis | Barnacle Goose | Amber |
| Calidris alba | Sanderling | Amber |
| Calidris alpina | Dunlin | Red, GB RDB(EN) |
| Calidris canutus | Knot | Amber |
| Calidris ferruginea | Curlew Sandpiper | Amber |
| Charadrius hiaticula | Ringed Plover | Red, GB RDB(VU) |
| Chloris chloris | Greenfinch | Red, GB RDB(EN) |
| Chroicocephalus ridibundus | Black-headed Gull | Amber, GB RDB(VU) |
| Columba oenas | Stock Dove | Amber |
| Columba palumbus | Woodpigeon | Amber |
| Corvus frugilegus | Rook | Amber |
| Cuculus canorus | Cuckoo | S41, Red, GB RDB(VU) |
| Cygnus olor | Mute Swan | Amber |

| Scientific name | Common name | Designation |
|--------------------------------------|----------------------------------|----------------------|
| <i>Delichon urbicum</i> | House Martin | Red, GB RDB(VU) |
| <i>Emberiza calandra</i> | Corn Bunting | S41, Red |
| <i>Emberiza citrinella</i> | Yellowhammer | S41, Red |
| <i>Emberiza schoeniclus</i> | Reed Bunting | S41, Amber |
| <i>Falco tinnunculus</i> | Kestrel | Amber, GB RDB(VU) |
| <i>Gallinago gallinago</i> | Snipe | Amber |
| <i>Gallinula chloropus</i> | Moorhen | Amber, GB RDB(VU) |
| <i>Haematopus ostralegus</i> | Oystercatcher | Amber |
| <i>Larus argentatus</i> | Herring Gull | S41, Red, GB RDB(EN) |
| <i>Larus canus</i> | Common Gull | Amber |
| <i>Larus fuscus</i> | Lesser Black-backed Gull | Amber |
| <i>Larus fuscus subsp. graellsii</i> | British Lesser Black-Backed Gull | Amber |
| <i>Larus hyperboreus</i> | Glaucous Gull | Amber, GB RDB(VU) |
| <i>Larus marinus</i> | Great Black-backed Gull | Amber, GB RDB(EN) |
| <i>Larus michahellis</i> | Yellow-legged Gull | Amber, GB RDB(EN) |
| <i>Limosa lapponica</i> | Bar-tailed Godwit | Amber |
| <i>Linaria cannabina</i> | Linnet | S41, Red |
| <i>Linaria flavirostris</i> | Twite | S41, Red, GB RDB(VU) |
| <i>Locustella naevia</i> | Grasshopper Warbler | S41, Red |
| <i>Mergellus albellus</i> | Smew | Amber, GB RDB(CR) |
| <i>Mergus serrator</i> | Red-breasted Merganser | GB RDB(VU) |
| <i>Motacilla cinerea</i> | Grey Wagtail | Amber |
| <i>Motacilla flava</i> | Yellow Wagtail | S41, Red |
| <i>Numenius arquata</i> | Curlew | S41, Red, GB RDB(EN) |
| <i>Oenanthe oenanthe</i> | Wheatear | Amber |
| <i>Passer domesticus</i> | House Sparrow | S41, Red |
| <i>Passer montanus</i> | Tree Sparrow | S41, Red, GB RDB(VU) |
| <i>Perdix perdix</i> | Grey Partridge | S41, Red, GB RDB(VU) |
| <i>Phylloscopus trochilus</i> | Willow Warbler | Amber |
| <i>Pluvialis squatarola</i> | Grey Plover | Amber, GB RDB(VU) |
| <i>Podiceps cristatus</i> | Great Crested Grebe | GB RDB(VU) |
| <i>Podiceps grisegena</i> | Red-necked Grebe | Red, GB RDB(CR) |
| <i>Prunella modularis</i> | Dunnock | S41, Amber |
| <i>Pyrrhula pyrrhula</i> | Bullfinch | S41, Amber |
| <i>Saxicola rubetra</i> | Whinchat | Red |
| <i>Scolopax rusticola</i> | Woodcock | Red, GB RDB(VU) |
| <i>Sterna hirundo</i> | Common Tern | Amber |
| <i>Strix aluco</i> | Tawny Owl | Amber |
| <i>Sturnus vulgaris</i> | Starling | S41, Red, GB RDB(VU) |
| <i>Sylvia communis</i> | Whitethroat | Amber |
| <i>Tadorna tadorna</i> | Shelduck | Amber, GB RDB(EN) |
| <i>Tringa erythropus</i> | Spotted Redshank | Amber, GB RDB(EN) |
| <i>Tringa totanus</i> | Redshank | Amber, GB RDB(VU) |
| <i>Troglodytes troglodytes</i> | Wren | Amber |

| Scientific name | Common name | Designation |
|-------------------------------------------|------------------------------------|----------------------|
| <i>Turdus philomelos</i> | Song Thrush | S41, Amber |
| <i>Turdus torquatus</i> | Ring Ouzel | S41, Red, GB RDB(VU) |
| <i>Turdus viscivorus</i> | Mistle Thrush | Red, GB RDB(VU) |
| <i>Vanellus vanellus</i> | Lapwing | S41, Red, GB RDB(EN) |
| Invertebrates | | |
| <i>Agelastica alni</i> | Alder Leaf Beetle | NR |
| <i>Agrochola litura</i> | Brown-spot Pinion | S41 |
| <i>Agrochola lychnidis</i> | Beaded Chestnut | S41 |
| <i>Allophytes oxyacanthae</i> | Green-brindled Crescent | S41 |
| <i>Amphipyra tragopoginis</i> | Mouse Moth | S41 |
| <i>Apamea remissa</i> | Dusky Brocade | S41 |
| <i>Arctia caja</i> | Garden Tiger | S41 |
| <i>Atethmia centrargo</i> | Centre-barred Sallow | S41 |
| <i>Beris clavipes</i> | Scarce Orange Legionnaire | NS, Notable |
| <i>Caradrina morpheus</i> | Mottled Rustic | S41 |
| <i>Ceramica pisi</i> | Broom Moth | S41 |
| <i>Chesias legatella</i> | Streak | S41 |
| <i>Chiasmia clathrata</i> | Latticed Heath | S41 |
| <i>Cirrhia gilvago</i> | Dusky-lemon Sallow | S41 |
| <i>Cirrhia icteritia</i> | Sallow | S41 |
| <i>Conisternum decipiens</i> | Conisternum decipiens | Notable |
| <i>Diarsia rubi</i> | Small Square-spot | S41 |
| <i>Ecliptopera silaceata</i> | Small Phoenix | S41 |
| <i>Ennomos erosaria</i> | September Thorn | S41 |
| <i>Ennomos fuscantaria</i> | Dusky Thorn | S41 |
| <i>Eulithis mellinata</i> | Spinach | S41 |
| <i>Euxoa nigricans</i> | Garden Dart | S41 |
| <i>Graphiphora augur</i> | Double Dart | S41 |
| <i>Gyrinus paykulli</i> | Gyrinus paykulli | NS |
| <i>Helophorus (Helophorus) granularis</i> | Helophorus (Helophorus) granularis | NS |
| <i>Helotropha leucostigma</i> | Crescent | S41 |
| <i>Hepialus humuli</i> | Ghost Moth | S41 |
| <i>Hydaticus seminiger</i> | Hydaticus seminiger | NS |
| <i>Hydraecia micacea</i> | Rosy Rustic | S41 |
| <i>Lasiommata megera</i> | Wall | S41 |
| <i>Leucania comma</i> | Shoulder-striped Wainscot | S41 |
| <i>Litoligia literosa</i> | Rosy Minor | S41 |
| <i>Melanchra persicariae</i> | Dot Moth | S41 |
| <i>Orthosia gracilis</i> | Powdered Quaker | S41 |
| <i>Pelurga comitata</i> | Dark Spinach | S41 |
| <i>Polydrusus (Chrysophis) formosus</i> | Polydrusus (Chrysophis) formosus | Notable:A |
| <i>Rhizodra lutosa</i> | Large Wainscot | S41 |

| Scientific name | Common name | Designation |
|--------------------------|---------------------------------|-------------------------------------------------|
| Satyrion w-album | White-letter Hairstreak | WCA5, S41, GB RDB(EN) - only inc in Appendix |
| Scotopteryx chenopodiata | Shaded Broad-bar | S41 |
| Spilosoma lubricipeda | White Ermine | S41 |
| Spilosoma lutea | Buff Ermine | S41 |
| Stratiomys singularior | Flecked General | Notable |
| Timandra comae | Blood-vein | S41 |
| Tyria jacobaeae | Cinnabar | S41 |
| Watsonalla binaria | Oak Hook-tip | S41 |
| Xanthorhoe ferrugata | Dark-barred Twin-spot Carpet | S41 |
| Mammals | | |
| Erinaceus europaeus | West European Hedgehog | S41, GB RDB(VU) |
| Lepus europaeus | Brown Hare | S41 |
| Meles meles | Eurasian Badger | BA |
| Mustela putorius | Polecat | S41 |

APPENDIX C - ABBREVIATIONS

Table 6 displays abbreviations of protected species legislation.

Table 6: Glossary of abbreviations used in this report.

| Code | Full Title | Explanation |
|------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Amber | Amber list | Amber listed species have a population status in the UK of medium conservation concern. |
| BA | The Protection of Badgers Act 1992 | Legislation making it an offence to kill, injure or take a badger, or to damage or interfere with a sett unless a licence is obtained from a statutory authority. |
| BAP | Biodiversity Action Plan | A plan that identifies threats to significantly important species and habitats, and sets out targets and actions to enhance or maintain biodiversity. |
| DA | The Deer Act 1991 | All wild deer with the exception of muntjac (<i>Muntiacus reevesi</i>) and Chinese water deer (<i>Hydropotes inermis</i>) are protected by a closed season. |
| ENG BSBI RDB | A Vascular Plant Red List for England | A list published in 2014 by the Botanical Society of Britain and Ireland of the red list status of plants in England. Measured against standardised IUCN criteria. |
| ENG BSBI RDB(CR) | Critically Endangered | A BSBI Red List designation for species at an extremely high risk of extinction. |
| ENG BSBI RDB(EN) | Endangered | A BSBI Red List designation for species at a very high risk of extinction. |
| ENG BSBI RDB(VU) | Vulnerable | A BSBI Red List designation for species at high risk of extinction. |
| EPS (Sch 2) | European Protected Species (Schedule 2) | European protected species (listed on Schedules 2 of The Conservation of Habitats and Species Regulations 2017) |
| EPS (Sch 5) | European Protected Species (Schedule 5) | European protected species (listed on Schedules 5 of The Conservation of Habitats and Species Regulations 2017) |
| GB RDB | Red Data Book Species | Species identified in one of the UK Red Data 2001. |
| GB RDB(CR) | Critically Endangered | An IUCN Red List designation for species at an extremely high risk of extinction. |
| GB RDB(EN) | Endangered | An IUCN Red List designation for species at a very high risk of extinction. |
| GB RDB(VU) | Vulnerable | An IUCN Red List designation for species at high risk of extinction. |

| Code | Full Title | Explanation |
|------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HAP | Habitat Action Plan | A plan that identifies threats to a priority habitat and sets out targets and actions to enhance or maintain that habitat. |
| IUCN | International Union for Conservation of Nature and Natural Resources (also known as The World Conservation Union) | A worldwide partnership and conservation network to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable. |
| LBAP | Local Biodiversity Action Plan | A plan that identifies threats to locally important species and habitats, and sets out targets and actions in species action plans and habitat action plans to enhance or maintain biodiversity at the county or regional level. |
| LHAP | Local Habitat Action Plan | A plan that identifies threats to a locally important priority habitat and sets out targets and actions to enhance or maintain that habitat. |
| LSAP | Local Species Action Plan | A plan that identifies threats to locally important species, and sets out targets and actions to prevent losing that species from the local area. |
| Notable | Scarce and threatened invertebrates | Invertebrate species which are estimated to occur within the range of 16 to 100 10km squares but subdivision into Notable A and Notable B categories is not possible as there is insufficient information available). |
| Notable:A | Scarce and threatened invertebrates | Taxa which do not fall within Red Data Book categories but which are none-the-less uncommon in Great Britain and thought to occur in 30 or fewer 10km squares of the National Grid or, for less well-recorded groups, within seven or fewer vice-counties. |
| Notable: B | Scarce and threatened invertebrates | Taxa which do not fall within Red Data Book categories but which are none-the-less uncommon in Great Britain and thought to occur in between 31 and 100 10km squares of the National Grid or, for less-well recorded groups between eight and twenty vice-counties. |
| NN | Nationally Notable | Designation for invertebrate taxa that are thought to be notably important in the UK. |
| NR | Nationally Rare | Species in 15 or fewer hectads in Great Britain. |
| NS | National Scarce | Species in 16-100 hectads in Great Britain. |
| OSPAR | OSPAR | Species listed on The Convention for the Protection of the Marine Environment of the North-East Atlantic |

| Code | Full Title | Explanation |
|-------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Red | Red List | Red listed species have a population status in the UK with high conservation concern. |
| SAP | Species Action Plan | A plan that identifies threats to significantly important species, and sets out targets and actions to prevent losing that species to extinction. |
| S41 | Species of Principal Importance | Species of Principal Importance in England under The Natural Environment and Rural Communities (NERC) Act (2006) |
| UKBAP | UK Biodiversity Action Plan | A plan that identifies threats to locally important species and habitats, and sets out targets and actions in species action plans and habitat action plans to enhance or maintain biodiversity in the UK. |
| WCA | <i>The Wildlife and Countryside Act 1981</i> (as amended) | Containing 4 Parts and 17 Schedules, the Act covers protection of wildlife (birds, and some animals and plants), the countryside, National Parks, and the designation of protected areas, and public rights of way. All wild plants in Britain are protected from intentional uprooting by an unauthorized person, but land owners, land occupiers, persons authorized by either of these or persons authorized in writing by the Local Authority for the area are exempt. Protection for some species may be limited to certain Sections of the Act (e.g. S13(2)). |
| WCA1 | Schedule 1 of <i>The Wildlife and Countryside Act 1981</i> (as amended) | <p>This Schedule lists birds protected by special penalties at all times, but virtually all wild birds have some protection in law.</p> <p>Acts which are prohibited for all wild birds (except derogated 'pest' species) include intentional killing, injuring or taking; taking, damaging or destroying nests in use or being built; taking or destroying eggs; possessing or having control of (with certain exceptions but including live for dead birds, parts or derivative); setting or permitting certain traps, weapons, decoys or poisons. Selling, offering or exposing for sale, possessing or transporting for sale any live wild bird, egg or part of an egg or advertising any of these for sale, or dead wild bird including parts or derivatives are also prohibited. Many birds must be formally registered and ringed if kept in captivity.</p> <p>Schedule I WCA birds are additionally protected from intentional or reckless disturbance while building a nest, or when such a bird is in, on or near a</p> |

| Code | Full Title | Explanation |
|------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | nest containing eggs or young, or intentional or reckless disturbance of dependent young. |
| WCA5 | Schedule 5 of <i>The Wildlife and Countryside Act 1981</i> (as amended) | Schedule 5 animals are protected from intentional killing, injuring or taking; possessing (including parts or derivatives); intentional or reckless damage, destruction or obstruction of any structure or place used for shelter or protection; selling, offering or exposing for sale, possessing or transporting for the purpose of sale (alive or dead, including parts or derivatives). Protection of some species is limited to certain Sections of the Act (e.g. S9(1), S9(4a), S9(4b), S9(5)). |
| WCA8 | Schedule 8 of <i>The Wildlife and Countryside Act 1981</i> (as amended) | Plants and fungi protected from intentional picking, uprooting, destroying, trading (including parts or derivatives), etc. |

APPENDIX D – NATURE CONSERVATION LEGISLATION AND POLICY

International Legislation

The following international conventions and directives apply to biodiversity protection in the UK. Post-'Brexit', even though European Union (EU) directives no longer directly apply to the UK, the provisions therein are enshrined in both domestic legislation and international agreements. Legislation has been enacted to ensure the regulations derived from these remain in force¹.

The Convention on Biological Diversity 1992 *et seq.*

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

Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (Birds Directive) 2009

<https://www.legislation.gov.uk/eudr/2009/147>

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

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) 1992

<https://www.legislation.gov.uk/eudr/1992/43>

The Habitats Directive 1992 requires EU MSs to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of community interest, which are listed under Annex I, II, IV and/or V. Species listed under Annex IV are known as 'European

¹ Further information relating to England and Wales can be found here: <https://www.gov.uk/government/publications/changes-to-the-habitats-regulations-2017/changes-to-the-habitats-regulations-2017>. A similar exercise has been undertaken in Scotland and Northern Ireland.

Protected Species' (EPS), and have retained their protected status in UK domestic legislation post-Brexit.

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

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

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

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

Habitats Regulations Assessment (HRA): a note

There is a requirement under the EU nature directives, and enshrined in country-specific domestic legislation² (see below), to undertake a screening exercise to determine whether any sites that form part of the 'national site network' (formerly Natura 2000) are likely to be significantly affected by any proposal (project or plan). The assessment must consider the proposals alone and also in combination with other plans and projects, if they result from activities that are not directly connected with, or necessary to, the management of the designated sites. If significant effects are likely, an Appropriate Assessment (AA) will need to be carried out. The screening, any AA, and any subsequent assessment, are collectively known as a Habitats Regulations Assessment (HRA). The HRA needs to take into account each of the 'Qualifying Features' (habitats or species) that justified the site being designated. Ramsar sites are treated in the same way as SACs and SPAs in HRAs, as are sites which have not been fully adopted i.e. candidate SACs (cSACs) and potential SPAs (pSPAs).

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

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

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

² In England and Wales: the Conservation of Habitats and Species Regulations 2017 (as amended).
In Scotland: the Conservation (Natural Habitats &c.) Regulations 1994 (as amended).
In Northern Ireland: the Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended).
In the UK offshore area: the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended).

undertaking cooperative research activities. The UK Government ratified the Bonn Convention in 1985. The current legally-binding Agreements under the Convention include EUROBATS³.

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1979

<https://www.coe.int/en/web/bern-convention>

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

National Legislation

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

The Wildlife and Countryside Act (WCA) 1981

<https://www.legislation.gov.uk/ukpga/1981/69>

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

The act is supplemented by provisions in the Countryside and Rights of Way (CRoW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006, and extended in Scotland by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2011). Its equivalent in Northern Ireland is the Wildlife (Northern Ireland) Order 1985 (as amended and similarly extended). In addition to the Habitat Regulations (described below), the WCA provides protection for species listed in Schedules 1 (birds), 5 (other animals) and 8 (plants) of the Act. It provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) in England and Wales⁴. It also sets out, in other schedules, important and invasive species which are legally protected or require management.

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

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

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

³ More information available at <https://jncc.gov.uk/our-work/agreement-on-the-conservation-of-populations-of-european-bats-eurobats>

⁴ Duty replaced by the Nature Conservation (Scotland) Act 2004 (as amended) and the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 (as amended) in those countries.

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

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

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

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

Section 14(2)⁵ states that it is an offence to plant or otherwise cause to grow any plant in the wild at a place outside its native range.

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

Section 16(i) of the Act does make provision for derogation licences to be issued *“for the purposes of preserving public health or public ... safety”*. For confirmation of this, it would be appropriate to consult the relevant statutory nature conservation body (SNCB)⁶.

The Conservation of Habitats and Species Regulations (Habitat Regulations) 2017

<https://www.legislation.gov.uk/ukSI/2017/1012> England and Wales

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

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

⁵ In Scotland, as amended by Section 14 of the Wildlife and Natural Environment (Scotland) Act 2011.

⁶ SNCBs are - in England: Natural England; in Wales: Natural Resources Wales; in Scotland: NatureScot; in Northern Ireland: Department of Agriculture, Environment and Rural Affairs (DAERA).

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

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

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

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

There are also restrictions on transport, possession and sale.

It is possible to obtain a derogation licence from the relevant SNCB⁶ to permit activities which would otherwise contravene the regulations above, including for development purposes, when certain conditions are met. Failure to satisfy the Regulations and obtain a licence where required could result in prosecution and lead to fines and possible imprisonment.

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

Countryside and Rights of Way Act 2000

<https://www.legislation.gov.uk/ukpga/2000/37>

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

The Natural Environment and Rural Communities (NERC) Act 2006; The Environment (Wales) Act 2016

<https://www.legislation.gov.uk/ukpga/2006/16>

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

As part of this duty, statutory undertakers must have regard to the list of habitats and species which are of principal importance for the purpose of maintaining and enhancing biodiversity. For England, the duty to compile such a list is captured under Section 41 of the NERC Act; in

Wales, under Section 7 of the Environment (Wales) Act. The lists for England are accessible online via the National Archive⁷; for Wales via <https://www.biodiversitywales.org.uk/>.

The Hedgerows Regulations 1997

<https://www.legislation.gov.uk/uksi/1997/1160/made>

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

Protection of Badgers Act 1992

<https://www.legislation.gov.uk/ukpga/1992/51>

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

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

Derogation licences may be obtained from the relevant SNCB⁶ under Section 10 of the Act for the purpose of development, to permit activities which would otherwise be unlawful.

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

The Wild Mammals (Protection) Act 1996

<https://www.legislation.gov.uk/ukpga/1996/3>

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

Invasive Alien Species (Enforcement and Permitting) Order 2019

<https://www.legislation.gov.uk/uksi/2019/527/contents/made>

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

National, regional and local policy and guidance of relevance

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

⁷

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

National Planning Policy Framework 2021

Access via: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

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

Planning Practice Guidance

Accessed via: <https://www.gov.uk/government/collections/planning-practice-guidance>

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

Government's 25-Year Environment Plan 2018

Accessed via: <https://www.gov.uk/government/publications/25-year-environment-plan>

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

Cheshire West and Chester Local Plan (Part One) Strategic Policies 2015

Accessed via:

<https://consult.cheshirewestandchester.gov.uk/kse/event/24907/section/1419339111266#1419339111266>

Cheshire West and Chester's Local Plan contains Policy ENV 4 Biodiversity and geodiversity which sets out measures to safeguard and enhance biodiversity through the identification and protection of sites and/or features of international, national and local importance. Sites will be protected from loss or damage taking into account the hierarchy of designations, the irreplaceability of habitats, sites and/or features and their contribution to the borough's ecological network, and the impact on priority habitats and protected/priority species.

Development should not result in a net loss of natural assets and should seek to provide net gains.



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