

Connah's Quay Low Carbon Power

Environmental Statement Volume IV
Appendix 11-C: Botanical Technical Appendix

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1. Introduction

1.1 Background

1.1.1 This report forms a technical appendix accompanying **Chapter 11: Terrestrial and Aquatic Ecology** (**EN010166/APP/6.2.11**) of the ES for the Connah's Quay Low Carbon Project (the 'Proposed Development').

1.1.2 This report describes the approach and findings of botanical surveys carried out to date in support of the Ecological Impact Assessment (EcIA) of the Proposed Development.

1.1.3 This report focuses on the Order limits excluding the Accommodation Work Areas (hereafter known as the Construction and Operation Area). This area is shown on **Figure 3-1: Order Limits** (**EN010166/APP/6.3**) sheets 6 to 9 and Plate 3-2 **Chapter 3: Location of the Proposed Development** (**EN010166/APP/6.2.3**).

1.1.4 The Accommodation Works Areas are considered in **Appendix 5-A: Environmental Screening of Accommodation Works** (**EN010166/APP/6.4**).

1.2 Survey Scope

1.2.1 A Preliminary Ecological Appraisal (PEA) of the ecological constraints and opportunities associated with the Site was carried out in November 2023 and identified the requirements for further botanical surveys. The findings of the initial habitat and scoping survey are compiled within the PEA Report (**Annex F**).

1.2.2 The purpose of this report is to provide botanical baseline technical information only, based on data gathered to date. It does not seek to specify mitigation or make an EcIA of the Proposed Development. The formal EcIA is provided as **Chapter 11: Terrestrial and Aquatic Ecology** (**EN010166/APP/6.2.11**).

1.2.3 The 'Study Area' used and referenced within this report are defined in Section 3.

2. Relevant Legislation and Policy

2.1 Legislation

2.1.1 **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics** (**EN010166/APP/6.4**)) provides detail on the legislation that is of direct relevance to the assessment of ecology.

2.1.2 Habitats and species of 'principal importance' for the purpose of maintaining and enhancing biodiversity in Wales (also referred to as 'priority habitats' and 'priority species', the terms which are used in this report hereafter) are protected through the Section 7 of the Environment (Wales) Act 2016 (Ref 1). The Welsh Ministers must "*take all reasonable steps to maintain and enhance*" priority habitats.

2.1.3 Hedgerows are also specifically addressed by The Hedgerows Regulations 1997 (Ref 2) which relates to the identification of important hedgerows and sets restrictions on hedgerow removal. The Hedgerows Regulations 1997 have quite a narrow remit and, therefore, they have only limited applicability to the planning system. However, they do provide the method for the identification of important hedgerows.

2.1.4 Some wild plants are European protected species, as listed in schedule 5 of The Conservation of Habitats and Species Regulations 2017 (Ref 3).

2.1.5 It is an offence to:

- deliberately pick, collect, cut, uproot or destroy them;
- possess, or transport them (or any part, alive or dead); and
- sell, exchange or offer for sale or exchange.

2.1.6 A mitigation licence must be obtained to carry out any of these actions for any plant that is a European protected species.

2.1.7 Under the Wildlife and Countryside Act 1981 (Ref 4), it is an offence to intentionally uproot any wild plant without the landowner's or Local Planning Authority's consent.

2.1.8 For wild plants, fungi and lichens listed in schedule 8 of the Wildlife and Countryside Act 1981 (Ref 4) it is an offence to:

- intentionally pick, uproot or destroy them;
- possess or transport them (or any part, alive or dead); and
- sell, offer, or publish an advert to sell them.

2.1.9 In addition, National Policy Statement EN-4 (Ref 5) states in section 2.22.7 that consideration should be given to methods such as thrust bore where feasible when laying pipelines to protect and preserve hedgerows that qualify as important under the Hedgerows Regulations 1997.

2.1.10 The Well-being of Future Generations (Wales) Act 2015 (Ref 6) addresses biodiversity, including habitats and flora, under its resilience goal stating that Wales should be '*a nation which maintains and enhances a biodiverse*

natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change)'.

2.2 Planning Policy

2.2.1 Details of relevant national and local planning policy relevant to biodiversity is provided in **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics** (**EN010166/APP/6.4**).

3. Methodology

3.1 Desk Study

3.1.1 A desk study was undertaken to obtain recent records for protected and notable species relevant to the Proposed Development. All recent records for protected species within 2 km of the Site (the Study Area) were requested from Cofnod - the Local Environmental Records Centre (Ref 7) for North Wales.

3.1.2 With regard to desk study data, 'recent' records are considered to be those no older than 10 years from the date of the desk study (requested March 2024). Records outside of this period are historical and have only been reported where more recent records for a species do not exist.

3.1.3 Any records relevant to this assessment (listed below) are presented in this report and all other records are presented in the relevant technical appendix (**Appendices D-K** in **ES Volume IV (EN010166/APP/6.4)**) to **Chapter 11: Terrestrial and Aquatic Ecology** (**EN010166/APP/6.2.11**).

Notable Plant Species

3.1.4 Records of protected and/or notable flora[1] species were considered relevant if they were returned for habitats within the Site.

Hedgerows

3.1.5 The protected species data obtained from the desk study has relevance to the assessment of important hedgerows. Records of relevant protected species have been considered within Section 4.2 if they can be directly related to the hedgerows surveyed (otherwise, the species is not dependent on that hedgerow), and even then, the weight placed on species records needs careful thought as to whether the species identified is likely to dependent on the hedgerow concerned or is just making chance incidental use of it.

3.1.6 The Hedgerows Regulations 1997 specify the relevant lists of protected species (Ref 2) many of which are now very dated. The Hedgerows Regulations 1997 do not allow the use of any other lists of protected species.

National Vegetation Classification Survey

3.1.7 A National Vegetation Classification Survey (NVC) of the saltmarsh within the NVC Survey Area at Connah's Quay was undertaken in 2010. The following report has been reviewed and is discussed further in **Section 4.1**:

- Richard Tofts Ecology (2010). Connah's Quay Supplementary Monitoring Report Saltmarsh Survey.

[1] Protected and/or notable flora are taken as principal flora for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006; any flora listed in an IUCN Red Data Book; and any other flora listed under the County Rare and Scarce Plants in Flintshire list (BSBI, 2020).

3.1.8 This report refers to a more extensive NVC survey undertaken by Dr T. Dargie and Dr S. Benhouhou in June and July 2000, however this data was not available at the time of writing.

3.2 Field Survey

3.2.1 The botanical field surveys undertaken comprised:

- UK Habitat (UKHab) Classification survey;
- Habitat condition assessment;
- NVC surveys; and
- Open mosaic habitat survey.

UK Habitat Classification Survey

3.2.2 All habitats within 50 m of the Construction and Operation Area (hereafter known as the UK Habitat Survey Area as shown on **Figure 11C-1** (**Annex A**)) were mapped and categorised in accordance with the UKHab classification (Ref 8). The survey was completed in June and October 2024.

3.2.3 Habitats were categorised as far as possible to at least level 4. Secondary codes were applied where relevant.

3.2.4 Notable plant species were recorded if found to be present.

Survey Limitations

3.2.5 It was not possible to access all habitats within the Repurposed Carbon Dioxide (CO_2) Connection Corridor. Where access was not possible habitats were mapped from aerial imagery. Since these surveys were undertaken the scale of the impact of the Proposed Development has changed with it being confirmed that no works would be undertaken in the Repurposed CO_2 Connection Corridor, and these habitats won't be directly impacted by the Proposed Development. Therefore, this is not considered a limitation.

Habitat Condition Assessments

3.2.6 The habitat condition assessments were conducted for all habitats within the UK Habitat Survey Area using the Statutory Biodiversity Metric Condition Assessment criteria (Ref 9)[2]. The survey work was completed in June and October 2024 at the same time as the UKHab survey.

Survey Limitations

3.2.7 It was not possible to access all habitats within the Repurposed CO_2 Connection Corridor. Where access was not possible habitat conditions were assumed based off aerial imagery. Since these surveys were undertaken the scale of the impact of the Proposed Development has changed with it being confirmed that no works would be undertaken in the Repurposed CO_2

[2] It is recognised that these criteria have been published for use within England, however no comparable criteria are available for Wales. It is considered that the criteria are suitable for use in Wales and are helpful for understanding the relative condition, and constraints on the condition, of the identified habitats.

Connection Corridor and these habitats won't be directly impacted by the Proposed Development. Therefore, this is not considered a limitation.

Hedgerow Survey

3.2.8 All hedgerows identified by the UKHab Classification survey within the UK Habitat Survey Area were assessed to determine if they qualified as 'important' under the Hedgerows Regulations (Ref 2). The locations of these hedgerows are shown on **Figure 11C-3** (**Annex A**). This survey work was undertaken in June and October 2024.

3.2.9 The Hedgerows Regulations 1997 detail the methods to be used for determining important hedgerows. The relevant criteria are only applicable to hedgerows that have existed for 30 or more years.

3.2.10 Where available, aerial imagery was reviewed to assist in determining the age of the hedgerows. It was assumed hedgerows met the age criterion unless there was strong evidence to the contrary. Any evidence was recorded.

3.2.11 The hedgerow survey only gathered the data needed to apply the wildlife and landscape criteria of the Hedgerows Regulations 1997[3].

3.2.12 To qualify as 'Important' under the wildlife and landscape criteria of the Hedgerows Regulations 1997, the hedgerow must meet one or more of the following criteria:

Wildlife Criterion

3.2.13 The hedgerow was observed (at the time of survey) or has been recorded (within the last 5 years, or 10 years for plants) to contain a species listed on Schedules 1, 5 or 8 of the Wildlife and Countryside Act 1981 (as amended) or is categorised as 'endangered', 'extinct', 'rare' or 'vulnerable' in Britain in one of the Red Data Books or Lists named in the Hedgerows Regulations 1997.

Woody Species Criteria

3.2.14 The hedgerow:

- comprises on average at least seven woody species per 30 m survey section (Hedgerows Regulations 1997 scoring species only);
- comprises on average six woody species per 30 m survey section (Hedgerows Regulations 1997 scoring species only), and at least one of the following tree species is present anywhere within the hedgerow: black-poplar tree *Populus nigra* ssp. *betulifolia*, large-leaved lime *Tilia platyphyllos*, small-leaved lime *Tilia cordata* and wild service-tree *Sorbus torminalis*;
- comprises on average six woody species per 30 m survey section (Hedgerows Regulations 1997 scoring species only) and the hedgerow

[3] Since the botanical surveys were undertaken the scale of the impact of the Proposed Development has changed with it being confirmed that no works would be undertaken in the Repurposed CO_2 Connection Corridor. Consideration of whether heritage assessments for hedges were required were made after this change. Details of this can be found in **Chapter 17 Terrestrial Heritage**.

has associated with it at least three other relevant features (as defined in the Regulations and listed in **Annex C** for reference); and/or

- comprises on average five woody species per 30 m survey section (Hedgerows Regulations 1997 scoring species only) and the hedgerow has associated with it at least four other relevant features (as defined in the Regulations and listed in **Annex C** for reference).

Landscape Criterion

3.2.15 The hedgerow is adjacent to one of the identified forms of public path[4], and includes at least four woody species plus two additional relevant features listed above in 3.2.14.

Survey Limitations

3.2.16 There was no access to four hedgerows (H5, H6, H8 & H9, **Figure 11C-3** (**Annex A**)) in June 2024. These were all located within the Repurposed Carbon Dioxide (CO_2) Connection Corridor. These four hedgerows are to be retained so survey was not necessary and consequently they were not covered in October 2024 during the second survey.

National Vegetation Classification

3.2.17 The NVC survey was focused on the saltmarsh shown on **Figure 11C-2** (**Annex A**) and was undertaken on 1st and 2nd July 2024 by two suitably experienced ecologists/ botanists. The survey followed the methodology outlined in National Vegetation Classification Users' Handbook (Ref 10).

3.2.18 The NVC Survey Area shown on **Figure 11C-4** (**Annex A**)) encompassed half of the area that was surveyed in 2010 (see 3.1.7), it excluded the bunded pools area but was extended to include the Water Connection Corridor which was last surveyed in 2000. In this report, for the purpose of differentiating between the area previously surveyed in 2010 and the area last surveyed in 2000 they are referred to as the Western and Eastern Survey Areas respectively.

Eastern Survey Area

3.2.19 Being surveyed for the first time since 2000, the Eastern Survey Area was divided into homogeneous stands of vegetation. This was done by eye in the field and later reviewed using aerial drone footage captured on 1st July 2024 to improve on the accuracy of the mapping of homogeneous stands.

3.2.20 In some cases, it was possible for the surveyor to assign an NVC community by eye (for example, simple communities easily recognised by a surveyor with NVC experience), otherwise random quadrat sampling was undertaken within each stand to characterise the vegetation.

3.2.21 Within each quadrat, higher plants and, where present, bryophytes were identified and recorded. For each quadrat the total cover of each species identified was estimated using the Domin scale (*sensu* Dahl and Hadač 1941, Ref 11) as shown in **Table 1** and tabulated in a recording form (the

[4] Which are a bridleway or footpath within the meaning of the Highways Act 1980 (Ref 23), a road used as a public path within the meaning of section 54 (duty to reclassify roads used as public paths) of the Wildlife and Countryside Act 1981(Ref 4), or a byway open to all traffic, within the meaning of Part III of the Wildlife and Countryside Act 1981.

layout of which is reproduced in **Annex D**). Species that were absent from within the quadrats but present within the wider homogeneous stand of vegetation were also noted. A 10-figure Ordnance Survey (OS) grid reference was also recorded for each quadrat. Notes were also made about the various plant communities including factors having the potential to influence the communities such as the level of rabbit grazing or evidence of management or disturbance.

Table 1: The Domin Scale

Domin value	Cover/abundance	Domin value	Cover/abundance
1	Few individuals but <4% cover	6	26-33% cover
2	Several individuals but <4% cover	7	34-50% cover
3	Many individuals but <4% cover	8	51-75% cover
4	4-10% cover	9	76-90% cover
5	11-25% cover	10	91-100% cover

3.2.22 The data was analysed to identify the relevant NVC plant communities using a combination of surveyor experience and the keys in the appropriate NVC volumes (Ref 12 and Ref 13). The names of higher plants and bryophytes follow standard references (Ref 14 & Ref 15),

Western Survey Area

3.2.23 As the Western Survey Area had previously been surveyed in 2010 and the NVC communities mapped, it was possible to ground truth this existing data without a need for quadrat survey.

3.2.24 The surveyors walked the area verifying the communities present against the mapping, species lists and Domin scores recorded in 2010. Where differences in species composition and abundance were noted, the allocated community type was re-surveyed (as described above for the Eastern Survey Area) to confirm or re-determine the community type. Any new stands of vegetation were also mapped and surveyed to assign the appropriate NVC community.

Survey Limitations

3.2.25 The area of saltmarsh to the north of Kelsterton Brook was not surveyed for health and safety reasons. The brook was 1-2m wide with steep banks on both sides and consequently could not be crossed safely, and there was no alternate access route. Those areas that could be seen from the bank were assessed by eye and were common communities, therefore this is not considered a significant limitation. However, it was not possible to see the pioneer/low-marsh communities.

Open Mosaic Habitat Survey

3.2.26 Areas of possible Open Mosaic Habitat on Previously Developed Land ('OMH') that were identified in the Construction & Indicative Enhancement Area (C&IEA) during the PEA (**Figure 11C-2, Annex A**) were assessed against the criteria defined within the UK Biodiversity Action Plan Priority Habitat Descriptions for OMH (Ref 16) and the UKHab Classification (Ref 8).

3.2.27 The survey was conducted on 28 June 2024 by an experienced botanist.

4. Results and Evaluation

4.1 Desk Study

Notable Plant Species

4.1.1 No records of notable plant species were returned for habitats within the Construction and Operation Area.

Hedgerows

4.1.2 No protected species records associated with hedgerows within the UK Habitat Survey Area were returned from the desk study.

NVC Communities

4.1.3 The 2010 study divided the saltmarsh covering the 2024 Western Survey Area into two compartments and identified seven main types of NVC communities:

- SM6 *Spartina anglica* salt-marsh community;
- SM10 transitional low-marsh vegetation with *Puccinellia maritima*, annual *Salicornia* species and *Suaeda maritima*;
- SM13 *Puccinellia maritima* salt-marsh community - a more species poor type that did not correspond well with any of the sub-communities in the NVC;
- SM13a *Puccinellia maritima* salt-marsh community - *Puccinellia maritima* sub-community with *Puccinellia maritima* dominant;
- SM14a *Halimionetum portulacoides* salt-marsh - *Halimione portulacoides* sub-community with *Halimione portulacoides* dominant;
- SM16d *Festuca rubra* salt-marsh community - *Juncus gerardii* sub-community with tall *Festuca rubra* dominant; and
- SM28 *Elymus repens* salt-marsh community.

4.2 Field Survey

UK habitat surveys

4.2.1 The following habitats (listed with their UK Habitat coding) are present within the UK Habitat Survey area:

- Coastal saltmarsh (t2a);
- Intertidal mudflats (t2d) (priority habitat);
- Modified grassland (g4);
- Other neutral grassland (g3c);
- Other neutral grassland/ wood pasture and parkland (g3c 26);
- Bracken (g1c);

- Mixed scrub (h3h);
- Bramble scrub (h3d);
- Other cereal crops (c1c7);
- Temporary grass and clover leys (c1b);
- Purple Moor grass and rush pastures (f2b);
- Other rivers and streams (r1g);
- Other lowland mixed deciduous woodland (w1f7);
- Other broadleaved woodland (w1g);
- Suburban mosaic of Developed and natural surface (u1d);
- Sparsely vegetated urban land Ruderal/Ephemeral (u1f 81);
- Artificial unvegetated, unsealed surface (u1c);
- Developed land sealed surface (u1b);
- Introduced shrub (u1 847)
- Open Mosaic Habitat on previously developed land (u1f 80);
- Buildings (u1b5);
- Line of trees (w1g 33);
- Non-native and ornamental hedgerow (h2b);
- Species rich native hedgerow (h2a5) (priority habitat); and
- Other native hedgerow (h2a6).

4.2.2 The full results can be found in **Annex B** (detailing summary descriptions of habitats and secondary codes) and the locations of the habitats present are shown in **Figure 11C-2** (**Annex A**).

Habitat Condition Assessment

4.2.3 The results of the habitat condition assessment survey can be found in **Annex B**.

Hedgerow Surveys

4.2.4 A total of 34 hedgerows were surveyed to determine if they were important under the Hedgerows Regulations. The locations of the hedgerows that occur within the Survey Area are shown on **Figure 11C-3** (**Annex A**). The survey data are presented in **Annex C**.

4.2.5 The criteria these were assessed against can be found from paragraph 3.2.12 onwards of this report.

Wildlife Criterion

4.2.6 No hedgerows were found to qualify as important based on this criterion as no relevant species records were returned by the desk study.

Woody Species Criteria

4.2.7 Four hedgerows were found to be important under these criteria as follows:

- two hedgerows (H13 and H16) were found to include six or more woody species and have at least three of the seven additional features; and
- two hedgerows (H15 and H18) were recorded to include five or more woody species and have at least four of the seven additional features.

Landscape Criterion

4.2.8 Two hedgerows (H20 & H30) are important under this criterion as they are located parallel to a PRoW, contain four or more species, and have at least two of the seven additional features.

NVC Survey

Eastern Survey Area

4.2.9 Photographs 1, 2 and 3 (**Annex E**) provide an overview of the Eastern Survey Area and clearly show the different stands of homogeneous vegetation.

Stand 1

4.2.10 Photograph 4 (**Annex E**) provides an overview of Stand 1. The quadrat data is presented in **Table D-1** (**Annex D**).

4.2.11 Stand 1 is representative of the SM16d *Festuca rubra* salt-marsh community - *Juncus gerardii* sub-community with tall *Festuca rubra* dominant. This NVC community is dominated by red fescue *Festuca rubra* and creeping bent-grass *Agrostis stolonifera.*

4.2.12 Sea aster *Tripolium pannonicum* (formerly *Aster tripolium*) was also abundant and is an associate of this community. Spear-leaved orache *Atriplex prostrata,* is also an associate of this community. Both sea plantain *Plantago maritima* and common saltmarsh-grass *Puccinellia maritima,* usually a constant and an associate respectively, were recorded within one quadrat each and its presence also supports the conclusion of SM16d.

4.2.13 A long linear strip of vegetation running along the bank of the adjacent Kelsterton Brook was found to be much shorter, but of the same species composition. SM16d is considered a mid-upper saltmarsh community (Ref 17) with comparatively low levels of inundation. It is feasible that this strip is inundated more frequently and for longer periods, thereby stunting the vegetation growth.

4.2.14 Within Stand 1 there was also a linear strip of vegetation coinciding with previous ground disturbance for a trench (Photo 5, **Annex E**). The ground is compacted in this area and supports abundant buck's-horn plantain *Plantago coronopus* and sparse thrift *Armeria maritima* ssp. *maritima*. Red fescue was also present although was much shorter than in the wider stand.

Stand 2

4.2.15 Photo 6 (**Annex E**) shows the tall, dense sward of common couch *Elymus repens* that is so typical of the SM28 *Elymus repens* salt-marsh community. This is a community of the drift line (Ref 17).

4.2.16 The quadrat data in **Table D-2** (**Annex D**) shows that this is a very-species poor community, with only common couch recorded.

Stand 3

4.2.17 Photo 7 (**Annex E**) provide an overview of Stand 3. The quadrat data is presented in (**Annex D**).

4.2.18 Stand 3 is representative of the SM13a *Puccinellia maritima* salt-marsh community - *Puccinellia maritima* sub-community.

4.2.19 Common saltmarsh-grass is a constant species of this community and is dominant throughout the stand, along with the other recognised constant, sea aster. The presence of the associate greater sea-spurrey *Spergularia media* and the differential spear-leaved orache also lend this stand to SM13a.

4.2.20 The allocation of SM13a is further confirmed when species recorded outside the quadratsare also considered. Here, sea-milkwort *Lysimachia maritima* (formerly *Glaux maritima*) and annual sea-blite *Sueda maritima,* additional constants of this community, were noted along with glasswort *Salicornia europaea* agg., which was present along the lower edge of the stand.

4.2.21 SM13a is a low-mid saltmarsh community and is the most extensive and widespread perennial community of the lower saltmarsh in the British Isles and is an important pioneer community on the sandier substrates of western England and Wales (Ref 12).

Stand 4

4.2.22 The quadrat data for Stand 4 is presented in **Table D-4** (**Annex D**).

4.2.23 At first examination, Stand 4 was considered a community in its own right, being much shorter than any other stand of vegetation (Photo 8, **Annex E**). However, unlike the other stands, Stand 4 is heavily rabbit grazed. Analysis of the quadrat data indicates that it is otherwise representative of SM16 *Festuca rubra* salt-marsh community.

Stand 5

4.2.24 Stand 5 was identified by eye as S4a *Phragmites australis* swamp and reed-beds - *Phragmites australis* sub-community. The stand was species-poor with common reed *Phragmites australis* being the only constant.

4.2.25 Being an estuarine saltmarsh there is usually an influence of freshwater, particularly in the upper part of the system, which can lead to transitions to other wetland vegetation type such as brackish reedbeds. The presence of the S4a community is therefore not unexpected.

Western Survey Area

4.2.26 Overall, the NVC communities in the Western Survey Area were the same as those identified in 2010 apart from one area that had been previously identified as SM16d *Festuca rubra* salt-marsh community - *Juncus gerardii* sub-community with tall *Festuca rubra* dominant. This area has been reassigned to SM28 *Elymus repens* salt-marsh community as, although red fescue and common bent are still present and abundant as constants, common couch has become the dominant species. Photographs 9, 10 and 11 (**Annex E**) provide an overview of the Western Survey Area and show the dense sward of common couch, with red fescue and common bent interspersed, which is typical of the SM28 community.

4.2.27 It is assumed that this transition has occurred over time through lack of suitable management, as SM16 communities are usually maintained by grazing whereas couch will become dominant in the absence of management to suppress it.

4.2.28 Due to the survey limitations discussed in paragraph 3.2.23 it was not possible to ground-truth the pioneer/lower marsh communities in this Survey Area. Therefore, although the SM6, SM10 and SM14a communities were not observed during the 2024 survey we assume they still occur in this area.

Open Mosaic Habitat.

4.2.29 The survey confirmed that OMH is present at the two locations shown on **Figure 11C-2** (**Annex A**). Descriptions of the OMH are provided below and the habitat condition assessment can be found in **Annex B**.

4.2.30 Both areas conformed to the priority habitat description of OMH, meeting all the criteria. Details of this assessment can be found in **Table 2** below. Photographs can be found in **Annex E**.

Table 2: Open Mosaic Habitat Assessment Against Priority Habitat Criteria

Criterion	Area 1 (U-67 Figure 11C-2)		Area 2 (U-68 & U-69 Figure 11C-2)	
	Pass/Fail	Justification	Pass/Fail	Justification
The area of open mosaic habitat is at least 0.25ha in size	Pass	Area of habitat is greater than 0.25 hectares	Pass	Area of habitat is greater than 0.25 hectares.
Known history of disturbance at the site or evidence that soil has been removed or severely modified by previous use(s) of the site. Extraneous materials/substrates such as industrial spoil may have been added.	Pass	Habitat is on the site of the previously demolished power station where vegetation has been allowed to naturally colonize.	Pass	Habitat is on the site of the previously demolished power station where vegetation has been allowed to naturally colonize.

Criterion	Area 1 (U-67 Figure 11C-2)		Area 2 (U-68 & U-69 Figure 11C-2)	
	Pass/Fail	Justification	Pass/Fail	Justification
The site contains some vegetation. This will comprise early successional communities consisting mainly of stress-tolerant species (e.g. indicative of low nutrient status or drought). Early successional communities are composed of (a) annuals, or (b) mosses/liverworts, or (c) lichens, or (d) ruderals, or (e) inundation species, or (f) open grassland, or (g) flower-rich grassland, or (h) heathland.	Pass	This area has around 40% - 70% vegetation cover over bare loose material with the vegetation being made up of annuals, lichens and mosses. Unvegetated areas included a low concrete wall and bund.	Pass	There was between 40-90% vegetation cover in patches. Some areas had been heavily scrubbed over but at some point, within the last 3 years or so, this appears to have been cut back and had started to re-grow. Species present included silver birch Betula pendula, butterfly-bush *Buddleja davidii* and willows *Salix* spp. with occasional sea buckthorn *Hippophae rhamnoides*. Other areas of vegetation included annuals, lichens, mosses and open grassland.

Criterion	Area 1 (U-67 Figure 11C-2)		Area 2 (U-68 & U-69 Figure 11C-2)	
	Pass/Fail	Justification	Pass/Fail	Justification
The site contains unvegetated, loose bare substrate and pools may be present.	Pass	Bare loose material and concrete present	Pass	Remains of demolished buildings and roads present leaving concrete bases, stretches of tarmac and areas of bare loose material.
The site shows spatial variation, forming a mosaic of one or more of the early successional communities (a)–(h) above (criterion 3) plus bare substrate, within 0.25ha.	Pass	Bare lose material and concrete present with vegetation cover in patches. Vegetation ranges from mosses and lichens to patches of annuals.	Pass	Bare concrete present in patches that gives way to areas of scrub (that has been recently managed), lichen and moss communities, annuals and patches of grass.

4.2.31 The OMH supported three notable plant species: White mullein *Verbascum lychnitis,* annual beard grass *Polypogon monspeliensis,* and wall bedstraw *Galium parisiense*.

4.3 Evaluation of Ecological Importance

Habitats

4.3.1 The importance of habitats on site have been assessed against the Flintshire Wildlife Site Selection Habitat Criteria provided by Flintshire County Council in April 2025.

4.3.2 Most of the habitats present within the Survey Area are common and widespread in the local area (Flintshire) and, unless detailed below, the following habitats within the Survey Area are of Local nature conservation importance:

- modified grassland (g4);
- other neutral grassland (g3c);
- other neutral grassland/ wood pasture and parkland (g3c 26);
- mixed scrub (h3h);
- bramble scrub (h3d);
- other cereal crops (c1c7);
- temporary grass and clover leys (c1b);
- other rivers and streams (r1g);
- other broadleaved woodland (w1g);
- suburban mosaic of Developed and natural surface (u1d);
- sparsely vegetated urban land Ruderal/Ephemeral (u1f 81); and
- line of trees (w1g 33).

4.3.3 The following habitats provide little ecological value and so are considered to be of negligible importance:

- bracken (g1c);
- artificial unvegetated, unsealed surface (u1c);
- developed land sealed surface (u1b);
- introduced shrub (u1 847)
- buildings (u1b5); and
- non-native and ornamental hedgerow (h2b);

4.3.4 The Other lowland mixed deciduous woodland located adjacent to the Proposed CO_2 Connection (W2, W3, W4, W5, W6 & W7 **Figure 11C-2** in **Annex A**) corridor is mature and well established and is of District Importance.

4.3.5 The Intertidal Mudflat habitat located within the Water Connection corridor is a priority habitat and a qualifying feature of the Dee Estuary SAC/SPA, and therefore is of International importance.

Hedgerows

4.3.6 To determine the ecological importance of the hedgerows it was considered if they qualify as important under the Hedgerows Regulations 1997 or if they qualify under the Local Wildlife Site Criteria for hedgerows provided by Flintshire County Council.

4.3.7 The Local Wildlife Site Criteria require hedgerows to be at least 50m in length and to contain 5 or more woody species and 5 or more ancient woodland indicator species per 30m of length.

4.3.8 All hedgerows apart from those located within the Main Development Area would be retained by the Proposed Development and so have not been individually assigned an ecological importance.

4.3.9 Three hedges are located in the Main Development Area:

- hedgerow 32 is a non-native ornamental hedgerow and has Negligible Importance; and
- hedgerows 33 & 34 are species poor hedgerows that do not fulfill the criteria to be 'important' under the Hedgerows Regulations 1997 or the local Wildlife Site Criteria for Flintshire, and so are of Local Importance.

4.3.10 The hedgerows within the Main Development Area do not have connections to the wider hedgerow network in the surrounding landscape.

4.3.11 Together, the hedgerows within and adjacent to the Survey Area form a network that helps link other wooded habitats in the surrounding landscape with each hedgerow contributing to an ecological network of greater biodiversity importance than its individual components.

4.3.12 Based on the above, the hedgerow network present within the Survey Area is of District importance. None of the hedgerows surveyed qualify under the Local Wildlife Site Criteria for hedgerows, and so this evaluation takes into account their classification as a Priority Habitat, the high number of hedgerows covering a large area of landscape, the hedgerow species composition, richness and associated features (e.g. the presence of mature trees).

Saltmarsh

4.3.13 The NVC survey data identified the following NVC communities to be present:

- SM13a *Puccinellia maritima* salt-marsh community - *Puccinellia maritima* sub-community with *Puccinellia maritima* dominant;
- SM16d *Festuca rubra* salt-marsh community - *Juncus gerardii* sub-community with tall *Festuca rubra* dominant; and
- SM28 *Elymus repens* salt-marsh community.

4.3.14 The Common Standards Monitoring (CSM) Guidance for saltmarsh habitats (Ref 17) places SM13a as a low-mid marsh community, SM16d as a mid-upper marsh community and SM28 as a drift-line community.

4.3.15 Of these three communities, the SM13 *Puccinellia maritima* salt-marsh community and the SM16 *Festuca rubra* salt-marsh community, are recognised as being of the Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) Annex I habitat type, a qualifying feature of the Dee Estuary SAC/Ramsar. The SM28 *Elymus repens* salt-marsh community is described by Rodwell as *"being especially frequent around the Irish Sea coast."* This is a species-poor community and of relatively low sensitivity compared to the other community types, however it is in matrix with the other communities and within the designations. As such, the saltmarsh as a whole is considered to be of international importance.

Open Mosaic Habitat

4.3.16 The Open Mosaic habitat within the Survey Area conforms to all the criteria of OMH as a Habitat of Principal Importance (Ref 16). Additionally, the area meets the Local Wildlife Site Criteria for Open Mosaic Habitat detailed below:

4.3.17 Qualifying areas are '*characterised by unmanaged flower rich grasslands with sparsely vegetated areas on nutrient poor substrates, plus bare ground, wet areas, scrub, which contribute to the habitat variety and vegetation structure. Invertebrates and reptiles are often the key associated feature*.'

4.3.18 The terrestrial invertebrate surveys presented in **Appendix 11-K: Terrestrial Invertebrate Technical Appendix** (**EN010166/APP/6.4**) found the OMH habitats present supported an assemblage of invertebrates that was likely scarce in Flintshire concluding it was a high value site and that the invertebrate present in these habitats was of County Importance.

4.3.19 Additionally, this area supports a population of common lizard *Zootoca vivipara*.

4.3.20 On this basis it is considered that the OMH present within the C&IEA is assessed as having County importance.

Notable Plants

4.3.21 White mullein is a Nationally Scarce species but it is not considered to be threatened at a British level (Ref 18). This species is named on the citation for Dee Estuary / Aber Afon Dyfrdwy SSSI (Ref 19), but it is now considered to be a non-native species within Wales (Ref 20). As such, the population is considered to be local value as this non-native occurrence is not of importance for maintaining the conservation status of the species within its native British range.

4.3.22 Annual beard-grass is a Nationally Scarce species but is not considered threatened at the British level (Ref 18). It is considered to be a non-native species within Wales (Ref 20), and within Britain it occurs as a native in coastal habitats but its range has expanded substantially inland where it exploits a variety of man-made habitats (such as those present at the Site). It is considered to be increasing nationally within the latter habitats (Ref 21).

As such, the population is considered to be local value as this non-native occurrence is not of importance for maintaining the conservation status of the species within its native British range.

4.3.23 Wall bedstraw is a Nationally Scarce species (Ref 18). At the British level the species is considered threatened and it is red listed as Vulnerable (Ref 18). It does not have a comparable assessment within Wales as whilst it may be native, it historically occurred only as short-lived casual occurrences (Ref 20). Historically this species was restricted to Eastern England but its range has expanded northwards and westwards in recent decades, likely as a result of climate change, but it still remains scarce due to its requirement for sparsely vegetated habitats. This occurrence is currently the only known location in north Wales (Ref 22). The OMH at the Site provides optimal conditions for the species, and the habitats present are relatively stable allowing the species to persist from year to year. Given these considerations and the likely long-term viability of the population it is valued at the same level as the OMH i.e. county value.

5. Summary

5.1.1 The surveys found:

- the intertidal mudflat habitat is of international importance;
- two communities of saltmarsh that are of international importance;
- confirmed the presence of open mosaic habitat of County importance alongside the population of wall bedstraw present within this habitat;
- the hedgerow network present was of District importance;
- three hedgerows that would be directly impacted by the Proposed Development were individually assessed, two were found to be of local importance and one of negligible importance;
- an area of other lowland mixed deciduous woodland that was of district importance;
- the following habitats were determined to be of negligible importance:
  - Bracken;
  - Artificial unvegetated, unsealed surface;
  - Developed land sealed surface;
  - Introduced shrub;
  - Buildings; and
  - Non-native and ornamental hedgerows.
- all other habitats and plant species present were found to be of Local Importance.

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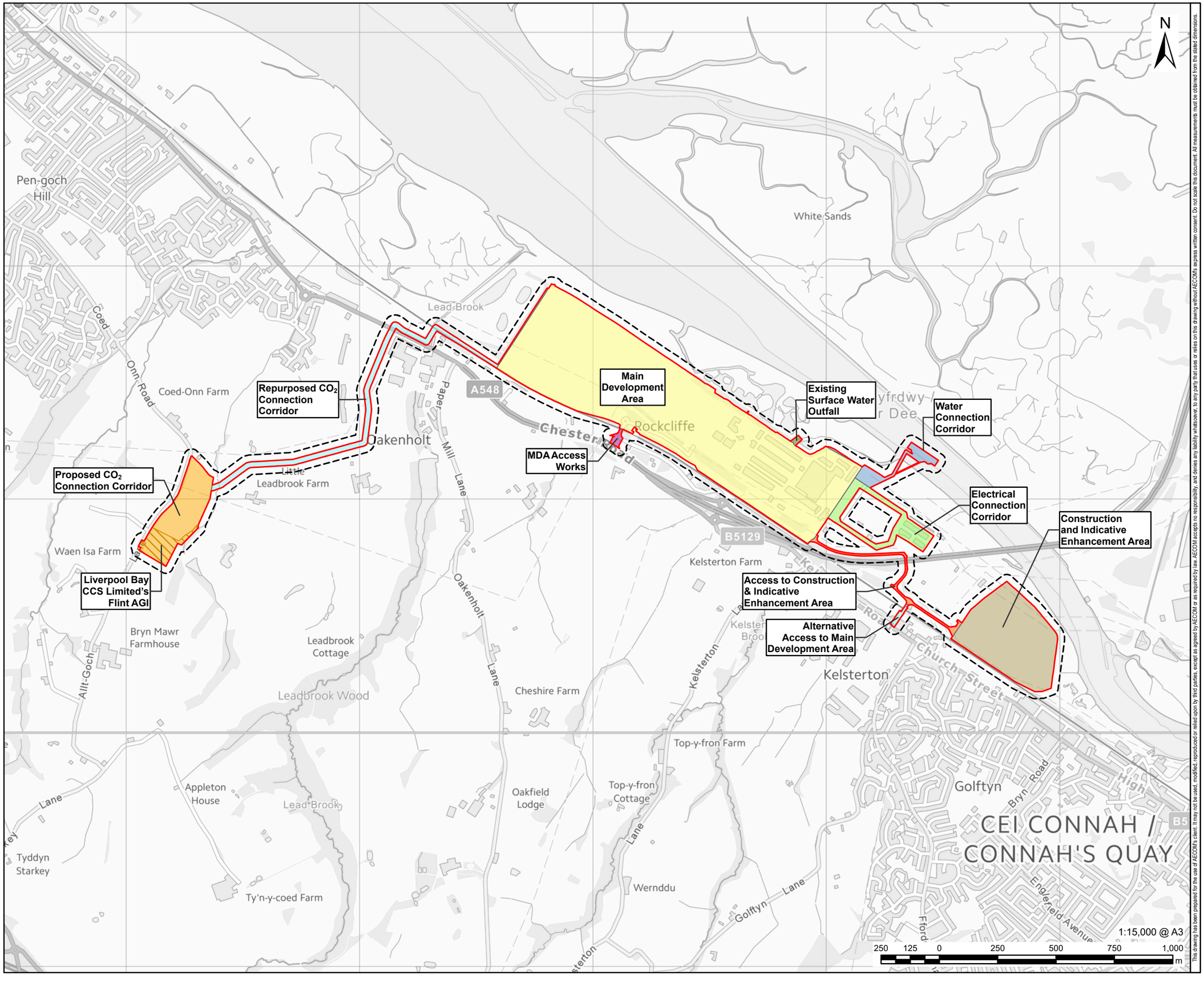
Abbreviations

Abbreviation	Term
ZoI	Zone of Influence
NVC	National Vegetation Classification
OS	Ordnance Survey
OMH	Open Mosaic Habitat
SSSI	Special Site of Scientific Interest
SAC	Special Area of Conservation
SPA	Special Protection Area
PEA	Preliminary Ecological Appraisal
EcIA	Ecological Impact Assessment
UKHab	UK Habitat Classification
C&IEA	Construction & Indicative Enhancement Area

Annex A: Figures

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LEGEND

- Construction and Operation Area
- Survey Area
- Main Development Area
- Repurposed CO_2 Connection Corridor
- Proposed CO_2 Connection Corridor
- Water Connection Corridor
- Electrical Connection Corridor
- Surface Water Outfall Area
- MDA Access Works
- Access to Construction & Indicative Enhancement Area
- Alternative Access to Main Development Area
- Construction & Indicative Enhancement Area
- Liverpool Bay CCS Limited's Flint AGI

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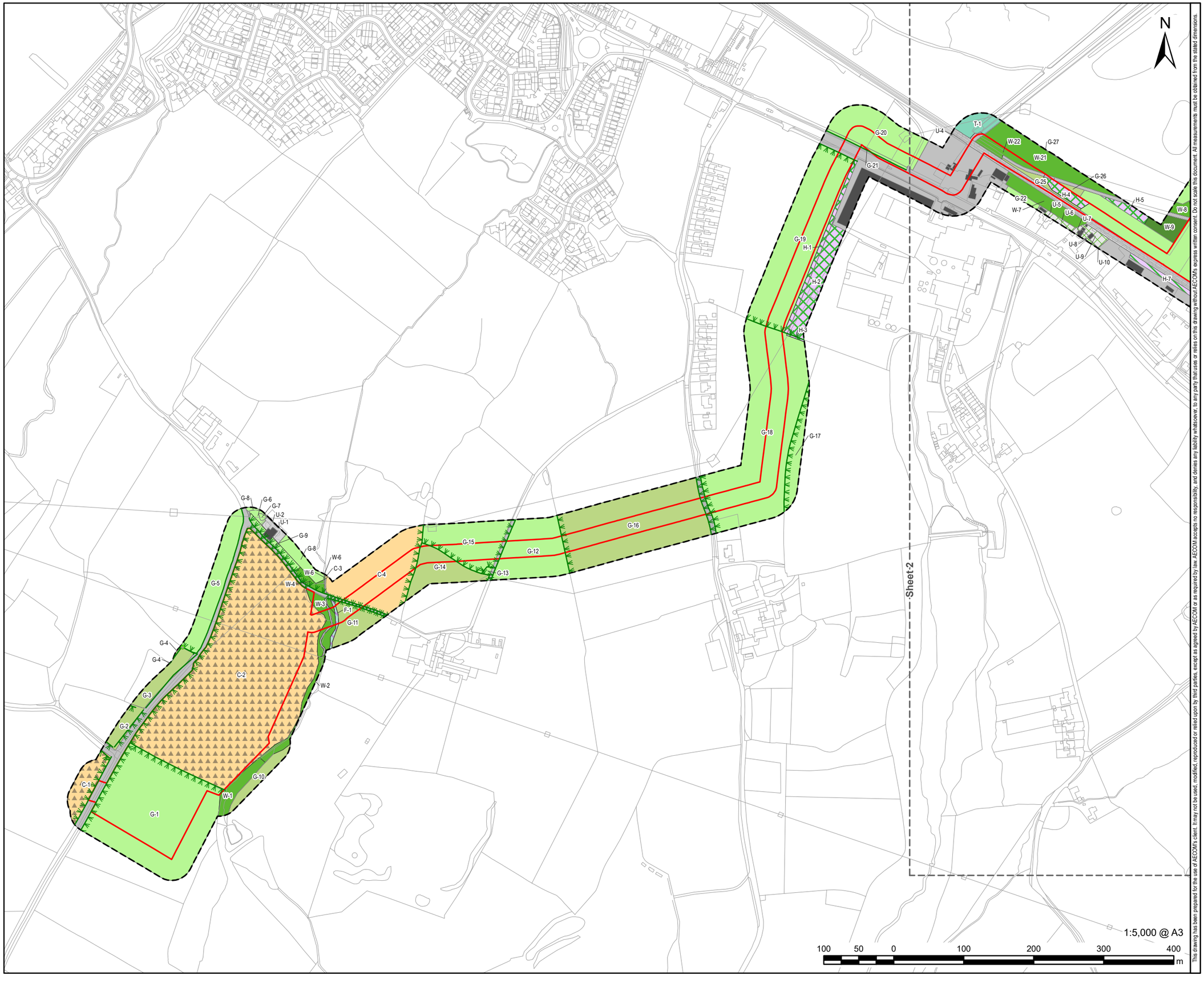
Survey Area

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Figure 11C-1

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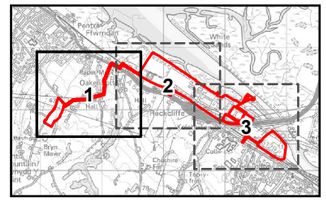
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LEGEND

- Construction and Operation Area
- Survey Area
- h2a5 - Species rich native hedgerow
- h2a6 - Other native hedgerow
- w1g 34 Ecologically valuable line of trees
- t2a - Coastal saltmarsh
- c1c7 - Other cereal crops
- c1b - Temporary grass and clover leys
- g3c - Other neutral grassland
- g4 - Modified grassland
- h3d - Bramble scrub
- h3h - Mixed scrub
- u1c - Artificial unvegetated, unsealed surface
- u1d - Developed land; sealed surface
- u1d - Suburban Mosaic of developed and natural surface
- f2b - Purple moor grass and rush pastures
- w1f7 - Other lowland mixed deciduous woodland
- w1g - Other broadleaved woodland
- u1b5 - Buildings



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Figure 11C-2

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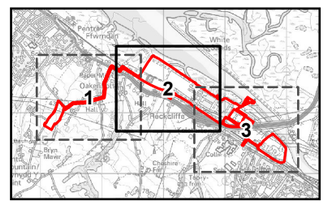
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LEGEND

- Construction and Operation Area
- Survey Area
- h2a6 - Other native hedgerow
- h2b - Non-native and ornamental hedgerow
- t2a - Coastal saltmarsh
- g3c - Other neutral grassland
- g4 - Modified grassland
- h3d - Bramble scrub
- h3h - Mixed scrub
- u1c - Artificial unvegetated, unsealed surface
- u1d - Developed land; sealed surface
- u1 847 - Introduced shrub
- u1d - Suburban Mosaic of developed and natural surface
- w1f7 - Other lowland mixed deciduous woodland
- w1g - Other broadleaved woodland
- u1b5 - Buildings



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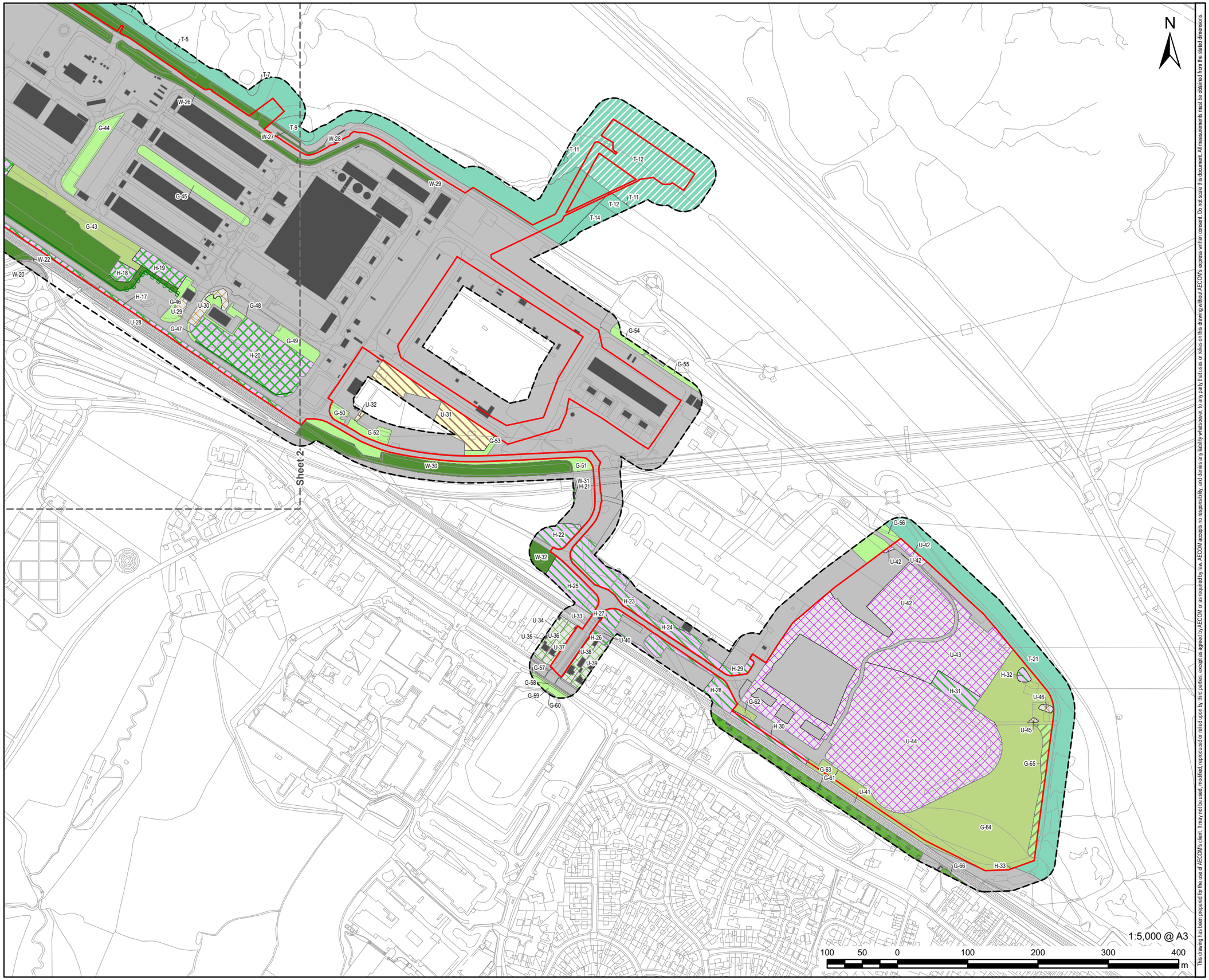
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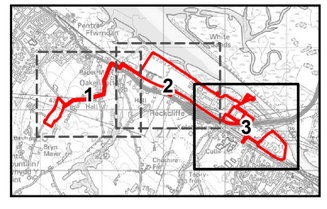
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LEGEND

- Construction and Operation Area
- Survey Area
- h2a6 - Other native hedgerow
- h2b - Non-native and ornamental hedgerow
- t2a - Coastal saltmarsh
- t2d - Intertidal mudflats
- g1c - Bracken
- g3c - Other neutral grassland
- g3c 26 - Other neutral grassland/ wood pasture and parkland
- g4 - Modified grassland
- h3d - Bramble scrub
- h3h - Mixed scrub
- u1f 81 Sparsely vegetated urban land Ruderal/Ephemeral
- u1c - Artificial unvegetated, unsealed surface
- u1d - Developed land; sealed surface
- u1 847 - Introduced shrub
- u1f 80 - Open Mosaic Habitat on previously developed land
- u1d - Suburban Mosaic of developed and natural surface
- w1g - Other broadleaved woodland
- u1b5 - Buildings



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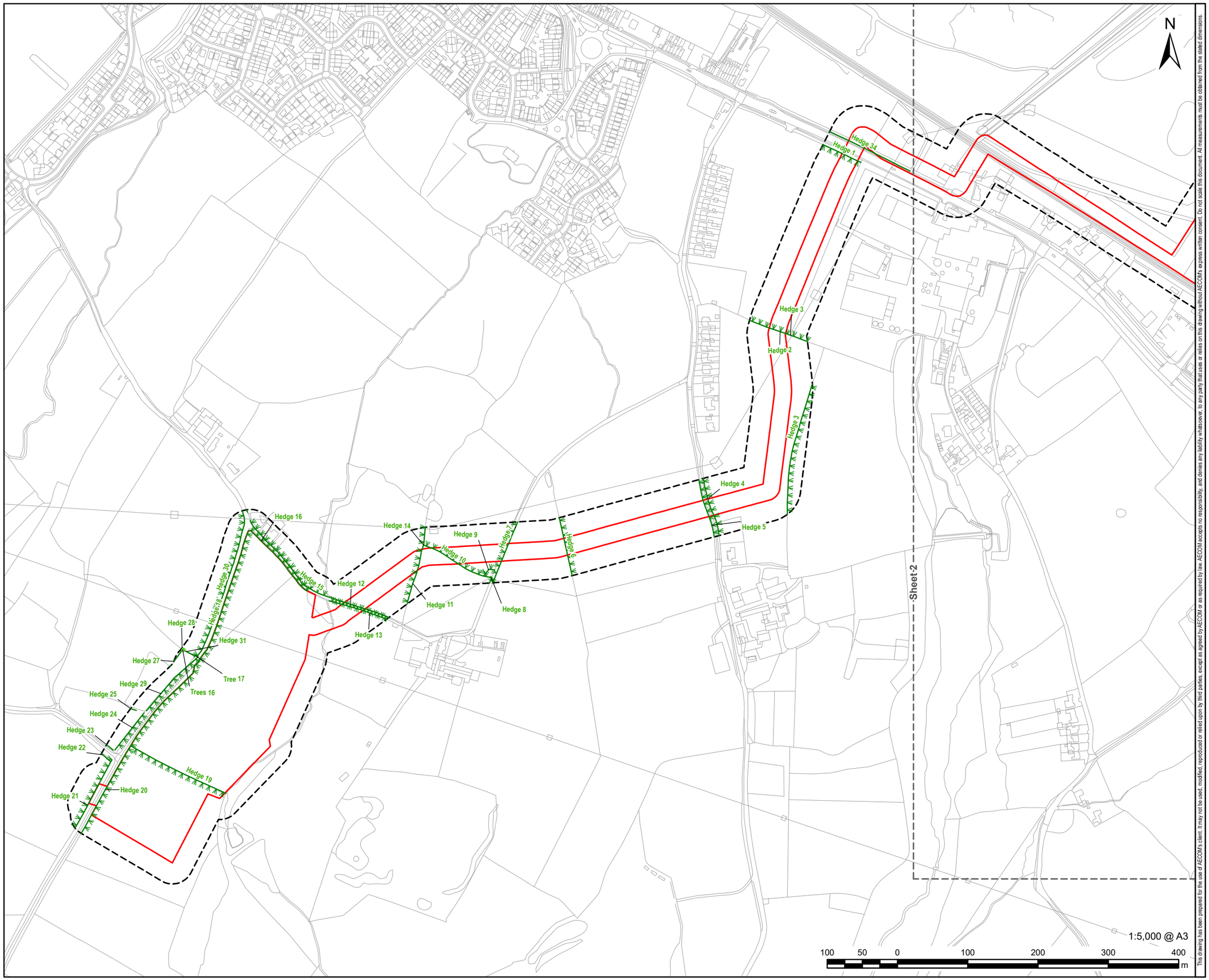
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Figure 11C-2

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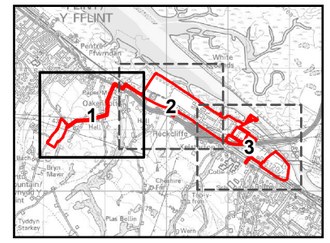
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LEGEND

- Construction and Operation Area
- Survey Area (30m Buffer of the Construction and Operation Area)
- h2a5 - Species rich native hedgerow
- h2a6 - Other native hedgerow
- w1g 34 Ecologically valuable line of trees



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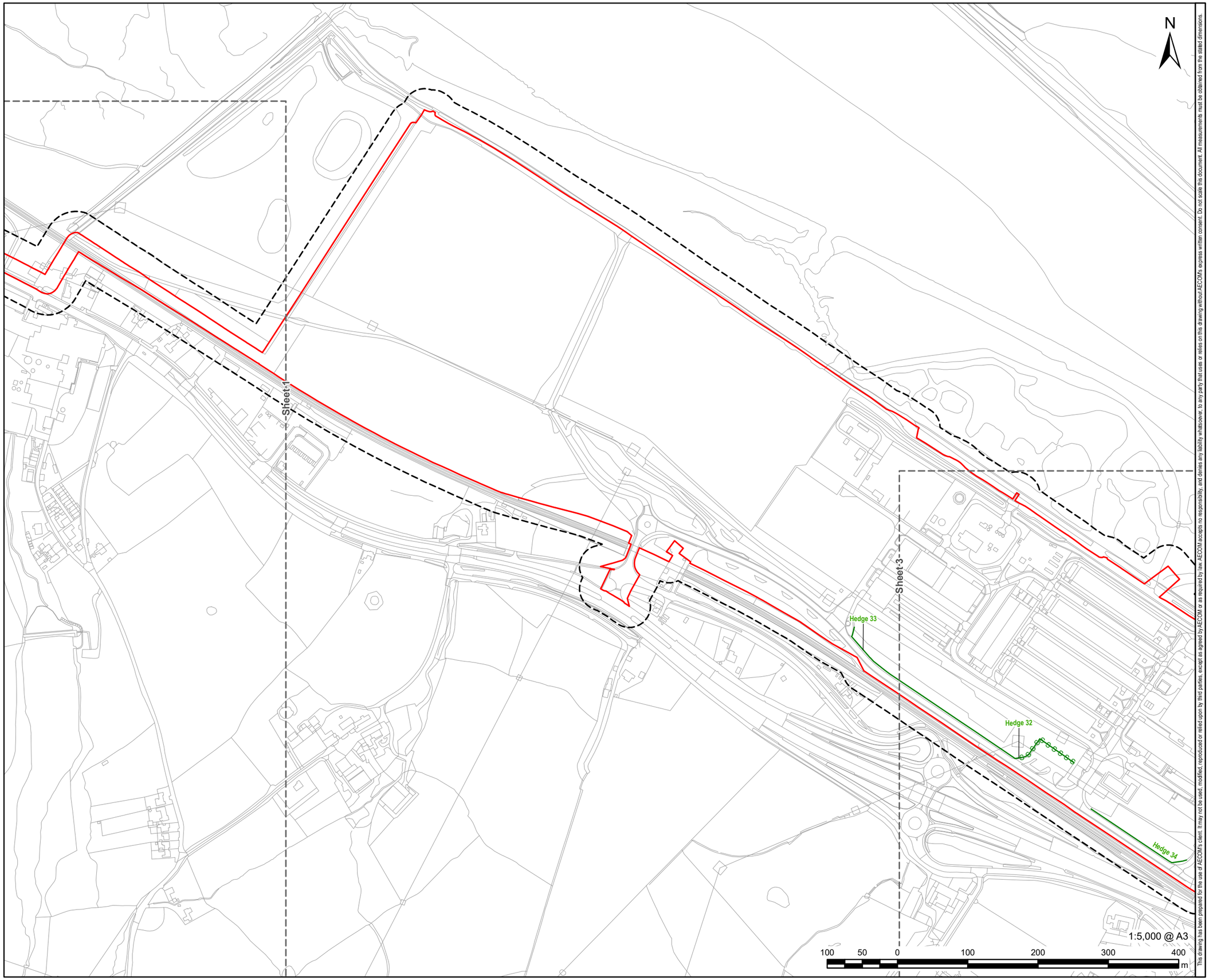
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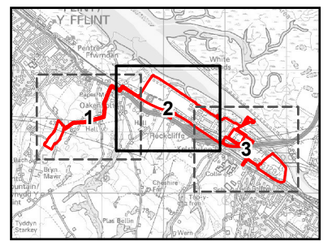
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LEGEND

- Construction and Operation Area
- Survey Area (30m Buffer of the Construction and Operation Area)
- h2a6 - Other native hedgerow
- h2b - Non-native and ornamental hedgerow



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FIGURE TITLE

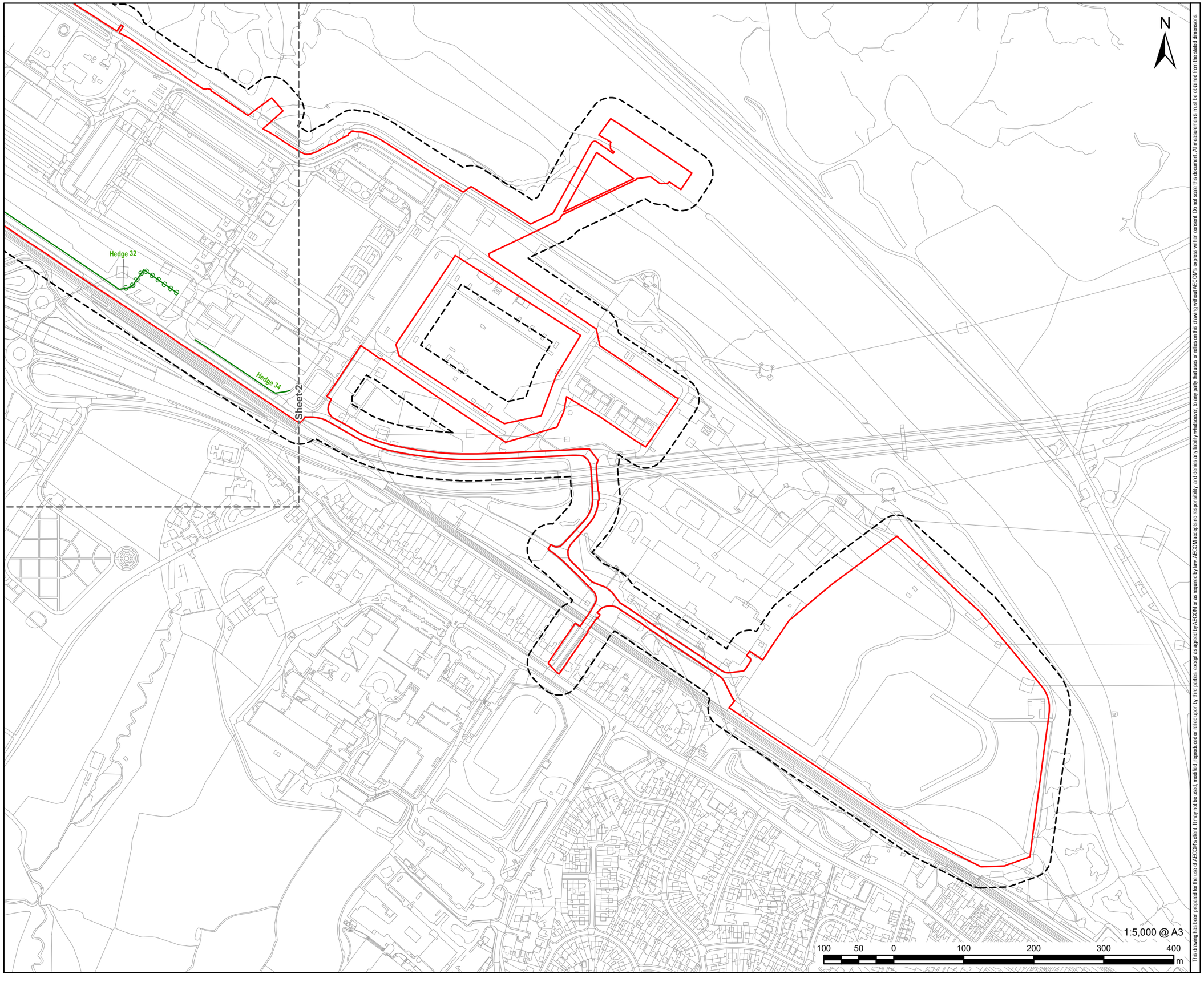
Hedgerow Survey Information
Sheet 2 of 3

FIGURE NUMBER

Figure 11C-3

Revision: 0 Drawn: LP Checked: JG Approved: JC Date: 2025-06-20

Filename: C:\Users\PringL\OneDrive - AECOM\General - Uniper Connah's Quay LCDP DCO\900_CAD_GIS\920_GIS\02_Maps\Environmental Statement\CQ_ES_Appendix_11\CQ_ES_Ecology_Appendix 11C.aprx



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AECOM uniper

PROJECT

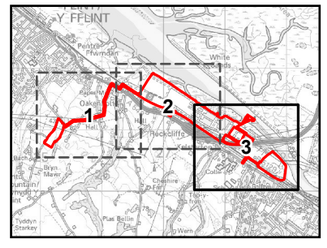
Connah's Quay Low Carbon Power

CONSULTANT

AECOM Limited
The Colmore Building
Colmore Circus, Queensway
Birmingham, B4 6AT
www.aecom.com

LEGEND

- Construction and Operation Area
- Survey Area (30m Buffer of the Construction and Operation Area)
- h2a6 - Other native hedgerow
- h2b - Non-native and ornamental hedgerow



NOTES

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ISSUE PURPOSE

Environmental Statement

DATE

July 2025

PROJECT NUMBER

60717119

FIGURE TITLE

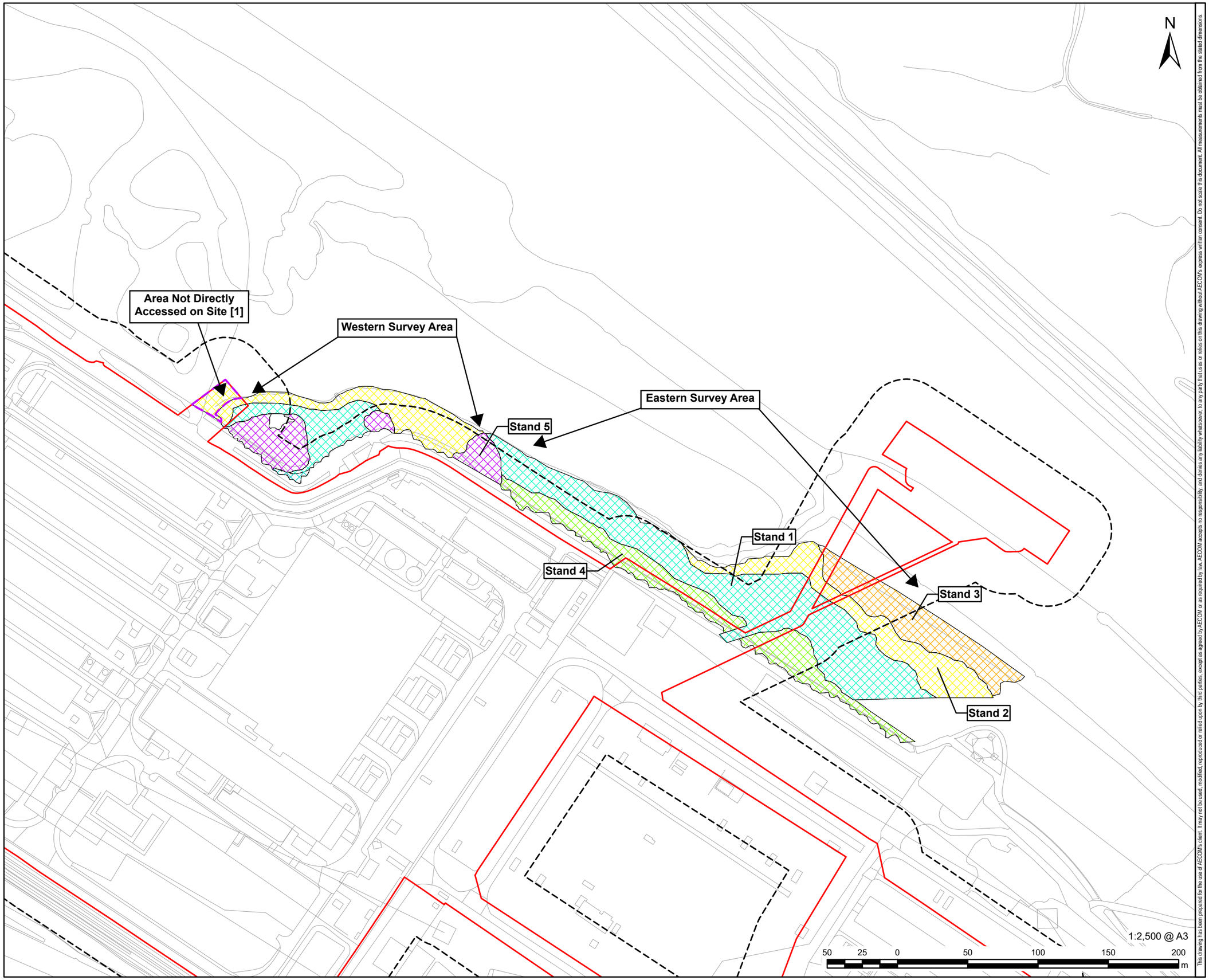
Hedgerow Survey Information
Sheet 3 of 3

FIGURE NUMBER

Figure 11C-3

Revision: 0 Drawn: LP Checked: JG Approved: JC Date: 2025-07-28

Filename: C:\Users\PringL\OneDrive - AECOM\General - Uniper Connah's Quay LCDP DCO\900_CAD_GIS\920_GIS\02_Maps\Environmental Statement\CQ_ES_Appendix_11C\CQ_ES_Ecology_Appendix11C.aprx



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PROJECT

Connah's Quay Low Carbon Power

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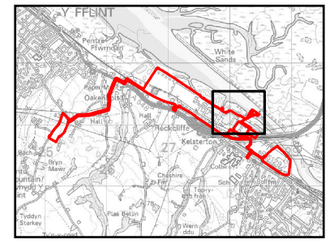
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LEGEND

- Construction and Operation Area
- Survey Area (30m Buffer of the Construction and Operation Area)
- Area Not Directly Accessed on Site

National Vegetation Classification (NVC)

- S4a
- SM13a
- SM16
- SM16d
- SM28



NOTES

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[1] Area was not directly accessed on site and the habitat assessment is based on photographs and drone and aerial imagery.

ISSUE PURPOSE

Environmental Statement

DATE

July 2025

PROJECT NUMBER

60717119

FIGURE TITLE

NVC Survey

FIGURE NUMBER

Figure 11C-4

Annex B: UK habitat and Habitat Condition Data

Table B-1: Habitat descriptions and condition data

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
C-1	c1b	Cropland - Temporary grass and clover leys	Perennial ryegrass sown field	N/A	N/A
C-2	c1b	Cropland - Temporary grass and clover leys	Perennial ryegrass sown field	N/A	N/A
C-3	c1c7	Cropland - Cereal crops	Maize crop in field	N/A	N/A
C-4	c1c7	Cropland - Cereal crops	Maize crop in field	N/A	N/A
F-1	f2b	Wetland - Purple moor grass and rush pastures	Wet depression, juncus dominated, angelica, marsh bedstraw present.	Good	A:P B:P C:P D:P E:P F:F G:P
G-1	g4 101	Grassland - Modified grassland	Cattle grazed grassland with limited species diversity. Perennial ryegrass, cocksfoot and Yorkshire fog present. Other species	Poor	A:F B:F C:P D:P E:F F:P G:P

[5] Reference relates to habitat labels that appear on **Figure 11C-2, Annex A**.

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
			included white clover and broadleaved dock		
G-2	g3c 500	Grassland - Other neutral grassland	Ungrazed/unmown semi-improved neutral grassland.	Moderate	A:P B:F C:F D:P E:P F:P
G-3	g3c 500	Grassland - Other neutral grassland	Ungrazed/unmown semi-improved neutral grassland.	Moderate	A:P B:F C:F D:P E:P F:P
G-4	g3c	Grassland - Other neutral grassland	Ungrazed/unmown poor semi-improved grassland.	Poor	A:P B:F C:F D:P E:F F:F
G-5	g3c 101	Grassland - Other neutral grassland	Species poor cattle grazed poor semi-improved grassland.	Poor	A:P B:F C:F D:P E:F F:F
G-6	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-7	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-8	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-9	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
G-10	g3c 14 102	Grassland - Other neutral grassland	Sheep grazed poor semi-improved grassland occasional rushes, some patches of greater species diversity but less than 9 species per m^2 overall.	Moderate	A:P B:P C:F D:P E:P F:F
G-11	g3c 14 102	Grassland - Other neutral grassland	Sheep grazed poor semi-improved grassland occasional rushes	Moderate	A:P B:P C:F D:P E:P F:F
G-12	g4 109	Grassland - Modified grassland	Improved grassland, field being cut during survey	Poor	A:F B:F C:P D:P E:F F:P G:P
G-13	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-14	g3c 101	Grassland - Other neutral grassland	Cattle grazed species poor grassland, nettles and broadleaved dock and creeping thistle frequent	Poor	A:P B:F C:F D:P E:F F:F
G-15	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-16	g3c 103	Grassland - Other neutral grassland	Horse grazed poor semi-improved grassland. No full	Moderate	A:P B:P C:F D:P E:F F:F

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
			access could only view from public right of way		
G-17	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-18	g4 516	Grassland - Modified grassland	Ungrazed/unmown improved grassland.	Poor	A:F B:F C:P D:P E:F F:P G:P
G-19	g4 516	Grassland - Modified grassland	Ungrazed/unmown improved grassland.	Poor	A:F B:F C:P D:P E:F F:P G:P
G-20	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-21	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-22	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-23	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-24	g4 102	Grassland - Modified grassland	Improved grassland, limited species diversity. Sheep grazed.	Poor	A:F B:F C:P D:P E:F F:P G:P

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
G-25	g3c	Grassland - Other neutral grassland	No access assessed from aerial and condition assumed	Moderate	No access assessed from aerial and condition assumed
G-26	g3c	Grassland - Other neutral grassland	No access assessed from aerial and condition assumed	Moderate	No access assessed from aerial and condition assumed
G-27	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Moderate	No access assessed from aerial and condition assumed
G-28	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Moderate	No access assessed from aerial and condition assumed
G-29	g4 102	Grassland - Modified grassland	Improved grassland, limited species diversity. Sheep grazed.	Poor	A:F B:F C:P D:P E:F F:P G:P
G-30	g3c 10 81 128	Grassland - Other neutral grassland	Tall ruderals (dominant hemlock & hogweed) on neutral tussocky grassland (NVC type MG1). Black horehound. Scattered scrub.	Poor	A:P B:F C:F D:F E:F F:F
G-31	g3c 10 81 128	Grassland - Other neutral grassland	Neutral tussocky grassland (NVC type MG1), nettles, bramble. Black horehound. Scattered scrub.	Poor	A:P B:F C:F D:F E:F F:F

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
G-32	g4 102	Grassland - Modified grassland	Improved grassland, limited species diversity. Sheep grazed.	Poor	A:F B:F C:P D:P E:F F:P G:P
G-33	g3c 10 81 128	Grassland - Other neutral grassland	Neutral tussocky grassland, nettles, creeping buttercup, hogweed, great willowherb, scattered bramble and blackthorn scrub.	Poor	A:P B:F C:F D:F E:F F:F
G-34	g3c 10 81 128	Grassland - Other neutral grassland	Neutral tussocky grassland, nettles, creeping buttercup, hogweed, great willowherb, scattered bramble and blackthorn scrub.	Poor	A:P B:F C:F D:F E:F F:F
G-35	g4 106 801 816	Grassland - Modified grassland	Mown amenity grassland verge adjacent to road.	Moderate	A:P B:F C:P D:P E:F F:P G:P
G-36	g3c 102	Grassland - Other neutral grassland	Sheep grazed poor semi-improved grassland, minimal grass diversity, nettles, broad leaved dock, creeping buttercup.	Poor	A:P B:F C:F D:P E:F F:F
G-37	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
G-38	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-39	g4 106 801 816	Grassland - Modified grassland	Mown amenity grassland verge adjacent to road.	Moderate	A:P B:F C:P D:P E:F F:P G:P
G-40	g4 106 801 816	Grassland - Modified grassland	Mown amenity grassland verge adjacent to road.	Moderate	A:P B:F C:P D:P E:F F:P G:P
G-41	g4 107 822	Grassland - Modified grassland	Mown amenity grassland.	Moderate	A:P B:F C:P D:P E:F F:P G:P
G-42	g4 107 822	Grassland - Modified grassland	Mown amenity grassland.	Moderate	A:P B:F C:P D:P E:F F:P G:P
G-43	g3c 10 16 128	Grassland - Other neutral grassland	Rank grassland and scattered scrub underneath power lines. Actively managed.	Poor	A:P B:F C:F D:F E:P F:F
G-44	g4 107 822	Grassland - Modified grassland	Mown amenity grassland. Bee orchids present.	Moderate	A:P B:F C:P D:P E:F F:P G:P
G-45	g3c 18	Grassland - Other neutral grassland	Sown grassland with diverse species mix. Yellow wort and bee orchids present.	Good	A:P B:P C:P D:P E:P F:P

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
G-46	g4 106 816	Grassland - Modified grassland	Mown amenity grassland verge adjacent to security gatehouse/ Ornamental shrubs.	Moderate	A:P B:F C:P D:P E:F F:P G:P
G-47	g4 106 816	Grassland - Modified grassland	Mown amenity grassland verge adjacent to education centre. Ornamental shrubs.	Moderate	A:P B:F C:P D:P E:F F:P G:P
G-48	g4 106 816	Grassland - Modified grassland	Mown amenity grassland verge adjacent to education centre. Ornamental shrubs.	Moderate	A:P B:F C:P D:P E:F F:P G:P
G-49	g4 106 816	Grassland - Modified grassland	Mown amenity grassland verge adjacent to education centre. Ornamental shrubs.	Moderate	A:P B:F C:P D:P E:F F:P G:P
G-50	g4 106	Grassland - Modified grassland	Well managed grass verge	Poor	A:F B:F C:P D:F E:P F:P G:P
G-51	g4 106	Grassland - Modified grassland	Well managed grass verge	Poor	A:F B:F C:P D:F E:P F:P G:P
G-52	g4 106	Grassland - Modified grassland	Well managed grass verge	Poor	A:F B:F C:P D:F E:P F:P G:P
G-53	g4 106	Grassland - Modified grassland	Well managed grass verge	Poor	A:F B:F C:P D:F E:P F:P G:P

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
G-54	g4 106	Grassland - Modified grassland	Well managed grassland	Poor	A:F B:F C:P D:F E:P F:P G:P
G-55	g4 106	Grassland - Modified grassland	Well managed grassland	Poor	A:F B:F C:P D:F E:P F:P G:P
G-56	g4 106	Grassland - Modified grassland	Well managed grassland	Poor	A:F B:F C:P D:F E:P F:P G:P
G-57	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-58	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-59	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-60	g4	Grassland - Modified grassland	No access assessed from aerial and condition assumed	Poor	No access assessed from aerial and condition assumed
G-61	g3c 26	Grassland -Other neutral grassland/wood pasture and parkland	No access assessed from aerial and condition assumed	Good	No access assessed from aerial and condition assumed

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
G-62	g3c	Grassland - Other neutral grassland	Area of unmanaged grassland adjacent to OMH habitat	Moderate	A:P B:P C:P D:F E:F F:F
G-63	g3c	Grassland - Other neutral grassland	Area of unmanaged grassland adjacent to OMH habitat	Moderate	A:P B:P C:P D:F E:F F:F
G-64	g3c	Grassland - Other neutral grassland	Area of unmanaged grassland adjacent to OMH habitat	Poor	A:P B:F C:F D:F E:F F:F
G-65	g1c	Grassland - Bracken	Bracken	N/A	N/A
G-66	g3c 26	Grassland -Other neutral grassland/wood pasture and parkland	No access assessed from aerial and condition assumed	Good	No access assessed from aerial and condition assumed
G-67	g4 106	Grassland - Modified grassland	Mown amenity grassland at gate entrance. Limited diversity.	Poor	A:F B:F C:P D:P E:F F:P G:P
G-68	g4 107 822	Grassland - Modified grassland	Mown amenity grassland	Poor	A:F B:F C:P D:P E:F F:P G:P
H-1	h3h 519	Heathland and shrub - Mixed scrub	>5m wide. Boundary features, possibly long neglected original hedgerow.	Moderate	A:P B:P C:P D:F E:F

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
			Common spotted orchids present		
H-2	h3h	Heathland and shrub - Mixed scrub	No access assessed from aerial and condition assumed	Moderate	No access assessed from aerial and condition assumed
H-3	h3h 519	Heathland and shrub - Mixed scrub	>5m wide, so mixed scrub rather than hedge. Boundary features, possibly long neglected original hedgerow. Common spotted orchids.	Moderate	A:P B:P C:P D:P E:F
H-4	h3h	Heathland and shrub - Mixed scrub	No access assessed from aerial and condition assumed	Moderate	No access assessed from aerial and condition assumed
H-5	h3h	Heathland and shrub - Mixed scrub	No access assessed from aerial and condition assumed	Moderate	No access assessed from aerial and condition assumed
H-6	h3h 519	Heathland and shrub - Mixed scrub	Dense mixed scrub, probable remnant hedge end	Poor	A:P B:F C:P D:F E:F
H-7	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-8	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
H-9	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-10	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-11	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-12	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-13	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-14	h3h 522	Heathland and shrub - Mixed scrub	Mixed native scrub on edge of lane, nettles and tall ruderals within field layer	Poor	A:F B:F C:P D:F E:F
H-15	h3h 522	Heathland and shrub - Mixed scrub	Mixed native scrub on edge of lane, rank grassland to rear	Moderate	A:P B:F C:P D:P E:F
H-16	h3h 202 516	Heathland and shrub - Mixed scrub	Regenerating scrub under power lines in amongst rank grassland	Moderate	A:P B:F C:P D:P E:F

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
H-17	h3h 847	Heathland and shrub - Mixed scrub	Mixed scrub, native species of hawthorn, elder, dogwood and ornamental species mixed in, scattered oaks forming small trees within	Poor	A:F B:F C:P D:F E:F
H-18	h3h	Heathland and shrub - Mixed scrub	Mixed native scrub	Moderate	A:P B:F C:P D:P E:F
H-19	h3h 202 517	Heathland and shrub - Mixed scrub	Hawthorn and rose strip opposite security hut approx. 10m wide then bank of dogwood approx. 1.5m high. Under pylon elder & tall ruderals, then patch aspen saplings approx. 2m tall for 25m - under lines where there is active regular tree removal	Moderate	A:P B:P C:P D:P E:F
H-20	h3h 522	Heathland and shrub - Mixed scrub	Mixed native shrub - elder and hawthorn directly behind hawthorn hedge	Moderate	A:P B:F C:P D:P E:F
H-21	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
H-22	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-23	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-24	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-25	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-26	h3h	Heathland and shrub - Mixed scrub	No access assessed from aerial and condition assumed	Moderate	No access assessed from aerial and condition assumed
H-27	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-28	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-29	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-30	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
H-31	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-32	h3d	Heathland and shrub – Bramble scrub	Bramble Scrub	N/A	N/A
H-33	h3h	Heathland and shrub - Mixed scrub	Mixed native scrub	Moderate	A:P B:F C:P D:P E:F
U-1	u1c	Urban - Artificial unvegetated, unsealed surface	Farmyard assessed from aerial	N/A	N/A
U-2	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-3	u1c 802	Urban - Artificial unvegetated, unsealed surface	Railway line	N/A	N/A
U-4	u1c 802	Urban - Artificial unvegetated, unsealed surface	Railway line	N/A	N/A
U-5	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
U-6	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-7	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-8	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-9	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-10	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-11	u1c	Urban - Artificial unvegetated, unsealed surface	Assessed from aerial	N/A	N/A
U-12	u1c	Urban - Artificial unvegetated, unsealed surface	Assessed from aerial	N/A	N/A

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
U-13	u1c	Urban - Artificial unvegetated, unsealed surface	Assessed from aerial	N/A	N/A
U-14	u1c	Urban - Artificial unvegetated, unsealed surface	Assessed from aerial	N/A	N/A
U-15	u1c	Urban - Artificial unvegetated, unsealed surface	Assessed from aerial	N/A	N/A
U-16	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-17	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-19	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-20	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
U-21	u1c 802	Urban - Artificial unvegetated, unsealed surface	Railway line	N/A	N/A
U-22	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-23	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-24	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-25	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-26	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-27	u1c 802	Urban - Artificial unvegetated, unsealed surface	Railway line	N/A	N/A

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
U-28	u1c 802	Urban - Artificial unvegetated, unsealed surface	Railway line	N/A	N/A
U-29	u1 847	Urban - Introduced Shrub	Stand of non-native ornamental planting	N/A	N/A
U-30	u1 847	Urban - Introduced Shrub	Stand of non-native ornamental planting	N/A	N/A
U-31	u1f 81	Urban - Sparsely vegetated urban land Ruderal/Ephemeral	Tall ruderal vegetation on previously cleared land	Poor	A:F B:F C:P
U-32	u1f 81	Urban - Sparsely vegetated urban land Ruderal/Ephemeral	Tall ruderal vegetation on previously cleared land	Poor	A:F B:F C:P
U-33	u1c 802	Urban - Artificial unvegetated, unsealed surface	Railway line	N/A	N/A
U-34	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
U-35	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-36	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-37	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-38	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-39	u1d 828	Urban - Suburban Mosaic of developed and natural surface	Private garden	N/A	N/A
U-40	u1c 802	Urban - Artificial unvegetated, unsealed surface	Railway line	N/A	N/A
U-41	u1c 802	Urban - Artificial unvegetated, unsealed surface	Railway line	N/A	N/A

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
U-42	u1f 80	Urban – Open Mosaic Habitat on Previously Developed Land	See Table 2 for full habitat details	Moderate	A:P B:P C:F D:P
U-43	u1f 80	Urban – Open Mosaic Habitat on Previously Developed Land	See Table 2 for full habitat details	Moderate	A:P B:P C:F D:P
U-44	u1f 80	Urban – Open Mosaic Habitat on Previously Developed Land	See Table 2 for full habitat details	Moderate	A:F B:P C:P D:F
U-45	u1 847	Urban - Introduced Shrub	Stand of non-native shrub	N/A	N/A
U-46	u1 847	Urban - Introduced Shrub	Stand of non-native shrub	N/A	N/A
W-1	w1f7 30 212 213	Woodland and forest - Lowland mixed deciduous woodland	Semi-natural broadleaved woodland, ancient woodland indicators in ground flora	Good	Scores a total of 34 points
W-2	w1f7 30 212 213	Woodland and forest - Lowland mixed deciduous woodland	Semi-natural broadleaved woodland, ancient woodland indicators in ground flora	Good	Scores a total of 34 points

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
W-3	w1f7 30 212 213	Woodland and forest - Lowland mixed deciduous woodland	Semi-natural broadleaved woodland, ancient woodland indicators in ground flora	Good	Scores a total of 34 points
W-4	w1f7 30 212 213	Woodland and forest - Lowland mixed deciduous woodland	Semi-natural broadleaved woodland, ancient woodland indicators in ground flora	Good	Scores a total of 34 points
W-6	w1f7 30 212 213	Woodland and forest - Lowland mixed deciduous woodland	Semi-natural broadleaved woodland, ancient woodland indicators in ground flora	Good	Scores a total of 34 points
W-7	w1f7	Woodland and forest - Lowland mixed deciduous woodland	No access assessed from aerial and condition assumed	Good	No access assessed from aerial and condition assumed
W-8	w1f7	Woodland and forest - Lowland mixed deciduous woodland	No access assessed from aerial and condition assumed	Good	No access assessed from aerial and condition assumed
W-9	w1g 29 801	Woodland and forest - Other woodland; broadleaved	Plantation broadleaved woodland adjacent to access track, saplings and scrub encroaching onto grassland in front	Moderate	Scores a total of 27 points

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
W-10	w1g 30	Woodland and forest - Other woodland; broadleaved	Woodland developed along previous probable hedge line, mature hawthorn with mature sycamore growing within	Poor	Scores a total of 24 points
W-11	w1g 29 801	Woodland and forest - Other woodland; broadleaved	Plantation broadleaved woodland adjacent to access track, saplings and scrub encroaching onto grassland in front	Moderate	Scores a total of 27 points
W-12	w1g 29 801	Woodland and forest - Other woodland; broadleaved	Plantation broadleaved woodland on verge abutting road, some ornamental planted in amongst trees	Moderate	Scores a total of 27 points
W-15	w1g 29 801	Woodland and forest - Other woodland; broadleaved	Plantation broadleaved woodland on verge abutting road and railway, some ornamental planting encroaching.	Moderate	Scores a total of 27 points
W-16	w1f7	Woodland and forest - Lowland mixed deciduous woodland	No access assessed from aerial and condition assumed	Good	No access assessed from aerial and condition assumed

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
W-17	w1g	Woodland and forest - Other woodland; broadleaved	No access assessed from aerial and condition assumed	Good	No access assessed from aerial and condition assumed
W-18	w1f7	Woodland and forest - Lowland mixed deciduous woodland	No access assessed from aerial and condition assumed	Good	No access assessed from aerial and condition assumed
W-19	w1f7	Woodland and forest - Lowland mixed deciduous woodland	No access assessed from aerial and condition assumed	Good	No access assessed from aerial and condition assumed
W-20	w1g	Woodland and forest - Other woodland; broadleaved	No access assessed from aerial and condition assumed	Good	No access assessed from aerial and condition assumed
W-21	w1g 29 201 803	Woodland and forest - Other woodland; broadleaved	Highway/rail planting broadleaved mix	Moderate	Scores a total of 24 points
W-22	w1g 31 519	Woodland and forest - Other woodland; broadleaved	Abandoned garden - ornamental trees and shrubs with semi natural broadleaved woodland of birches, rowan etc. Invasive species present	Moderate	Scores a total of 24 points

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
W-23	w1g 29 801	Woodland and forest - Other woodland; broadleaved	Plantation broadleaved woodland on verge abutting road, some ornamental species encroaching.	Moderate	Scores a total of 30 points
W-24	w1g 29 801	Woodland and forest - Other woodland; broadleaved	Plantation broadleaved woodland on verge abutting road, some ornamental species encroaching.	Moderate	Scores a total of 27 points
W-25	w1g 29 801	Woodland and forest - Other woodland; broadleaved	Plantation broadleaved woodland on verge abutting road, some ornamental species encroaching.	Moderate	Scores a total of 30 points
W-26	w1g 29 801	Woodland and forest - Other woodland; broadleaved	Plantation broadleaved woodland on verge abutting road, some ornamental species encroaching.	Moderate	Scores a total of 27 points
W-27	w1g	Woodland and forest - Other woodland; broadleaved	No access assessed from aerial and condition assumed	Good	No access assessed from aerial and condition assumed
W-28	w1g	Woodland and forest - Other woodland; broadleaved	No access assessed from aerial and condition assumed	Good	No access assessed from aerial and condition assumed

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
W-29	w1g	Woodland and forest - Other woodland; broadleaved	No access assessed from aerial and condition assumed	Good	No access assessed from aerial and condition assumed
W-30	w1g 29 801	Woodland and forest - Other woodland; broadleaved	Plantation broadleaved woodland	Poor	Scores a total of 23 points
W-31	w1g 29 801	Woodland and forest - Other woodland; broadleaved	Plantation broadleaved woodland	Poor	Scores a total of 23 points
W-32	w1g 29 801	Woodland and forest - Other woodland; broadleaved	Plantation broadleaved woodland	Poor	Scores a total of 23 points
T-1	t2a	Coastal saltmarsh	Coastal saltmarsh part of the SAC/SPA/RAMSAR site See section 4.2.9 for further details	Good	Condition assumed
T-5	t2a	Coastal saltmarsh	Coastal saltmarsh part of the SAC/SPA/RAMSAR site See section 4.2.9 for further details	Good	Condition assumed

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
T-7	t2a	Coastal saltmarsh	Coastal saltmarsh part of the SAC/SPA/RAMSAR site See section 4.2.9 for further details	Good	Condition assumed
T-9	t2a	Coastal saltmarsh	Coastal saltmarsh part of the SAC/SPA/RAMSAR site See section 4.2.9 for further details	Good	Condition assumed
T-11	t2a	Coastal saltmarsh	Coastal saltmarsh part of the SAC/SPA/RAMSAR site See section 4.2.9 for further details	Good	Condition assumed
T-12	t2d	Intertidal mudflats	Intertidal mudflats part of the SAC/SPA/RAMSAR site	Good	Condition assumed
T-14	t2a	Coastal saltmarsh	Coastal saltmarsh part of the SAC/SPA/RAMSAR site See section 4.2.9 for further details	Good	Condition assumed
T-21	t2a	Coastal saltmarsh	Coastal saltmarsh part of the SAC/SPA/RAMSAR site	Good	Condition assumed

Habitat Reference[5]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
			See section 4.2.9 for further details		

Table B-2: Hedgerow descriptions and condition data

Hedgerow Reference[6]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
H1	h2a6 517 524	Other native hedgerow	Managed defunct species poor native hedgerow. Small patch of Japanese knotweed *Reynoutria japonica* on one side.	Moderate	A1:P A2:P B1:P B2:F C1:P C2:P D1:P D2:F E1:F E2:F
H2	h2a6 516	Other native hedgerow	Managed intact native species-poor hedge.	Good	A1:P A2:P B1:P B2:F C1:P C2:F D1:P D2:P E1:P E2:P
H3	h2a6 516 524	Other native hedgerow	Managed intact native species-poor hedge, small patches of buddleia on one side.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P
H4	h2a6 516	Other native hedgerow	Managed intact native species-poor hedge.	Good	A1:P A2:P B1:P B2:F C1:P C2:P D1:P D2:P E1:P E2:P

[6] Reference relates to hedgerow labels that appear on **Figure 11C-3, Annex A**

Hedgerow Reference[6]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
H5	No Access not assessed				
H6	No Access not assessed				
H7	h2a6 516	Other native hedgerow	Bracken and lots of dead hawthorn present in hedge. Some gaps but all <5m.	Good	A1:P A2:P B1:P B2:P C1:P C2:F D1:P D2:F E1:P E2:P
H8	No Access not assessed				
H9	No Access not assessed				
H10	h2a6 51	Other native hedgerow	Managed defunct species poor native hedgerow.	Good	A1:P A2:P B1:P B2:F C1:P C2:F D1:P D2:P E1:P E2:P
H11	h2a6 516	Other native hedgerow	Managed defunct species poor native hedgerow.	Good	A1:P A2:P B1:P B2:F C1:P C2:F D1:P D2:P E1:P E2:P
H12	h2a6 516	Other native hedgerow	Managed defunct species poor native hedgerow.	Moderate	A1:P A2:P B1:P B2:F C1:F C2:F D1:P D2:P E1:P E2:P
H13	h2a5 516	Species rich native hedgerow	Managed intact species rich native hedge.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P
H14	h2a6 519	Other native hedgerow	Unmanaged (abandoned) hawthorn/willow hedge around small field – defunct.	Moderate	A1:P A2:P B1:F B2:F C1:P C2:F D1:P D2:P E1:P E2:P

Hedgerow Reference[6]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
H15	h2a5 518	Species rich native hedgerow	Neglected intact species rich native hedge. No undisturbed margin as lane one side (no verge) and fencing to rear field side (grazed).	Moderate	A1:P A2:P B1:P B2:P C1:F C2:F D1:P D2:P E1:P E2:P
H16	h2a5 518	Species rich native hedgerow	Neglected intact species rich native hedge.	Good	A1:P A2:P B1:P B2:P C1:P C2:F D1:P D2:P E1:P E2:P
H17	h2a6 516	Other native hedgerow	Managed intact species poor native hedgerow. Covered in bramble and hop.	Moderate	A1:P A2:P B1:P B2:P C1:F C2:F D1:P D2:P E1:P E2:P
H18	h2a5 516	Species rich native hedgerow	Managed species rich hedgerow with Ancient Woodland indicators.	Good	A1:P A2:P B1:P B2:P C1:P C2:F D1:P D2:P E1:P E2:P
H19	h2a5 516	Species rich native hedgerow	Managed intact species poor native hedge.	Good	A1:P A2:P B1:P B2:P C1:P C2:F D1:P D2:P E1:P E2:P
H20	h2a5 516	Species rich native hedgerow	Managed species rich hedgerow.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P
H21	h2a6 516	Other native hedgerow	Managed species poor hedgerow.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P
H22	h2a6 516	Other native hedgerow	Managed intact species poor hedgerow.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P

Hedgerow Reference[6]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
H23	h2a6 516	Other native hedgerow	Managed Intact species poor hedgerow.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P
H24	h2a6 516	Other native hedgerow	Managed intact species rich hedgerow.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P
H25	h2a6 516	Other native hedgerow	Managed Intact species poor hedgerow. Possibly replanted last 10 yrs.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P
H26	h2a5 516	Species rich native hedgerow	Managed intact species rich hedgerow.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P
H27	h2a6 516	Other native hedgerow	Managed intact species poor hedgerow.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:F E2:P
H28	h2a6 516	Other native hedgerow	Managed defunct species poor hedgerow.	Good	A1:P A2:P B1:P B2:F C1:P C2:P D1:P D2:P E1:F E2:P
H29	h2a5 516	Species rich native hedgerow	Managed intact species rich hedgerow.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P
H30	h2a5 516	Species rich native hedgerow	Managed intact species rich hedgerow.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P
H31	h2a6 516	Other native hedgerow	Managed intact species poor hedgerow.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P

Hedgerow Reference[6]	UK Habitat primary and secondary codes	Uk Habitat Name	Description	Condition Score	Condition Assessment Notes (P=Pass, F=Fail)
H32	h2b 816 847	Non-native and ornamental hedgerow	Non-native ornamental hedge around car park.	N/A	N/A
H33	h2a6 516	Other native hedgerow	Hawthorn hedge planted abutting road with planted woodland behind.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P
H34	h2a6 516	Other native hedgerow	Hawthorn hedge planted abutting road with elder and hawthorn scrub behind.	Good	A1:P A2:P B1:P B2:P C1:P C2:P D1:P D2:P E1:P E2:P

Annex C: Processed Hedgerow Data

Information to Support Interpretation of Results

The features considered to identify hedgerows that are important on wildlife and/or landscape grounds are as follows. Refer to Section 3 for more detail of the method used in the Hedgerows Regulations 1997 assessment.

Table C-1: Features Considered to Identify Hedgerows

Feature ID	Feature description
F1	Gaps do not exceed 10% of hedgerow length.
F2	Wall or bank present for greater than 50% of the hedgerow length.
F3	Ditch present for greater than 50% of the hedgerow length.
F4	Parallel hedgerow within 15m of the hedgerow.
F5	On average there is one tree for every 50m of hedgerow length.
F6	Hedgerow connections scoring 4 or more where connecting hedgerows score 1 point each and connecting ponds and woodland score 2 points each.
F7	Three of the named woodland ground flora species are present in the hedgerow as a whole.

Survey Results

Table C-2: Hedgerow Regulation Survey Results

Reference Number	Important Hedgerow (Y/N)	Length (m)	Height (m)	Width (m)	PRoW parallel	>30 years old	F1	F2	F3	F4	F5	F6	F7	Average Species per 30m	Additional Notes
H1	N	185	>1.5m	>1.5m	N	Y	N	N	N	N	N	N	N	1	Managed defunct species poor native hedgerow. Small patch of Japanese knotweed on one side.
H2	N	100	>1.5m	>1.5m	N	Y	N	N	N	N	N	N	N	4	Managed intact native species-poor hedge.
H3	N	340	>1.5m	>1.5m	N	Y	N	N	N	N	N	Y	N	3.6	Managed intact native species-poor hedge, small patches of buddleia on one side.
H4	N	280	>1.5m	>1.5m	Y	Y	N	N	N	Y	N	N	N	3	Managed intact native species-poor hedge.
H5	No access														
H6	No Access														
H7	N	220	>1.5m	>1.5m	N	Y	Y	N	N	N	N	N	N	3	Bracken and lots of dead hawthorn present in hedge. Some gaps but all <5m.
H8	No Access														
H9	No Access														

Reference Number	Important Hedgerow (Y/N)	Length (m)	Height (m)	Width (m)	PRoW parallel	>30 years old	F1	F2	F3	F4	F5	F6	F7	Average Species per 30m	Additional Notes
H10	N	110	>1.5m	>1.5m	N	Y	N	N	N	N	N	N	N	2	Managed defunct species poor native hedgerow.
H11	N	110	>1.5m	>1.5m	N	Y	N	N	N	N	N	N	N	4	Managed defunct species poor native hedgerow.
H12	N	120	>1.5m	>1.5m	N	Y	N	N	N	Y	N	N	N	3	Managed defunct species poor native hedgerow.
H13	Y	110	>1.5m	>1.5m	N	Y	Y	Y	N	Y	N	N	N	6	Managed intact species rich native hedge.
H14	N	270	>1.5m	>1.5m	N	Y	N	N	N	N	N	N	N	1	Unmanaged (abandoned) hawthorn/willow hedge around small field – defunct.
H15	Y	110	>1.5m	>1.5m	N	Y	Y	Y	N	Y	Y	N	Y	5	Neglected intact species rich native hedge. No undisturbed margin as lane one side (no verge) and fencing to rear field side (grazed).

Reference Number	Important Hedgerow (Y/N)	Length (m)	Height (m)	Width (m)	PRoW parallel	>30 years old	F1	F2	F3	F4	F5	F6	F7	Average Species per 30m	Additional Notes
H16	Y	110	>1.5m	>1.5m	N	Y	Y	Y	N	Y	Y	N	Y	6	Neglected intact species rich native hedge.
H17	N	<100	>1.5m	>1.5m	N	Y	N	N	N	Y	N	N	N	4	Managed intact species poor native hedgerow. Covered in bramble and hop.
H18	Y	350	>1.5m	>1.5m	N	Y	Y	Y	N	Y	N	N	Y	5.6	Managed species rich hedgerow with Ancient Woodland indicators.
H19	N	190	>1.5m	>1.5m	N	Y	Y	N	N	N	N	N	N	3	Managed intact species poor native hedge.
H20	N	200	>1.5m	>1.5m	Y	Y	Y	N	N	Y	N	N	N	5.3	Managed species rich hedgerow.
H21	N	200	>1.5m	>1.5m	Y	Y	Y	N	N	Y	N	N	N	3	Managed species poor hedgerow.
H22	N	190	>1.5m	>1.5m	Y	Y	Y	N	Y	Y	N	N	N	3	Managed intact species poor hedgerow.
H23	N	100	>1.5m	>1.5m	N	Y	Y	N	N	Y	N	N	N	4	Managed Intact species poor hedgerow.

Reference Number	Important Hedgerow (Y/N)	Length (m)	Height (m)	Width (m)	PRoW parallel	>30 years old	F1	F2	F3	F4	F5	F6	F7	Average Species per 30m	Additional Notes
H24	N	70	>1.5m	>1.5m	N	Y	Y	N	N	Y	N	N	N	5	Managed intact species rich hedgerow.
H25	N	130	>1.5m	>1.5m	N	-	N	N	N	N	N	N	N	4	Managed Intact species poor hedgerow. Possibly replanted last 10 yrs.
H26	N	<100	>1.5m	>1.5m	N	Y	Y	N	N	N	Y	N	N	5	Managed intact species rich hedgerow.
H27	N	<100	>1.5m	>1.5m	N	Y	Y	N	N	N	Y	N	N	3	Managed intact species poor hedgerow.
H28	N	180	>1.5m	>1.5m	N	Y	Y	N	N	N	N	N	N	3.5	Managed defunct species poor hedgerow.
H29	N	130	>1.5m	>1.5m	N	Y	Y	N	N	Y	N	N	N	5.5	Managed intact species rich hedgerow.
H30	N	350	>1.5m	>1.5m	Y	Y	Y	Y	N	Y	N	N	N	5	Managed intact species rich hedgerow.
H31	N	<100	>1.5m	>1.5m	N	Y	N	N	N	N	N	Y	N	1	Managed intact species poor hedgerow.
H32	N	N/A													Non-native ornamental hedge around car park.

Reference Number	Important Hedgerow (Y/N)	Length (m)	Height (m)	Width (m)	PRoW parallel	>30 years old	F1	F2	F3	F4	F5	F6	F7	Average Species per 30m	Additional Notes
H33	N	300	>1.5m	>1.5m	N	N	N	N	N	N	N	N	N	3	Hawthorn hedge planted abutting road with planted woodland behind.
H34	N	130	>1.5m	>1.5m	N	N	N	N	N	N	N	N	N	1	Hawthorn hedge planted abutting road with elder and hawthorn scrub behind.

Annex D: NVC Tables

Table D-1: Stand 1

Site name: Uniper Connah's Quay	**Date: 02/07/2024**
Surveyors: LR & RR	**Quadrat size:** 2x2m
Stand number: 1	
Quadrat OS grid ref: I SJ 28099 71214 II SJ 28107 71213 III SJ 28151 71183 IV SJ 28236 71132 V SJ 28323 71098	**Photo ref: A**

Species	**Relevé**					**Frequency I - V**	**Domin range**
	I	**II**	**III**	**IV**	**V**		
Festuca rubra	6	5	8	8	10	V	5-10
Aster tripolium	5	4	5	1	4	V	1-5
Atriplex prostrata	2	1	4	4	4	V	1-4
Agrostis stolonifera	10	5	8	7	-	IV	7-10
Cochlearia officinalis agg	1	1	-	1	3	IV	1-3
Plantago maritima	-	-	6	-	-	I	6
Elymus repens	-	-	3	-	-	I	3
Puccinellia maritima	-	-	-	-	1	I	1

Additional comments:
There is also a long linear strip of vegetation running along the top of the adjacent Kelsterton Brook which is much shorter, possibly due to periodic inundation, but of the same species composition.

Assigned NVC Community: SM16d

Table D-2: Stand 2

Site name: Uniper Connah's Quay						**Date: 02/07/2024**	
Surveyors: LR & RR						**Quadrat size:** This whole area is one homogenous stand of common couch-grass therefore individual quadrats were not necessary.	
Stand number: 2							
Quadrat OS grid ref: I SJ 28387 71075						**Photo ref:**	
Species	**Relevé**					**Frequency I - V**	**Domin range**
	I	**II**	**III**	**IV**	**V**		
Elymus repens	10	-	-		-	V	10
Assigned NVC Community: SM28							

Table D-3: Stand 3

Site name: Uniper Connah's Quay	**Date: 02/07/2024**
Surveyors: LR & RR	**Quadrat size:** 2x2m
Stand number: 3	
Quadrat OS grid ref: I SJ 28402 71084 II SJ 28367 71114 III SJ 28348 71132 IV SJ 28334 71134 V SJ 28323 71139	**Photo ref:**

Species	**Relevé**					**Frequency I - V**	**Domin range**
	I	**II**	**III**	**IV**	**V**		
Puccinellia maritima	10	10	10	10	10	V	10
Aster tripolium	4	6	3	5	4	V	3-6
Atriplex prostrata	4	1	2	4	4	V	1-4
Cochlearia officinalis agg	5	-	-	-	-	I	5
Spergularia media	-	-	1	-	-	I	1

Additional comments:

Species recorded out-with the relevés include sea-milkwort *Glaux maritima*; annual sea-blite *Sueda maritima* and an individual sea-purslane *Atriplex portulacoides*.

Along the edge of this stand of vegetation, in the inter-tidal zone, the following species were present in low abundance lyme-grass *Leymus arenarius*; glasswort *Salicornia europaea* agg., and sea-spurrey *Spergularia* sp.

Assigned NVC Community: SM13a

Table D-4: Stand 4

Site name: Uniper Connah's Quay	**Date: 02/07/2024**
Surveyors: LR & RR	**Quadrat size**: 2x2m
Stand number: 4	
Quadrat OS grid ref: I SJ 28317 71069 II SJ 28291 71097 III SJ 28237 71116 IV SJ 28201 71139 V SJ 28120 71191	**Photo ref**:

Species	**Relevé**					**Frequency I - V**	**Domin range**
	I	**II**	**III**	**IV**	**V**		
Agrostis stolonifera	6	10	10	9	10	V	6-10
Glaux maritima	2	1	5	5	1	V	1-5
Festuca rubra	10	10	10	10	-	IV	10
Aster tripolium	1	1	-	-	1	III	1
Atriplex prostrata	1	1	-	-	1	III	1
Cochlearia officinalis agg	-	1	-	1	-	II	1
Plantago maritima	-	1	1	-	-	II	1

Additional comments:
Evidence of rabbit grazing.

Species recorded out-with the relevés at the edge of the vegetation stand, adjacent to the strip of woodland, include prickly sow-thistle *Sonchus asper.*

A linear strip of previously disturbed, compacted ground is present with abundant buck's-horn plantain *Plantago coronopus* and sparse thrift *Armeria maritima* ssp *maritima*. This is where the original open-cut trench was dug, filled and compacted.

Assigned NVC Community: SM16d

Annex E: Photographs

NVC Survey



Photo 1. Overview of the Eastern Survey Area looking east showing Stands 1 (SM16d), 2 (SM28) and 4 (SM16).



Photo 2. Overview of the Eastern Survey Area looking south showing Stands 3 (SM13a), 2 (SM28) and grading into Stand 1 (SM16d) in the distance.



Photo 3. Overview of the Eastern Survey Area looking south showing Stands 3 (SM13a), 2 (SM28) and grading into Stand 1 (SM16d) in the distance.

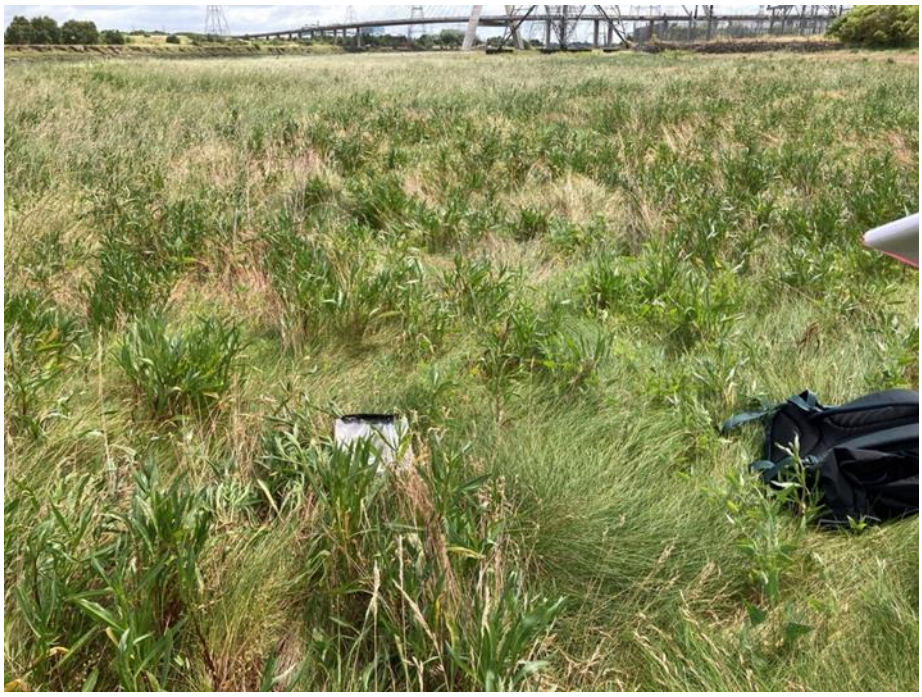


Photo 4. Overview of Stand 1 showing dense tussocks of red-fescue and common bent-grass with sea aster.



Photo 5. Showing compacted ground within Stand 1.



Photo 6. Showing Stand 2 and the typical dense sward that is characteristic of SM28.



Photo 7. Overview of Stand 3 showing dominant common saltmarsh grass and another SM13a constant, sea aster.



Photo 8. Showing an overview of Stand 4. Note the shorter sward compared to that of the adjacent Stand 1.



Photo 9. Overview of the Western Survey Area looking west showing extensive SM28.



Photo 10. Overview of the inaccessible northern area of saltmarsh showing extensive SM28.



Photo 11. Overview of the Western Survey Area looking east showing extensive SM28 and a stand of S4a in the distance.

OMH Habitat Survey

Area 1











Area 2













Annex F: Preliminary Ecological Appraisal Report

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Connah's Quay Low Carbon Power

Preliminary Environmental Information Report
Volume IV, Appendix 11-C:Preliminary Ecological Appraisal

Uniper

The Planning Act 2008
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
PINS Reference: EN010166
September 2024

Delivering a better world

Prepared for:
Uniper UK Limited

Prepared by:
AECOM Limited

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Executive Summary

This Preliminary Ecological Appraisal (PEA) has been prepared on behalf of Uniper UK Limited (hereafter referred to as the 'the Applicant') to assess the ecological constraints and opportunities in connection with the proposed construction, operation and decommissioning of a Combined Cycle Gas Turbine (CCGT) Generating Plant fitted within Carbon Capture Plant (CCP) (hereafter referred to as the 'Proposed Development') on land at, and in the vicinity of, the existing Connah's Quay Power Station (Kelsterton Road, Connah's Quay, Flintshire, CH6 5SJ), North Wales.

An initial desk study was undertaken in November 2023 from publicly available sources, to inform the Environmental Impact Assessment (EIA) scoping stage, and then updated with a data search from the local records centre (Cofnod) conducted in March 2024. The aims of the desk study are to:

- Identify Habitat Sites (formerly known as International or European Sites), Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNRs) within 15 km of the Proposed Development;
- Identify protected and notable habitats and species and other statutory designated sites within 2 km of the Proposed Development;
- Review ecological survey data collected during initial surveys by Aspect Ecology; and
- Map the habitats making up inaccessible areas of the Indicative Site Boundary (Excluding Temporary Abnormal Indivisible Loads Work Areas) (hereafter referred to as the 'Site') using available aerial imagery.

In addition, a walkover survey of accessible land within the Main Site and Construction and Indicative Enhancement Area (C&IEA) (**Figure 3-2 (PEIR Volume III)**) was carried out on 7 November 2023.

The desk study and walkover survey identified the need for further survey or assessment of the following Important Ecological Features:

- Designated sites;
- Habitats;
- Bats;
- Badger;
- Otter;
- Water vole;
- Great crested newt;
- Birds (wintering, breeding and passage);
- Terrestrial invertebrates; and
- Natterjack toad.

It is noted that this PEA (June 2024) is a point in time appraisal of the indicative land required for the Proposed Development utilising data gathered up to March 2024, as detailed in this report. Refer to **Chapter 11 Terrestrial and Aquatic Ecology (PEIR**

Volume II) and **Appendices 11-D to 11-G (PEIR Volume III)** for further updated ecological baseline information (where applicable).

1. Introduction

1.1 Background

1.1.1 This Preliminary Ecological Appraisal (PEA) has been prepared on behalf of Uniper UK Limited (hereafter referred to as 'the Applicant'), to assess the ecological constraints in connection with the proposed construction, operation and decommissioning of a new Combined Cycle Gas Turbine (CCGT) fitted within Carbon Capture Plant (CCP) on land at, and in the vicinity of, the existing Connah's Quay Power Station (Kelsterton Road, Connah's Quay, Flintshire, CH6 5SJ), North Wales.

1.1.2 The Proposed Development is located approximately 0.6 km north-west of Connah's Quay in Flintshire, north-east Wales. The indicative land under consideration for the Proposed Development (hereafter referred to as the 'Site') is shown on **Figure 3-1 (PEIR Volume III) sheets 2-10** and Plate 3-3-1 **Chapter 3: Description of the Existing Environment (PEIR Volume II),** and is located within the administrative boundary of Flintshire County Council (FCC), Cheshire West and Chester Council.

1.1.3 The assessment of ecological constraints has focused on the Main Site, Construction Areas and Connection Corridors as shown on **Figure 3-1 (PEIR Volume III) sheets 6 to 9** and Plate 3-3-2 **Chapter 3: Description of the Existing Environment (PEIR Volume II)**, and been carried out in accordance with current good practice. Ecology Figures in relation to this PEA are presented in **Annex A**. The PEA addresses relevant wildlife legislation and planning policy as summarised in **Annex B** and is consistent with the requirements of British Standard 42020:2013 Biodiversity Code of Practice for Planning and Development and accords with the Guidelines for Preliminary Ecological Appraisal published by the Chartered Institute of Ecology and Environmental Management (Ref 1).

1.1.4 This PEA (June 2024) is a point in time appraisal of the indicative land required for the Proposed Development utilising data gathered up to March 2024, as detailed in this report. Refer to **Chapter 11 Terrestrial and Aquatic Ecology** (**PEIR Volume II**) and **Appendices 11-D** to **11-G** for further updated ecological baseline information (where applicable).

1.2 The Site

1.2.1 The Indicative Site Boundary is divided into the following areas of permanent and temporary land use (as shown on **Figure 3-2 (PEIR Volume III)**):

- Main Site (includes the 'Main Site Laydown Areas' for temporary use during construction);
- Repurposed Carbon Dioxide (CO_2) Connection Corridor;
- Proposed CO_2 Connection Corridor;
- Water Connection Corridor;
- Electrical Connection Corridor;
- Existing Surface Water Outfall;

- Construction and Indicative Enhancement Area (C&IEA);
- Access to Main Site;
- Access to Wildlife Hides;
- Alternative Access to Main Site and Access to C&IEA; and
- Abnormal Indivisible Loads (AIL) Offloading Areas and Routes.

1.2.2 Further information on the Proposed Development is provided in **Chapter 4: Proposed Development** and definitions are set out in **Chapter 1: Introduction** (**PEIR Volume II**).

1.2.3 The Site, as referred to within this PEA, excludes the AIL Offloading Area and Routes and focuses on the Main Site, Construction Areas and Connection Corridors as shown on **Figure 3-1 (PEIR Volume III) sheets 6 to 9** and as shown on Plate 3-3-3 **Chapter 3: Description of the Existing Environment (PEIR Volume II)**.

1.2.4 Any ecological constraints in relation to the AIL Offloading Area and Routes will be considered at the Environmental Statement (ES) stage.

1.3 Purpose of the Preliminary Ecological Appraisal

1.3.1 This PEA presents ecological information obtained from the following sources:

- an initial desk study undertaken in November 2023 of publicly available sources including MAGIC (Ref 2) and the Joint Nature Conservation Committee (JNCC) website (Ref 3) which provided information on the following ecological features relevant to the Proposed Development:
  - all Habitat Sites (formerly known as International Sites), Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNRs) within 15 km of the Proposed Development; and
  - all protected and notable habitats[1] and other statutory designated sites within 2 km of the Proposed Development.
- a desk study in March 2024 with North Wales Local Environmental Records Centre (Cofnod) for non-statutory designate sites of nature conservation importance and records of protected and notable species within 2 km of the Site.
- a data request was made in April 2024 to the Northeast Wales Amphibian & Reptile Network for any natterjack toad records they hold.
- a document review of previous ecological survey reports within the Main Site[2] and C&IEA commissioned by the Applicant. These surveys were

[1] Notable habitats are taken as principal habitats for the conservation of biodiversity listed under Section 7 of the *Environment (Wales) Act 2016*; habitats listed under the Flintshire Biodiversity Action Plan (FBAP); hedgerows identified as being 'important' under the wildlife criteria of the *Hedgerow Regulations 1997*, ancient woodlands and veteran trees.
[2] The 'Main Site' is a term to reflect the CCGT and CCP site including the proposed laydown area, internal access roads, existing utilities connections for welfare use, and the existing Connah's Quay Power Station – refer to definitions are set out in Chapter 1: Introduction (PEIR Volume II)

confined to the Main Site and C&IEA of the Proposed Development. The reports included the following:

  - Phase 1 Habitat and Faunal Surveys (Ref 4);
  - Breeding, Passage and Wintering Bird Surveys (Ref 5); and
  - Reptile Surveys (Ref 6).

- a walkover survey on 7 November 2023 of accessible land within the Main Site and C&IEA (the area covered by this survey is herein referred to as the 'survey area' and shown on **Figure 3-2 (PEIR Volume III)**.
- a desk-based assessment based on aerial imagery of all habitats within the Site using available aerial imagery.

1.4 Report Structure

1.4.1 Section 2 sets out the ecological baseline, constraints and recommendations for designated sites, habitats and species. Section 3 summarises the recommendations for further survey work to inform the Ecological Impact Assessment (EcIA).

1.4.2 The following figures are provided to support this PEA in **Annex A** at the end of this report:

- **Figure 11C-1** – Statutory Designated Sites within 15 km of the Proposed Development;
- **Figure 11C-2** – Locally Designated Sites within 2 km of the Proposed Development;
- **Figure 11C-3** – Priority Habitats and Ancient Woodlands;
- **Figure 11C-4** – Indicative UK Habitats; and
- **Figure 11C-5a-5i** protected and notable Species records

1.4.3 **Annex B** sets out relevant legislation and planning policy.

1.4.4 The methodology followed for undertaking the desk study and field surveys is detailed in **Annex C**, including any limitations to the assessment.

1.4.5 **Annex D** presents the target notes that inform this PEA and a photographic record.

2. Ecological Baseline, Constraints and Recommendations

2.1 Overview

2.1.1 The following sections detail the results of the desk and field-based studies undertaken to inform this PEA. Where necessary, recommendations for mitigation measures to protect known Important Ecological Features(IEFs), or further surveys to determine the presence or likely absence of likely IEFs, are provided.

2.2 Designated Sites

Desk Study

2.2.1 There are nine Habitat Sites within the 15 km Study Area; two Special Protection Areas (SPA) two Ramsar sites and five Special Areas of Conservation (SAC). These are detailed in **Table 1** below.

2.2.2 There are 34 SSSI within the 15 km Study Area. These are detailed in **Table 2** below.

2.2.3 The location of all habitat sites and SSSIs within 15 km of the Proposed Development can be found on **Figure 11C-1** (**Annex A**).

2.2.4 There are no NNRs within the 15 km Study Area.

2.2.5 There are 14 local designated sites within the 2 km Study Area, there are 11 local wildlife sites (LWS), one Local Nature Reserve (LNR) and two Wild Ground Reserves. The details of these can be found in **Table 3** below and the locations are shown on **Figure 11C-2** (**Annex A**).

Table 1: Habitat Sites located within 15 km of the Site

Designated Site	Summary Description	Approximate distance from the Indicative Site Boundary[3] (km)	Direction[4]	Approximate distance from the Main Site (km)	Direction
The Dee Estuary SPA	Designated for supporting over wintering bird species including: Bar-tailed godwit *Limosa lapponica* Black-tailed godwit *Limosa islandica* Curlew *Numenius arquata* Dunlin Calidris *alpina alpina* Grey plover *Pluvialis squatarola* Knot *Calidris canutus* Oystercatcher *Haematopus ostralegus* Pintail *Anas acuta* Redshank *Tringa tetanus* Shelduck *Tadorna tadorna* Teal *Anas crecca* The site also supports breeding common tern *Sterna hirundo* and little tern *Sterna albifrons*, as well as supporting on passage sandwich tern *Sterna sandvicensis* and redshank *Tringa totanus*. The SPA regularly supports >20,000 waterfowl.	0	N/A	0	N/A
The Dee Estuary Ramsar	Criterion for its designation includes: Wintering and passage waterfowl populations. The estuary supports internationally important numbers of waterfowl and waders; Estuarine and maritime habitats including, mud flats, sand flats and salt marsh; and Breeding colonies of natterjack toad *Epidalea calamita*	0	N/A	0	N/A

[3] Excluding the AIL.
[4] N/A = Not applicable, N = North, NE = North East, NW = North West, S = South, SE = South East, SW = South West, E = East, W = West

Designated Site	Summary Description	Approximate distance from the Indicative Site Boundary[3] (km)	Direction[4]	Approximate distance from the Main Site (km)	Direction
Dee Estuary / Aber Dyfrdwy SAC	Designated for its mudflat and sandflat habitats, not covered by seawater at low tide: *Saliconia* and other annuals colonising mud and sand; Atlantic salt meadows *Glauco-Piccinellietalia* maritimae; estuaries; annual vegetation of drift lines; vegetated sea cliffs of the Atlantic and Baltic Coasts; embryonic shifting dunes; shifting dunes along the shoreline; fixed dunes with herbaceous vegetation and humid dune slacks. Annex II qualifying features for selection of the site include sea lampreys *Petromyzon marinus* and river lampreys *Lampetra fluviatillis* and petalwort *Petalophyllum ralfsii*.	0	N/A	0	N/A
The River Dee and Bala Lake/ Afon Dyfrdwy a Llyn Tegid SAC	Designated for the presence of the Annex 1 habitat Watercourses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-batrachion* vegetation; and its populations of the Annex II species Atlantic salmon *Salmo salar* and floating water-plantain *Luronium natans*. Annex II qualifying features for selection of the site include sea Lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis*, brook lamprey *Lampetra planeri*, otter *Lutra lutra*, petalwort *Petalophyllum ralfsii*, and bullhead *Cottus gobio*.	0.075	North-east	0.52	East
Deeside and Buckley Newt sites SAC	Designated for its great crested newt *Triturus cristatus* population, one of the largest in Great Britain.	1.5	South	2.1	South
Halkyn Mountain / Mynydd Helygain SAC	Designated primarily for the presence of Annex 1 habitats Calaminarian grasslands of the *Violetalia calaminariae*; and Annex II species great crested newt.	3.6	West	5.3	West

Designated Site	Summary Description	Approximate distance from the Indicative Site Boundary[3] (km)	Direction[4]	Approximate distance from the Main Site (km)	Direction
Alyn Valley Woods / Coedwigoedd Dyffryn Alun SAC	Designated primarily for the Annex 1 habitat *Tilio-Acerion* forests of slopes, screes and ravines; holding one of the largest continuous areas of *Tilio-Acerion* Forest in Wales.	6.8	South-west	8.5	South-west
Mersey Estuary SPA (England)	Designated for supporting internationally important populations of wildfowl including Golden plover *Pluvialis apricaria* Annex 1 species as a qualifying feature, and overwintering migratory species (other than those listed in Annex 1) including; Redshank, shelduck, teal, pintail, dunlin, black-tailed godwit.	12.7	North-east	13.0	North-east
Mersey Estuary Ramsar (England)	Designated for its large, sheltered estuary comprising large areas of saltmarsh and intertidal sand and mudflats. The site includes brackish marsh, rocky shoreline and cliffs set in a rural and industrial environment. Internally important numbers of various species of waterbirds overwintering and passage.	12.7	North-east	13.0	North-east

Table 2: SSSIs[5] located within 15 km of the Site

Designated Site	Summary Description	Approximate distance from the Indicative Site Boundary (km)	Direction	Approximate distance from the Main Site (km)	Direction
Dee Estuary / Aber Afon Dyfrdwy SSSI	This site is of special interest for its total populations of internationally important wintering waterfowl; its populations of individual waterfowl and tern species whose numbers reach national and, in some cases, internationally important levels; its intertidal mud and sandflats, saltmarsh and transitional habitats; the hard rocky sandstone cliffs of Hilbre Island and Middle Eye with their cliff vegetation and maritime heathland and grassland; its assemblage of nationally scarce plants; and its populations of sandhill rustic moth *Luperina nickerlii gueneei*, a Red Data Book species.	0	N/A	0	N/A
Afon Dyfrdwy (River Dee) SSSI	This site is of special interest for its fluvial geomorphology, Carboniferous geology, range of river habitat types, saltmarsh transition habitats, populations of floating water plantain *Luronium natans*, slender hare's-ear *Bupleurum tenuissimum*, sea barley *Hordeum marinum*, hard-grass *Parapholis strigosa*, otter *Lutra lutra*, salmon *Salmo salar*, bullhead *Cottus gobio*, brook lamprey *Lampetra planeri*, river lamprey *Lampetra fluviatilis*, sea lamprey *Petromyzon marinus*, club-tailed dragonfly *Gomphus vulgatissimus* and other aquatic invertebrates.	0.075	North-east	0.52	East
Shotton Lagoons and Reedbeds SSSI	This site is of special interest for its breeding population of common tern, *Sterna hirundo* and their reedswamp vegetation characterised by common reed *Phragmites australis*.	0.48	North-east	1.3	East
Mynydd Y Fflint / Flint Mountain SSSI	The site is of special interest for its stands of unimproved neutral grassland and semi-natural broadleaved woodland, which occur in association with scrub, fen-meadow and swamp vegetation.	0.5	North-west	1.7	West

[5] No online citations available to download.

Designated Site	Summary Description	Approximate distance from the Indicative Site Boundary (km)	Direction	Approximate distance from the Main Site (km)	Direction
Connah's Quay Ponds and Woodland SSSI	The site is of special interest for its population of great crested newt *Triturus cristatus*, its assemblage of widespread amphibian species, and for its semi-natural broadleaved woodland.	1.5	South	2.1	South
Dee Estuary SSSI (England)	As per the above for the Dee Estuary / Aber Afon Dyfrdwy SSSI. Area designated within England.	2.0	North-east	2.1	North-east
Inner Marsh Farm SSSI (England)	The site is notified for the ornithological interest it supports, particularly its wintering and summering bird populations.	2.8	North-east	3.2	North-east
Comin Helygain a Glaswelltiroedd Treffynnon / Halkyn Common and Holywell Grasslands SSSI	The site is of special interest for the mineralisation associated with the Carboniferous Limestone and cherts which is found in spoil tips and in situ exposures; open vegetation on soils rich in heavy metals; calcareous grassland; dry heath; fen-meadow; base-rich flush; populations of spring sandwort *Minuartia verna*, stemless thistle *Cirsium acaule*, and great crested newt *Triturus cristatus*; and assemblage of widespread amphibian species.	3.6	West	5.3	West
Buckley Claypits and Commons SSSI	The site is of special interest for its population of the great crested newt *Triturus cristatus*, its assemblage of widespread amphibian species, and for its mosaic of semi-natural grassland.	4.0	South	4.4	South
Maes y Grug SSSI	The site is of special interest for its large population of the great crested newt *Triturus cristatus*.	4.0	South	4.4	South
Hallwood Farm Marl Pit SSSI (England)	Contains black poplar *Populus nigra* which is uncommon and declining British native tree.	7.5	North-east	7.8	North-east
Herward Smithy SSSI	The site is of special scientific interest for its open vegetation on soils rich in heavy metals.	6.3	North-west	7.3	West

Designated Site	Summary Description	Approximate distance from the Indicative Site Boundary (km)	Direction	Approximate distance from the Main Site (km)	Direction
Parc Linden, Lixwm SSSI	The site is of special interest for its unimproved calcareous grassland which is the best known example of its type in Clwyd. A small partially wooded limestone pavement occurs in the northern part of the site.	6.8	West	8.2	West
Tyddyn-y-barcut SSSI	This site is of special interest for its stands of unimproved neutral grassland, which occur in association with broadleaved woodland, scrub and bracken.	6.8	South-west	8.5	South-west
Alyn Valley Woods and Alyn Gorge Caves SSSI	The site is of special interest for its geomorphology, the Alyn Gorge Caves and its semi-natural broadleaved woodlands including their size and specific types of woodland vegetation, its calcareous and mesotrophic grasslands, its scarce plant assemblage, its population of wayfaring tree *Viburnum lantana* and its population of the grizzled skipper butterfly *Pyrgus malvae*.	6.8	South-west	8.5	South-west
Parc Boldened and Gwenallt-parc, Lixwm SSSI	The site is of special interest for its unimproved calcareous grassland, limestone heath and species-rich acid grassland. All these types have highly localised national distributions. Additional interest is provided by the neutral grassland, scrub and woodland communities.	7.2	West	8.7	West
Pen-y-Cefn Pasture SSSI	This site is of special interest due to its botany. It is area of species-rich calcareous grassland situated on the ridge of Carboniferous limestone between the valleys of the River Alyn and the River Wheeler. It represents one of the best-known surviving examples of a type of enclosed pasture now much reduced in area elsewhere as a result of agricultural improvement. Additional interest is provided by calcareous scrub communities that have developed on part of the site.	7.5	South-west	9.2	South-west

Designated Site	Summary Description	Approximate distance from the Indicative Site Boundary (km)	Direction	Approximate distance from the Main Site (km)	Direction
Cefn Meadow SSSI	This site is a small, enclosed meadow, developed on the Carboniferous Limestone, with a particularly rich flora, and represented a habitat declining rapidly in the county as a result of agricultural improvement. The site is outstanding in containing seven species of orchid two of which, green-winged orchid *Orchis morio* and lesser butterfly orchid *Platanthera bifolia* have a very restricted distribution in Clwyd	7.7	South-west	9.4	South-west
Chwarel Cambrian / Cambrian Quarry, Gwernymynydd SSSI	This site is of special biological interest for its large population of hibernating lesser horseshoe bats *Rhinolophus hipposideros*, one of the largest in northeast Wales.	9.1	South-west	10.5	South-west
Dibbinsdale SSSI (England)	The main habitats include semi-natural broad-leaved woodland, which covers most of the site, reed swamp, fen pasture and neutral grassland. This is the largest block of semi-natural woodland of its type in Mersyside and contains typical examples of ash-wych elm and valley alder woodland, each of which supports rich flora and fauna (including birds and invertebrates).	10.4	North-east	10.6	North-east
Heswall Dales SSSI (England)	Regarded as the second-best example of lowland heath in Merseyside. It is ranked second to Thurstaston Common which is larger and botanically more diverse.	9.8	North	9.9	North
Dee Cliffs SSSI (England)	This site contains the best known example of clay cliff and bank habitat in Mersyside as well as some marl pits which have rich flora and fauna and an area of herb-rich neutral grassland.	10.3	North	10.4	North

Designated Site	Summary Description	Approximate distance from the Indicative Site Boundary (km)	Direction	Approximate distance from the Main Site (km)	Direction
River Dee (England) SSSI	Overlaps with The River Dee and Bala Lake/ Afon Dyfrdwy a Llyn Tegid SAC. The River Dee lies within both England and Wales and is notified as separate SSSIs – the River Dee (England) and the Afon Dyfrdwy-River Dee SSSI in Wales. The River Dee is notified for its international important transition through a range of river types from mesotrophic to eutrophic. It is also notified for Atlantic salmon, otter, club-tailed dragonfly and fluvial geomorphology.	10.7	South-east	11.9	South-east
Ddôl Uchaf SSSI	Ddôl Uchaf is notified for its geological interest.	10.7	West	12.3	West
The Dungeon SSSI (England)	The Dungeon is notified for its geological interest.	11.1	North	11.2	North
The Mersey Estuary SSSI (England)	Overlaps with the Mersey Estuary Ramsar and SPA. Internationally important site for wildfowl and consists of large areas of intertidal sand and mudflats.	12.7	North-east	13.0	North-east
Coed Trefraith SSSI	One of the best examples in Clwyd of a woodland type (dominated by sessile oak that occupies steep valley sides of a river) found mainly in Wales and south-west England but also in the Midlands and north-east England. In North Wales the majority of the examples are in Clwyd at low altitudes, the remainder being in West Gwynedd.	11.6	West	13.0	West
Coed Talon Marsh SSSI	This site is of special interest due to its botany. It is the largest and one of the best examples in Clwyd of the "southern mesotrophic mire" wetland site type which in North Wales is largely restricted to Ynys Mon, Dwyfor and Clwyd.	11.6	South	12.2	South
Caerwys Tufa SSSI	Caerwys Tufa is notified for its geological interest.	12.0	West	13.5	West
Bryn Alyn SSSI	Bryn Alyn is of special interest for its range of limestone (calcicolous) grassland as well as its transitions from limestone and neutral to acidic (calcifugous) grassland, limestone heath, and its rock and scree habitats.	12.2	South-west	13.5	South-west

Designated Site	Summary Description	Approximate distance from the Indicative Site Boundary (km)	Direction	Approximate distance from the Main Site (km)	Direction
Thurstaston Common SSSI (England)	Thurstaston Common is the largest and best remaining example of lowland heathland in Mersyside. Also important for passage, wintering and breeding birds.	12.5	North	12.6	North
Glaswelltiroedd Eryrys (Eryrys Grasslands) SSSI	This site is of special interest for its calcareous, acid, neutral and calaminarian grasslands; its basin mire; three vascular plant species: mountain *everlasting Antennaria dioica*, frog orchid *Coeloglossum viride* and field gentian *Gentianella campestris*; a limestone lichen assemblage; and an open calcareous grassland bryophyte assemblage.	13.3	South-west	14.7	South-west
Graig, Llanarmon-Yn-Ial SSSI	This site is of special interest for its limestone (calcicolous) and acid (calcifugous) grassland as well as its transitions from limestone and neutral through to acidic grassland.	14.5	South-west	>15	-
New Ferry SSSI	The site is notified for its large areas of intertidal sand, mudflats and other habitats, which support two nationally important species of wintering waterfowl, pintail and black-tailed godwit.	14.5	North-east	14.7	North-east

Table 3: Local Wildlife Sites located within 2 km of the Site

Designated Site	Summary Description	Approximate distance from the Indicative Site Boundary (km)	Direction	Approximate distance from the Main Site (km)	Direction
Gathering Grounds Woods and Llwyni Pond LNR	Designated for its broadleaved woodland habitat and its pond that supports a population of great crested newt.	1.47	South-east	2.24	South-east
Leadbrook Wood LWS	This site is designated for its Broad-leaved woodland and scrub, Pasture/meadow and scrub habitats.	0.1	North-east	0.35	South-west

Designated Site	Summary Description	Approximate distance from the Indicative Site Boundary (km)	Direction	Approximate distance from the Main Site (km)	Direction
Top-y-fron Dingle and Kelserton Brook LWS	This site is designated for its Broad-leaved woodland and scrub habitats.	0.35	South-east	0.35	South-east
Llwyn-onn LWS	This site is designated for its Broad-leaved woodland and scrub and Pasture/meadow and scrub habitats.	0.46	West	1.86	South-west
Cheshire Farm LWS	This site is designated for its Broad-leaved woodland and scrub habitats.	0.85	South-east	0.85	South-east
Caeau Alt-vois LWS	This site is designated for its Pasture/meadow and scrub habitats.	0.77	West	2.38	South-west
Shotton Steelworks LWS	This site is designated for its Pasture/meadow and scrub, Reedbed and Standing open water habitats and its Ornithological interest.	1.4	North-east	2.1	East
The River Dee LWS	This site is designated for its Coastal and floodplain grazing marsh, Coastal saltmarsh and Mudflats habitats and its Ornithological interest.	1.09	East	2.27	East
Coed Stanley LWS	This site is designated for its Broad-leaved woodland and scrub and Pasture/meadow and scrub habitats.	1.57	West	2.88	West
Coed Bryn-y-Garreg	This site is designated for its Broad-leaved woodland and scrub habitats	1.5	West	3.12	South-west
Wepre Wood LWS	This site is designated for its Broad-leaved woodland and scrub habitats and its caves.	1.87	South-east	2.91	South-east
Coed y Cra LWS	This site is designated for its Broad-leaved woodland and scrub and Wet woodland habitats.	1.89	West	3.47	South-west
Brown Oak Wood Wild Ground Reserve	No information available	1.55	South-east	2.21	South-east

Designated Site	Summary Description	Approximate distance from the Indicative Site Boundary (km)	Direction	Approximate distance from the Main Site (km)	Direction
Llwyni Valley Wild Ground Reserve	No information available	1.56	South-east	2.37	South-east

Constraints and Recommendations

2.2.6 As shown in **Table 1** and **Table 2**, the Site coincides, in part, with a number of Habitats Sites (formerly known as International Sites) and SSSIs and therefore the Proposed Development has the potential to impact them through habitat loss, disturbance and damage.

2.2.7 As shown in **Table 3** no local designated sites fall within the Site and therefore LWS are unlikely to be directly impacted.

2.2.8 A Habitat Regulations Assessment (HRA) screening will be conducted to determine the potential impact of the Proposed Development on these designated sites. Natural England and Natural Resources Wales will be consultees on the HRA Report that will accompany the DCO Application and therefore technical engagement with these parties, where required, in relation to the assessment of impacts and mitigation requirements will form part of the DCO application process to limit the damage to these sites.

2.2.9 An air quality assessment in line with relevant Environmental Permitting (England and Wales) Regulations (EPR) 2016 guidance will be undertaken to assess the impacts from stack emissions, which may potentially lead to adverse effects on sensitive habitats, including nature conservation designations in the vicinity of the Proposed Development.

2.3 Habitats

Desk Study

2.3.1 The desk study returned several areas of priority habitat within the study area including ancient woodlands, coastal and floodplain grazing marsh, lowland fens and reedbeds, lowland meadows and purple moor grass and rush pastures. The locations of these habitats can be found on **Figure 11C-3 (Annex A).**

2.3.2 **Table 4** summarises the records of priority habitats situated within the 2 km Study Area that are within or adjacent to the Site, have habitat links to the Site or are hydrologically connected to the Site.

Table 4: Summary of Notable Habitats within the 2 km Study Area

Designated Site	Approximate Location[6]
Section 7 Habitat Of Principal Importance (HOPI) – Coastal and Floodplain Grazing Marsh	Within the Site boundary to the north-west
Section 7 HOPI – Saltmarsh	Within the Site boundary to the north

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

Designated Site	Approximate Location[6]
Ancient woodland	There is one patch of ancient semi-natural woodland within 50 m of the southwestern Site boundary
Section 7 HOPI – Purple Moor Grass and Rush Pasture	Approximately 0.3 km west of the Proposed Development Site
Section 7 HOPI – Lowland Fens and Reedbed	Approximately 0.5 km northeast of the Proposed Development Site
Section 7 Habitats of Principal Importance (Section 7 HOPI) – Lowland Meadow	Approximately 0.7 km west of the Proposed Development Site

2.3.3 All areas of recorded ancient woodland within the 2 km Study Area could potentially be impacted by changes to air quality as a result of the Proposed Development.

2.3.4 The habitats identified through available aerial imagery can be found on **Figure 11C-4, (Annex A)**. A brief description of the habitats present in each area of the Site and UK habitat codes can be found below:

- **The Main Site** – The habitats present within the Main Site that were not covered by the field survey consisted of g4 modified grassland, roads (u1b6 800) and industrial buildings (u1b5 817).
- **The Repurposed CO_2 Connection Corridor** – The habitats present along the Repurposed CO_2 Connection Corridor appear from aerial imagery to be largely pastureland for animals intersected with hedgerows. The pasture is assumed to be g4 modified grassland and the hedgerows that are present throughout the corridor are assumed to be h2a native hedgerow, some of which have trees present within them. Additionally, there are areas of urban gardens (u1d).
- **The Proposed CO_2 Connection Corridor** – This area of the Site is made up of two fields (the northern field appears to be cropland c1c and southern field appears to be g4 modified grassland) separated by hedgerow (assumed to be h2a native hedgerow) and bordered to the north and west by hedges (assumed to be h2a native hedgerow) and roads (u1b6 800) and to the east by a strip of broadleaved woodland (w1f lowland mixed deciduous woodland) and a stream (r2b – Other rivers and streams).
- **Water Connection Corridor –** This area of the Site crosses salt marsh (t2a – coastal salt marsh) and the River Dee estuary (r2a – Rivers).

Field Survey

2.3.5 Summary descriptions of the habitats within the survey area are provided below and shown on **Figure 11C-4 (Annex A)**, with specific features highlighted by target notes (TNs). TN descriptions and photographs are provided in **Annex D**.

g3c- Other Neutral Grassland

2.3.6 Large areas of the survey area were made up of grassland habitats. As the field survey was conducted in November and the grassland was heavily grazed, it was not possible to identify these areas further as many herb and grass species would have died back and would no longer be present. Species present at the time of survey included musk thistle *Carduus nutans*, common nettle *Urtica dioica*, perennial rye grass *Lolium perenne*, red fescue *Festuca rubra* and creeping thistle *Cirsium arvense*.

w1f7 29 – Other Lowland mixed deciduous woodland Plantation

2.3.7 Two strips of young (<30 years) plantation woodland (TN1 & TN2). Made up of a mix of tree species including silver birch *Betula pendula*, ash *Fraxinus excelsior*, pedunculate oak *Quercus robur*, sycamore *Acer pseudoplatanus*, goat willow *Salix caprea* and hawthorn *Crataegus monogyna*.

h3d – Bramble Scrub

2.3.8 Several areas of dense scrub were located throughout the survey area. These were dominated by bramble *Rubus fruticosus agg*.

u1b5 817 – Buildings Industrial

2.3.9 Buildings making up the existing Connah's Quay Power Station.

u1b6 800- Developed land; sealed surface - other developed land – road

2.3.10 Roads and other asphalt surfaces that make up the existing Connah's Quay Power Station.

g1c – bracken

2.3.11 Strip of bracken to the east of the Site (TN8).

u1f 80 – Sparsely vegetated urban land – possible Open mosaic habitat on previously developed land

2.3.12 An area of potential open mosaic habitat (OMH) on previously developed land (TN9). Species included buddleia *Buddleja davidii* and thyme sp. The plants present within this area were largely desiccated or vegetation had died off at the time of survey making species difficult to identify. There was a mixture of tracks (some of which were remnant asphalt, some concrete and some compacted crushed aggregate in places) and some of what appeared to be raised foundations of old buildings all supporting more or less vegetation. Grasses were more abundant in places and buddleia was more abundant towards the Main Site, but there was also evidence of management by cutting in some areas. This areas is potentially an area of priority habitat and this will be confirmed through further survey.

g3c 81- Other Neutral Grassland – ruderal ephemeral

2.3.13 There were pockets of tall ruderal vegetation dominated by nettle with umbellifers and willowherb species *Epilobium sp.* present (TN3) within the survey area.

g4 – modified grassland

2.3.14 Areas of amenity grassland making up parts of the existing Connah's Quay Power Station. These were located around reception and west of the main plant area and were dominated by perrenial rye grass with daisy *Bellis perrenis* and dandelion *Taraxacum sp.*.

r1g 42 – Other Standing Water Ponds

2.3.15 Three large ponds (approximate sizes of which are: 2,990m^2, 9,980m^2 and 2,560m^2) (TN4) in **Figure 11C-4, Annex A**. Two of these were located to the north-east of the survey area and the third is located partially within the survey area.

Constraints and Recommendations

2.3.16 The field survey was conducted in November 2023 so many plant species would not have been present or recognisable at the time of survey, which took place outside of the optimal botanical survey window. Detailed botanical surveys are planned in summer 2024 to determine the quality of habitats on site such as grassland, sparsely vegetated urban land, salt marsh and hedgerows. These surveys to inform the baseline will be the 'right' standard to allow a habitat condition assessment to be undertaken to inform Net Benefit for Biodiversity (NBB) and the results will be presented in the forthcoming ES.

2.3.17 Construction methodology should aim to avoid impacts to any priority habitats, such as rivers, salt marsh and potential OMH. Salt marsh represents an irreplaceable habitat, and its loss cannot be mitigated or compensated. It is also recommended that semi-natural habitats such as scrub, woodland and grassland should be retained and protected, as far as reasonably practicable. Where habitat loss cannot be avoided, it should be the minimum required and habitat replacement proposed as compensation.

2.3.18 Any habitat loss in areas where habitats have only been identified by aerial survey, botanical surveys should be undertaken to 'ground truth' the aerial survey information.

2.3.19 The remaining habitats within the Site are common and widespread and any loss to them should aim to be compensated by habitat creation being undertaken to ensure the Proposed Development does not result in a loss of biodiversity, but instead results in NBB.

2.4 Bats

Desk Study

2.4.1 There are 200 records for 11 species of bat in the 2 km Study Area. Species include Myotis sp., Brandt's *Myotis brandti*, Daubenton's *Myotis daubentonii*, whiskered *Myotis mystacinus*, Natterer's *Myotis nattereri*, noctule *Nyctalus noctula*, Common pipistrelle *Pipistrellus pipistrellus*, Soprano pipistrelle *Pipistrellus pygmaeus*, brown long eared *Plecotus auritus* and lesser horseshoe *Rhinolophus hipposideros* bats. The closest recorded is a Daubenton's bat located within the Site boundary. The locations of these records can be found on **Figure 11C-5h (Annex A)**.

2.4.2 Surveys conducted by Aspect Ecology (see **Annex E**) identified areas of potentially suitable habitat for foraging and commuting bats within the C&IEA. These habitats included rough grassland, scrub, and a line of trees.

2.4.3 These suitable habitats areas were also present within the Main Site area of the Proposed Development; however, it was determined that the lighting from the existing Connah's Quay Power Station and town of Connah's Quay may reduce the suitability of these habitats for roosting bats.

2.4.4 There is habitat connectivity from the Site to the surrounding landscape through the railway corridor that runs along the southern boundary of the Main Site and the River Dee estuary to the north of the Site.

2.4.5 Several trees that are large enough to support potential bat features have been identified both within the survey area and within the areas surveyed by aerial imagery. These were located in the hedgerows and areas of woodland in the Repurposed CO_2 Connection Corridor and the Proposed CO_2 Connection Corridor.

2.4.6 European Protected Species Mitigation Licence (EPSML) applications are not available publicly in Wales and therefore no records have been obtained for the search area.

Field Survey

2.4.7 The habitats on Site provide potential flightpaths and foraging habitats for bats, as there are grassland, scrub, woodland and wetland habitats present, and the Site has habitat connections to the wider landscape.

2.4.8 The field survey identified trees with potential to support features suitable for roosting bats within the C&IEA and south of the survey area along the access road to the existing Connah's Quay Power Station.

2.4.9 The buildings that make up the existing Connah's Quay Power Station may offer potential to support features for roosting bats although they are illuminated and largely subject to high levels of existing industrial noise and regular disturbance and so are unlikely to support significant roosts.

Constraints and Recommendations

2.4.10 The habitats on Site are considered to be of moderate value as potential flightpaths and foraging habitats, therefore activity surveys are planned to be undertaken in 2024 to determine the potential impacts of the Proposed Development on foraging and commuting bats. Night bat walkover surveys will be carried out across all habitats suitable for bats coupled with automatic detector surveys to identify important commuting features or activity hotspots.

2.4.11 Several trees with the potential to support features suitable for roosting bats were identified both in the C&IEA and the Proposed/Repurposed CO_2 Connection Corridors. If these trees are likely to be directly impacted by the Proposed Development, then the classification of the bat roost suitability of affected trees within these areas should be determined at the earliest stage possible using current survey guidelines (Ref 7). This would be done by undertaking an initial ground level Preliminary Roost Assessment (PRA) of the

tree followed by a detailed Potential Roost Features (PRF) aerial inspection survey (if deemed to be required and where safe to do so), to establish all PRFs found on each tree. The result of the PRA / PRF aerial inspection survey will give a roost suitability rating (PRF-Individual or PRF-Multiple) and may also establish the presence/absence of roosting bats within the tree.

2.4.12 The buildings that make up the existing Connah's Quay Power Station may offer suitable features for roosting bats. The classification of the bat roost suitability of structures within the Proposed Development will be required where an impact to a structure will occur, to determine further survey requirements. This requirement would be assessed as the design of the Proposed Development is established and progressed. If an impact to a structure is required, a detailed PRA would be undertaken, to establish all PRFs at the earliest stage possible using current survey guidelines (Ref 7). The result of the PRA will give a roost suitability rating of each structure (from Negligible to High), which in turn will inform the number of emergence surveys required to establish the presence/absence of roosting bats within each structure.

2.4.13 These surveys will enable appropriate avoidance /mitigation measures to be developed for the physical works associated with the Proposed Development. Works affecting a bat roost would need to be completed under a Natural Resources Wales EPSML. The licence would detail the appropriate mitigation and compensation measures necessary to maintain the Favourable Conservation Status of bats. Mitigation measures would include, for example, the appropriate timing and supervision of works, and compensation would include the provision of replacement roosting habitat.

2.5 Badger

Desk Study

2.5.1 [redacted]

Field Survey

2.5.2 [redacted]

2.5.3

Constraints and Recommendations

2.5.4 [redacted]

2.5.5

[redacted]

2.5.6 Where active badgers or their setts may be impacted by the Proposed Development, then a licence may be required from Natural Resources Wales. Badger licences permit the closure of setts in the period 01 July to 30 November. Where high-status badgers' setts are impacted then it may be necessary to provide a replacement sett.

2.6 Birds

Desk Study

2.6.1 [redacted]

2.6.2 The Dee Estuary SPA, SSSI and Ramsar sites are all designated due to the presence of important assemblage of bird species.

2.6.3 The initial survey work undertaken by Aspect Ecology (see **Annex E**) (Ref 5) found that '*Two of the four Annex 1 species relevant to the SPA/Ramsar site were recorded in significant numbers in the estuary adjacent to the site*' and '*Of the qualifying migratory species, seven were recorded in the estuary in significant numbers*'.

2.6.4 The aerial image search identified habitats suitable for bird species including woodland, grassland, salt marsh, hedgerows and the River Dee.

Field Survey

2.6.5 Grassland and wetland habitats within the survey area were suitable for birds, including wading birds. Buildings and woody vegetation also provided suitable nesting habitat for widespread bird species.

2.6.6 Large numbers of foraging curlew *Numenius arquata* were present within these habitats at the time of the field surveys.

Constraints and Recommendations

2.6.7 The Dee Estuary SPA, SSSI and Ramsar sites coincide partly with the Site, and construction works for the Proposed Development have the potential to impact the assemblage of bird species they are designated for.

2.6.8 Habitats within the survey area were found to support large assemblages of wading birds at the time of the field survey. Therefore, further survey is proposed, and currently being carried out, to determine the impacts of the Proposed Development on these bird assemblages.

2.6.9 Breeding bird surveys will comprise up to six survey visits over the period March to July 2024, inclusive. Transects will record bird sound and behavior to classify the breeding status of birds present. The locations of all species of conservation importance that are breeding or likely to breed would be mapped and an estimate of their numbers (pairs/territories) derived. These breeding bird survey visits comprise wader surveys to identify the presence of any breeding wader species either within the Site or the adjacent intertidal and salt marsh habitat. These are targeted surveys that monitor the most suitable habitats for waders in these locations.

2.6.10 Wintering and passage waterbird surveys are being completed over a 12-month period. The surveys are timed to take place at the appropriate high and low water periods to cover the spring and neap tides, with nocturnal monitoring also included.

2.6.11 These surveys will inform what avoidance/mitigation and compensation measures need to be put in place to ensure that the Proposed Development will not impact the Favorable Conservation Status of birds in the area and to minimise impacts of the Proposed Development on the assemblages of birds that use the nearby protected sites.

2.7 Great Crested Newt

Desk Study

2.7.1 There is a total of 262 records for great crested newt within the 2 km Study Area. The closest of these records is located approximately 1.2 km east of the Site boundary. The location of these can be found in **Figure 11C-5b (Annex A)**.

2.7.2 The initial survey work c by Aspect Ecology (see **Annex E**) determined that great crested newt *Triturus cristatus* were not present within any habitats that make up the Site or its immediate surroundings.

Field Survey

2.7.3 Three ponds with potential to support great crested newt were identified within 50m of the Site.

2.7.4 There are also terrestrial habitats present suitable for great crested newt such as grassland, scrub, woodland, ruderal habitat, and hedgerows. The railway line that runs along the southern boundary of the Main Site area offers habitat connections to the surrounding area, along with the hedgerows that connect to the wider landscape.

Constraints and Recommendations

2.7.5 The Proposed Development has the potential to impact great crested newts if they are present within habitats within the Site. A further desk study will be undertaken to identify all ponds within 500m of the Site boundary.

2.7.6 All ponds identified by the desk study will be subject to a habitat suitability assessment for great crested newt and eDNA survey (undertaken between mid-April and June) to determine if great crested newts are present.

2.7.7 If the eDNA surveys return a positive result for great crested newts, then population class estimate surveys will need to be undertaken to determine the size of great crested newt populations present and therefore to inform the Proposed Development's potential impact on this species.

2.7.8 If great crested newts are impacted, then a Natural Resources Wales European Protected Species mitigation licence will be required. The mitigation licence would include the measures necessary to maintain the Favourable Conservation Status of great crested newt, including the appropriate timing of works and provision of replacement habitat.

2.8 Hazel Dormouse

Desk Study

2.8.1 There are no records for hazel dormice *Muscardinus avellanarius* within the 2 km Study Area.

2.8.2 The initial survey work conducted by Aspect Ecology (see **Annex E**) (Ref 4) scoped out Hazel dormouse *Muscardinus avellanarius* as a constraint to the Proposed Development stating '*the site is close to the limits of the known UK distribution of this species. Habitats present provide very limited opportunities for Dormouse*'.

Field Survey

2.8.3 The habitats present within the survey area provide very little opportunity for dormouse lacking the variety of food plants required for this species or the vegetation structure required.

2.8.4 There is very limited habitat connection from the Proposed Development to any potential areas of suitable dormouse habitat in the surrounding landscape.

Constraints and Recommendations

2.8.5 The lack of suitable habitat within the Site and the lack of suitable connections to any potential habitat in the surrounding landscape means dormouse are very unlikely to be present within the Site and so are unlikely to be impacted by the Proposed Development.

2.8.6 This species is proposed to be scoped out of any further assessment.

2.9 Otter

Desk Study

2.9.1 There is a total of 16 records for otter *lutra lutra* within the 2 km Study Area. The closest of these records is associated with the Saltmarsh habitat approximately 0.1 km north of the Site boundary. The locations of these can be found on **Figure 11C-5a (Annex A)**.

2.9.2 The initial Aspect Ecology survey work (see **Annex E**) identified the Dee Estuary as highly suitable for foraging and commuting otter (Ref 4). This report determined the habitats within the area surveyed were unsuitable for otter.

2.9.3 The aerial image search identified corridors with woodland and streams present within the Proposed CO_2 Connection Corridor, Repurposed CO_2Connection Corridor and the salt marsh habitats and River Dee to the north of the survey area that could provide suitable otter habitat for foraging commuting and resting.

Field Survey

2.9.4 No evidence of otter was recorded during the field survey. The majority of the survey area was of limited suitability for otter, comprising of open and exposed habitats that offer limited shelter for otter. The habitats associated with the River Dee provide a suitable foraging and commuting route for otter, although the tidal character limits opportunities for shelter or breeding. Some potential opportunities for shelter may be provided by pipes that lead from the existing Connah's Quay Power Station into to the River.

Constraints and Recommendations

2.9.5 Otters are a widespread species that are likely to be present on most watercourses in lowland Wales. Operations affecting watercourses or suitable terrestrial habitat are likely to impact this species, with locations representing breeding sites being most sensitive. Watercourses and potential terrestrial habitat suitable for otters will be considered as the design of the Proposed Development progresses. Further detailed surveys including monitoring may then be required to determine the likely presence of breeding sites.

2.9.6 In the event that impacts to otters are identified then best practice avoidance measures or a Natural Resources Wales EPSML may be required. If required, the mitigation licence would include the measures necessary to maintain the Favourable Conservation Status of otter, including the appropriate timing of works and provision of replacement habitat.

2.10 Water Vole

Desk Study

2.10.1 There are a total of 8 records for water vole *Arvicola amphibius* within the 2 km Study Area. The closest of these records is located approximately 0.7 km northeast of the Site boundary. The locations of these can be found on **Figure 11C-5a (Annex A).**

2.10.2 The initial survey work undertaken by Aspect Ecology (see **Annex E**) determined that water vole were not detected within any habitats that make up the Site or its immediate surroundings.

2.10.3 The aerial image search identified a stream within the Proposed CO_2 Connection Corridor and a stream within Repurposed CO_2 Connection Corridor the that could offer suitable habitat to water vole.

Field Survey

2.10.4 Habitats were found to be present within the survey area that are suitable for water vole, including ponds and salt marsh.

Constraints and Recommendations

2.10.5 Previous survey determined that water vole were likely absent from the Site and its immediate surroundings. However, the surveys undertaken were not in line with best practice guidance, with individual surveys being completed in 2021 and 2023; therefore, it is not possible to conclude that water vole are absent.

2.10.6 The desk study identified three watercourses (two within the Repurposed CO_2 Connection Corridor and one that borders the Main Site) that could offer suitable habitat to water vole and the updated field surveys identified that the three ponds to the north-east of the Site could also provide suitable habitat.

2.10.7 It is recommended that if these habitats are likely to be directly impacted by the works (if construction works are going to come within 5 m of any of these waterbodies or watercourses) then further surveys would be required to determine if water vole are present.

2.10.8 Surveys should involve a habitat suitability assessment for water vole of all waterbodies to be directly impacted by the Proposed Development followed by two survey visits of all suitable waterbodies, one in Spring (mid-April to June) and one in Summer (July-September) to determine water vole presence and population size and the impact the Proposed Development will have on them.

2.10.9 If water vole are likely to be impacted, then a Natural Resources Wales species licence would be required. The licence would detail the appropriate timing and supervision of works, including measures to displace water vole from the working area. Displacement may involve the management off vegetation and / or the use of exclusion fencing and trapping during the appropriate time of year. Subject to the level of impact this may include a requirement to provide suitable replacement habitat.

2.11 Reptiles

2.11.1 Common species of reptile refers to common lizard *Zootoca vivipara*, slow worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix helvetica*.

Desk Study

2.11.2 There are nine records for grass snake and 15 for common lizards in the 2m Study Area. The closest grass snake record is about 0.4 km west of the Site boundary. The closest record for common lizard is about 0.85 km east of the Site boundary. The locations of these can be found in **Figure 11C-5b (Annex A)**.

2.11.3 Reptile surveys conducted by Aspect Ecology in 2022 (see **Annex E**) (Ref 6) determined that a low population of common lizard were present within the Site (present within the C&IEA). Surveys throughout the rest of the Site found reptiles to be absent.

Field Survey

2.11.4 The habitats suitable for reptiles present within the survey area were found to be largely unchanged since the initial reptile surveys conducted by Aspect in 2022 and there is potential for small numbers of common reptiles to be present across the survey area focused on areas of less managed habitat.

Constraints and Recommendations

2.11.5 A low population of common lizard is present within the Site boundary.

2.11.6 Where possible, the Proposed Development should be designed to avoid suitable reptile habitat where there is a risk of harm to reptiles. Where this is not possible then construction works within areas of suitable reptile habitat should implement precautionary working methods and standard practice mitigation measures to manage the risk to reptiles. In addition to the avoidance of suitable hibernation habitat in the reptile hibernation period (mid-October to mid-March), mitigation measures may also involve measures to displace reptiles into areas of retained or created habitat. This would be undertaken during suitable weather conditions in the reptile active period (mid-March to mid-October, inclusive), and involves the sensitive management of vegetation and / or the capture of reptiles.

2.12 Terrestrial Invertebrates

Desk Study

2.12.1 The initial survey work undertaken by Aspect Ecology (see **Annex E**) (Ref 4) scoped out invertebrates as a constraint to the Proposed Development stating 'site contains relatively few micro-habitats that would typically indicate elevated potential for invertebrates'.

Field Survey

2.12.2 There are habitats suitable for terrestrial invertebrates throughout the survey area including sparsely vegetated urban land, grassland, woodland, hedgerows, and ruderal habitats. These habitats in a mosaic can offer opportunities for terrestrial invertebrates.

Constraints and Recommendations

2.12.3 Suitable habitat for terrestrial invertebrates are present within the Site and so there is a potential that they could be impacted by the Proposed Development.

2.12.4 Further surveys will be carried out in 2024. The scope of these will be confirmed following the review of third-party data (such as the Deeside Naturalist's Society) and a scoping walkover of the Site by an entomologist, targeted on habitats suitable for terrestrial invertebrates, such as OMH.

2.13 Natterjack Toad

Desk Study

2.13.1 Natterjack toad (*Epidalea calamita*) have been reintroduced along the Dee Estuary (Ref 8) through the Natterjack Reintroduction Project.

2.13.2 No records for natterjack toad were returned within the 2 km Study Area.

2.13.3 Correspondence received from Northeast Wales Amphibian & Reptile Network received in April 2024 confirmed the nearest record for natterjack toad was approximately 6.4 km from the Site.

Field Survey

2.13.4 Three ponds with potential to support natterjack toad were identified within the survey area.

2.13.5 There are also terrestrial habitats present suitable for natterjack toad such as salt marsh, scrub and ruderal habitat.

Constraints and Recommendations

2.13.6 The desk study information obtained for natterjack toad suggests that although there is suitable habitat for natterjack toad, they are not present within the area and so will not be impacted by the Proposed Development. Natterjack toad has therefore been scoped out of all further assessment.

2.14 Other Notable Species

Desk Study

Mammals

2.14.1 There are a total of 49 records for hedgehog *Erinaceus europaeus* and 14 records for brown hare *Lepus europaeus* within the 2 km Study Area. The closest hedgehog record is about 0.1 km south of the Site boundary. The closest hare record is about 1.3 km south of the Site boundary.

Amphibians

2.14.2 There is a total of 472 records for the common toad *Bufo bufo*, palmate newt *Lissotriton helveticus*, smooth newt *Lissotriton vulgaris*, common frog *Rana temporaria* and unidentified newt *Lissotriton*. The closest of these records is associated with a smooth newt approximately 0.33 km south of the Site boundary.

Field Survey

2.14.3 Habitats were identified within the survey area that are suitable to support hedgehog including grassland, woodland, scrub, and ruderal habitats.

2.14.4 Habitats were identified within the survey area suitable to support other notable amphibians including ponds and terrestrial habitats such as grassland, scrub, woodland, ruderal habitat, and hedgerows. The railway line that runs

along the southern boundary of the Main Site area offers habitat connections to the surrounding area, along with the hedgerows that connect to the wider landscape.

Constraints and Recommendations

2.14.5 Where possible, the Proposed Development should be designed to avoid suitable habitat where there is a risk of harm to notable species. Where this is not possible then construction works within areas of suitable habitat should implement precautionary working methods and standard practice mitigation measures to manage the risk to notable species. This would involve steps such as the sensitive management of vegetation and / or the capture and relocation of notable species found during the works.

2.15 Invasive Non-Native Plant Species (INNPS)

Desk Study

2.15.1 There are 222 records for INNPS in the 2 km Study Area, yet there are no records for Wildlife and Countryside Act 1981 Schedule 9 species within 50 m of the Site boundary.

Field Survey

2.15.2 No Schedule 9 invasive species were found during the field survey.

Constraints and Recommendations

2.15.3 No Schedule 9 invasive species were found within the site through the desk or field studies.

2.15.4 However, some of the Site was assessed with aerial imagery so there is a possibility that invasive species may have been missed. The survey information for the remainder of the Site will be updated through the proposed botanical surveys planned in 2024.

3. Recommendations for Further Survey

3.1.1 The following further surveys, summarised in **Table 5,** are recommended.

Table 5: Recommendations for Further Survey

Survey	Scope	Survey Timing	Survey Extents
UKHab survey and habitat condition assessment to inform NBB	UKHab survey and habitat condition assessment will be carried out during the optimal survey season based on the following methodology: UKHab Classification (Ref 9) Natural England Biodiversity Metric 4.0 (Ref 10), and CIEEM PEA Guidance (Ref 1). Hedgerows within the Site would be surveyed against the landscape and wildlife important hedgerow criteria of the Hedgerow Regulations 1997(Ref 47). The survey will also reaffirm the potential habitats to support protected and/or notable fauna, including protected species, Species of Principal Importance (SOPI) and Local Biodiversity Action Plan species, specifically in association with the Proposed CO_2 Connection Corridor and Repurposed CO_2 Connection Corridor.	April - September 2024	Accessible terrestrial habitats within the Site plus up to 50 m (where accessible).

Survey	Scope	Survey Timing	Survey Extents
Botanical survey including National Vegetation Classification (NVC) surveys	Detailed botanical surveys including NVC where applicable, of the saltmarsh and sparsely vegetated urban land (possible OMH), will be completed in accordance with Rodwell (2006) (Ref 11).	May - July 2024	Accessible terrestrial habitats within the Site, specifically the Main Site, Water Connection Corridor, and C&IEA. Further surveys in association with the Proposed CO_2 Connection Corridor are to be confirmed following the PEA.
Wetland bird surveys	Year-round waterbird surveys over a 12-month period with a 4 visits made each month, following modified Wetland Bird (WeBS) methodology (Ref 12) utilising point and sector counts across various tidal states. The surveys are timed to take place at the appropriate high and low water periods to cover both spring and neap tides. Each month these survey visits include 2 nocturnal survey visits. The survey techniques in each month comprise a combination of walked transects and monitoring of key habitats, including the use of spotting scopes and thermal imaging cameras to record birds at night.	November 2023-October 2024	All land within the Site (specifically, the Main Site including the Water Connection Corridor, Proposed CO_2 Connection Corridor, Repurposed CO_2 Connection Corridor and C&IEA) and study area of estuary and saltmarsh habitats up to 1.5 km (as visibility allows).

Survey	Scope	Survey Timing	Survey Extents
Breeding bird surveys	Common Bird Census (CBC) methodology (Ref 13) of all terrestrial parts of the Site and surrounding saltmarsh habitats. The survey will comprise 5 monthly visits March to July, inclusive. The survey in each month would comprise a walked transect. An additional four visits April to June will also be conducted to identify the presence of any breeding wader species within the Site or intertidal habitats. These are target surveys, in addition to the wetland surveys, to monitor the most suitable habitats for waders in these locations. Approximate bird territories will be extrapolated from the survey data in accordance with the territory mapping methods based on Gilbert et al (1998) (Ref 14).	March 2024- July 2024 (one visit per month for five months); and April 2024 to June 2024 (an additional four visits)	All land within the Site (specifically, the Main Site including the Water Connection Corridor, Proposed CO_2 Connection Corridor and C&IEA) and study area of estuary and saltmarsh habitats up to 1.5 km (as visibility allows).
Great crested newt habitat suitability assessments including environmental DNA (eDNA)	A great crested newt habitat suitability index (HSI) will be completed at ponds on and within 500 m of the Site (where applicable). The HSI assessment will evaluate the suitability of accessible ponds for great crested newt based on methodology of Oldham et al (2000) (Ref 15). Water samples will also be taken from accessible ponds in accordance with the method of Briggs et al (2014) (Ref 39) and analysed for great crested newt eDNA at a laboratory approved by Natural Resource Wales. Further great crested newt population size class assessment survey may be required, depending on the results of the eDNA survey.	15th April to end of June 2024	Ponds within the Site (Main Site including Water connection Corridor, Proposed CO_2 Connection Corridor, Repurposed CO_2 corridor and C&IEA) plus up to 500 m where applicable.
Bats – Preliminary Roost Assessment (PRA)	Some buildings within the Site, specifically the Main Site comprising the Gas Treatment Plant, and Contractor Facilities are potentially proposed to be demolished, which may offer potential suitability to support roosting bats. Additionally, buildings to be retained may have potential for roosting bats and be indirectly impacted by the Proposed Development, for example the Above Ground Installation. Trees with within the C&IEA and along the access road to the power station have potential suitability to support roosting bats. A detailed daytime bat walkover will be carried out of the Site, comprising a PRA. The methodology will follow the Bat Conservation Trust (BCT) Good Practice Guidelines (Ref 17). Further bat roost presence / absence surveys and hibernation to be confirmed following the PRA.	Anytime of year	PRA of buildings and trees within the Site and up to 50 m, specifically the Main Site, C&IEA, the Proposed CO_2 Connection Corridor and Repurposed CO_2 connection corridor.

Survey	Scope	Survey Timing	Survey Extents
Bats – Foraging and Commuting	The habitats within the Site, specifically the Main Site including Water Connection Corridor, C&IEA, the Proposed CO_2 Connection Corridor and Existing CO_2 connection corridor are assessed as up to moderate suitability for foraging and commuting bats e.g., grassland, scrub, woodland, wetland habitats and hedgerows. To be confirmed following completion of the PRA). A night-time walkover will be carried out based upon BCT Guidelines (2023) (Ref 17). This comprises one survey visit per season (spring – April/May; summer – June/July/August; autumn – September/October). Additionally, automated / static bat detector surveys will be carried out, with data to be collected for a minimum of five consecutive nights per month (April to October) in appropriate (or the best available) weather conditions for bats. Detector locations would aim to provide a representative sample of all habitats in the Site that could be impacted by construction or operation activities.	April to October 2024	A night-time walkover of the Site to include walked transects three times per active season augmented with use of static detectors recording for five nights per season. Targeted habitats would be identified for the automated / static detector locations within the Site based on a representative sample of those habitats to be impacted (directly or indirectly) by construction or operation - locations to be confirmed following PRA.
Badger	[redacted] A badger survey will be carried out of the Site plus adjacent areas (where possible). Survey methodology will follow best practice guidelines (Ref 18 and Ref 19).	Anytime of year	The Site, plus up to 30 m study area (where accessible).
Otter	Otter survey of the Site and adjacent areas, with potential suitable terrestrial habitat to support otter e.g., the River Dee. The otter survey will be completed in accordance with best practice guidance (Ref 20, Ref 21 and Ref 22)	Anytime of year	The Site, focused on the River Dee and adjacent habitat within the Site, extending up to 200 m up and downstream (where applicable).
Water Vole	Water vole survey of the Site and adjacent areas, with potential suitable habitat to support otter and water vole i.e. three ponds adjacent to the Main Site and stream near the Repurposed CO_2 Connection Corridor and the Proposed CO_2 Connection Corridor. The water vole survey will be completed in accordance with best practice guidance (Ref 23)	Mid-April to end of June 2024 (survey one) July to end of September 2024 (survey two)	The Site, focused on the waterbodies within the Site.

Survey	Scope	Survey Timing	Survey Extents
Terrestrial invertebrates	Terrestrial invertebrate survey scope is to be confirmed following review of third-party data and scoping walkover by an entomologist. Targeted on habitats suitable for terrestrial invertebrates including OMH.	April - September	The Site.

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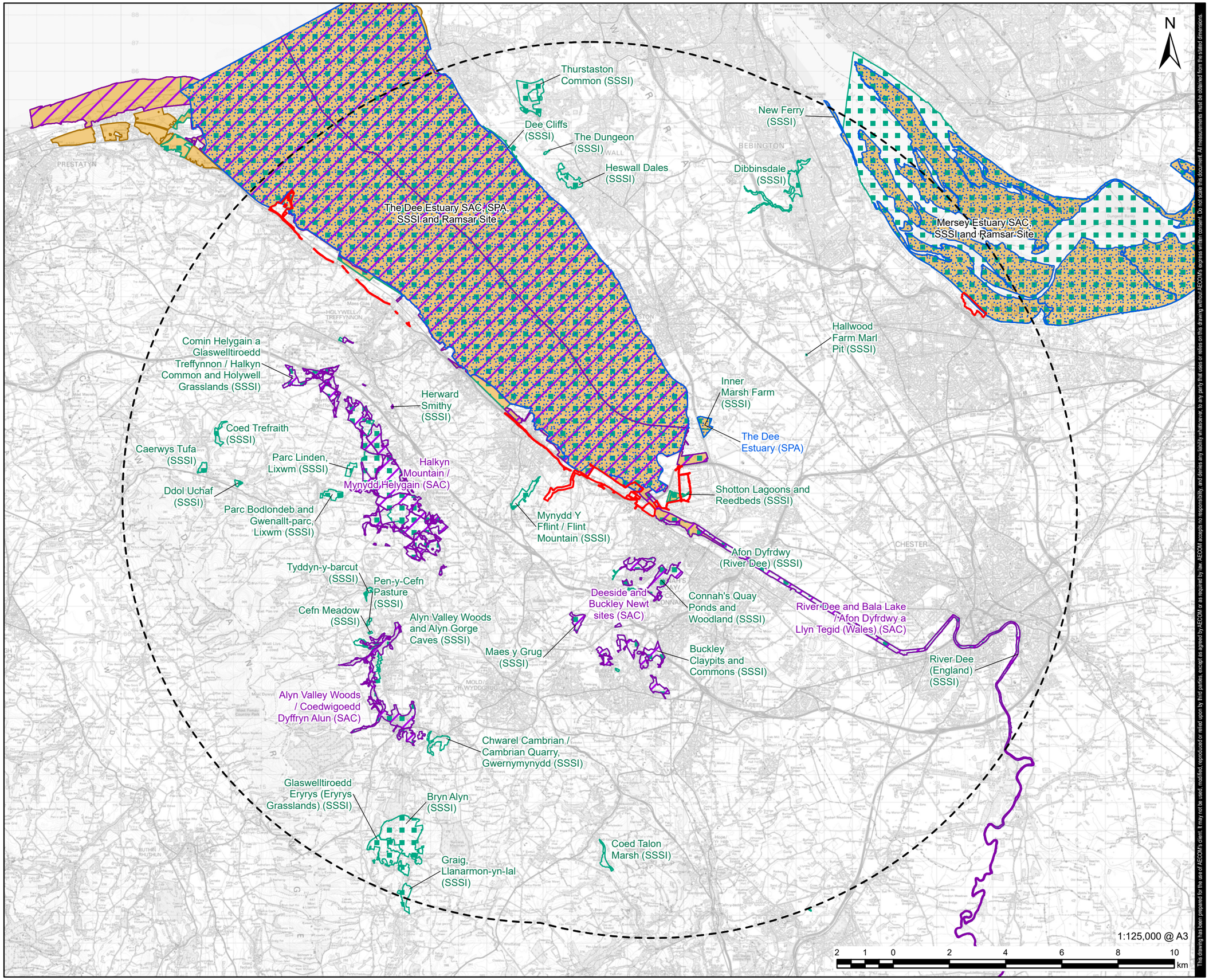
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Annex A: Figures

Revision: 0 Drawn: AG Checked: JG Approved: JC Date: 2024-09-13

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PROJECT

Connah's Quay Low Carbon Power

CLIENT

Uniper

CONSULTANT

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LEGEND

- Indicative Site Boundary
- 15km Study Area of Site Boundary (Excluding Temporary AIL Works)
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Ramsar

NOTES

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ISSUE PURPOSE

Preliminary Ecological Appraisal Report

PROJECT NUMBER

60717119

FIGURE TITLE

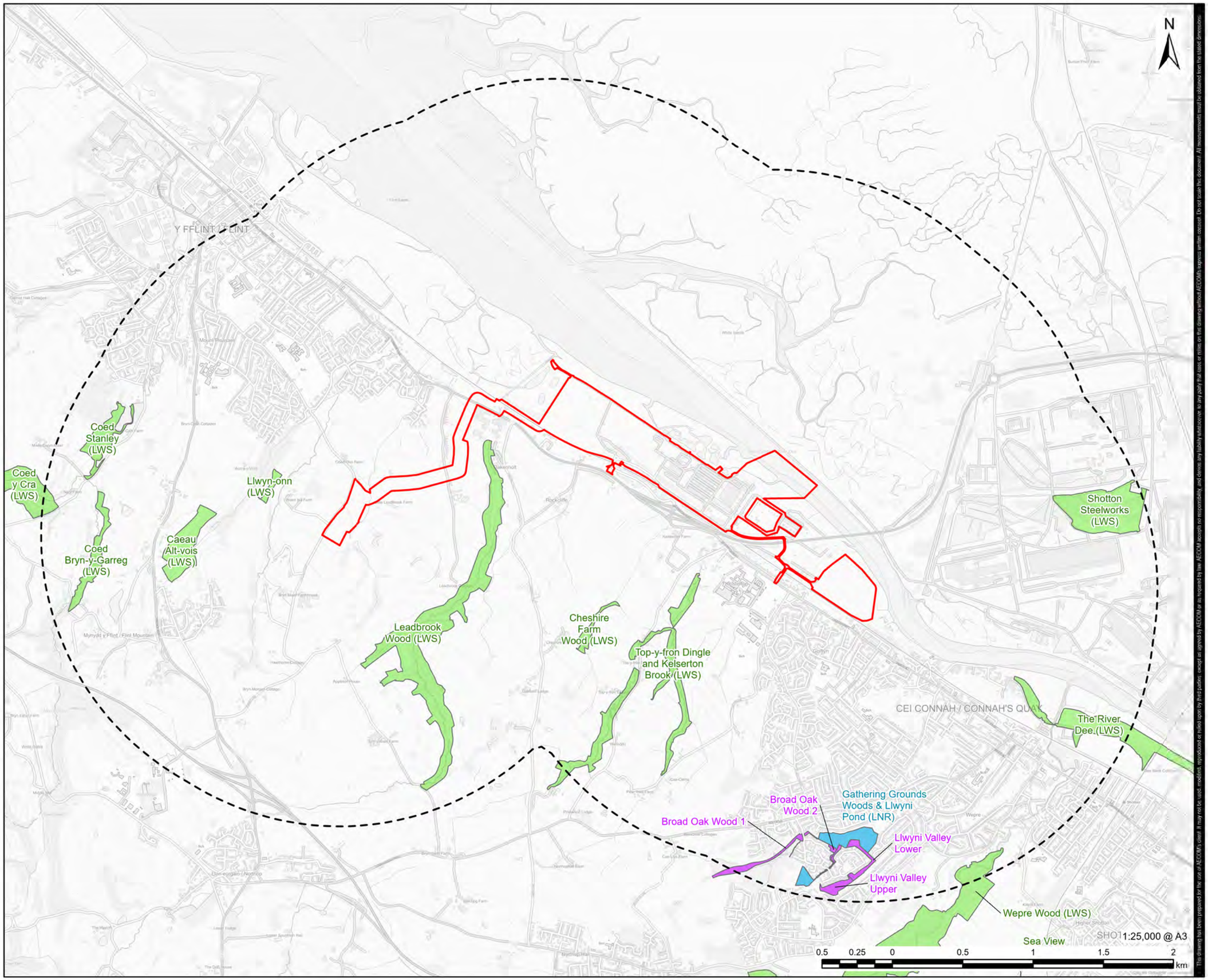
Statutory Designated Sites within 15 km of the Proposed Development

FIGURE NUMBER

Figure 11C-1

Revision: 0 Drawn: AG Checked: JG Approved: JC Date: 2024-09-13

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LEGEND

- Indicative Site Boundary (Excluding the Temporary AIL Work Areas)
- 2km Study Area of Site Boundary (Excluding Temporary AIL Works)
- Local Nature Reserve (LNR)
- Wild Ground Reserve
- Local Wildlife Site (LWS)

NOTES

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FIGURE TITLE

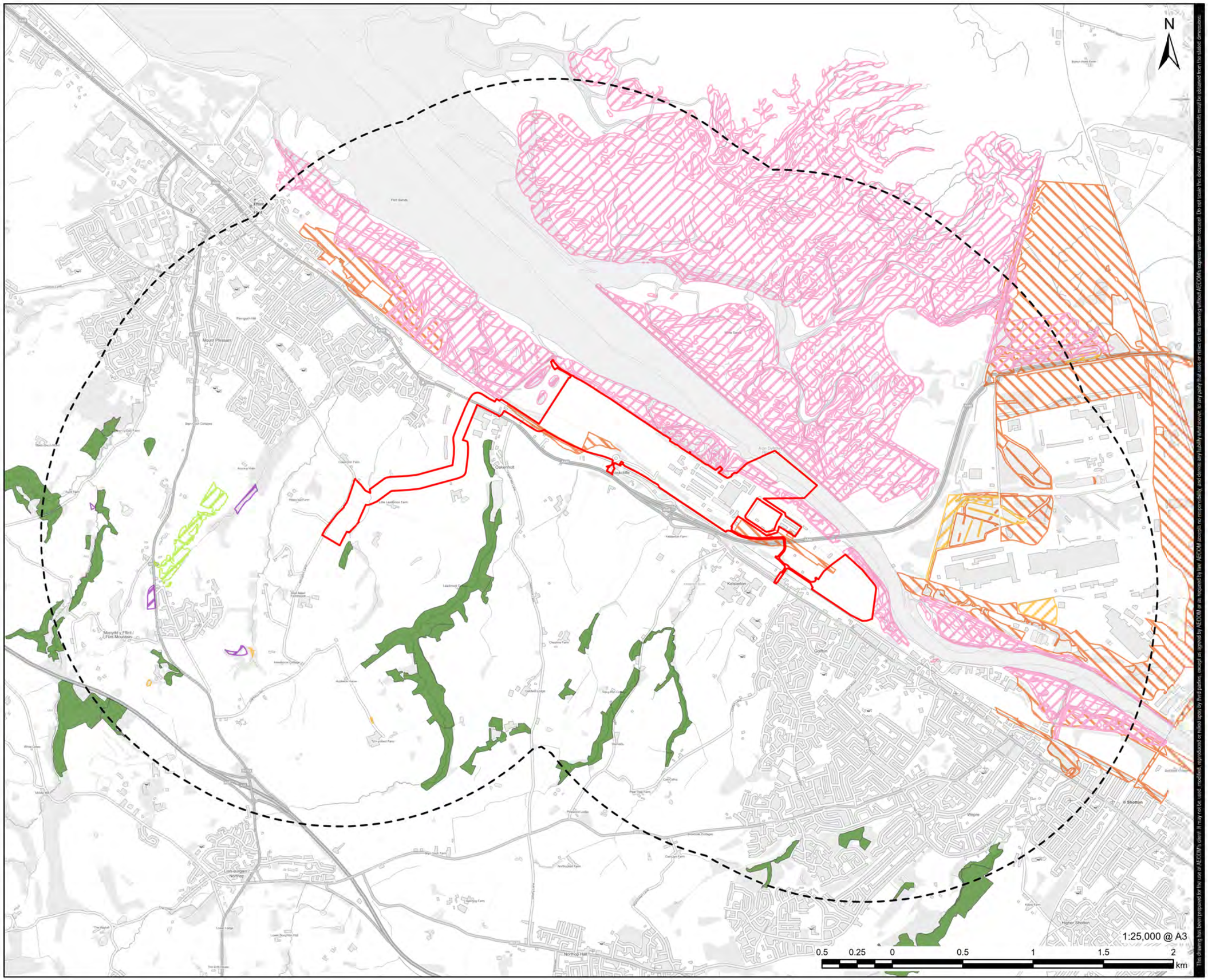
Local Designated Sites within 2km of the Proposed Development

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FIGURE NUMBER

Figure 11C-2

Revision: 0 Drawn: AG Checked: JG Approved: JC Date: 2024-09-13



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LEGEND

- Indicative Site Boundary (Excluding the Temporary AIL Work Areas)
- 2km Study Area of Site Boundary (Excluding Temporary AIL Works)
- Ancient Woodland

Priority Habitat:

- Coastal and Floodplain Grazing Marsh
- Lowland fens and Reedbeds
- Lowland meadows
- Purple moor grass and rush pastures
- Saltmarsh

NOTES

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FIGURE TITLE

Ancient Woodland and Priority Habitats within 2km

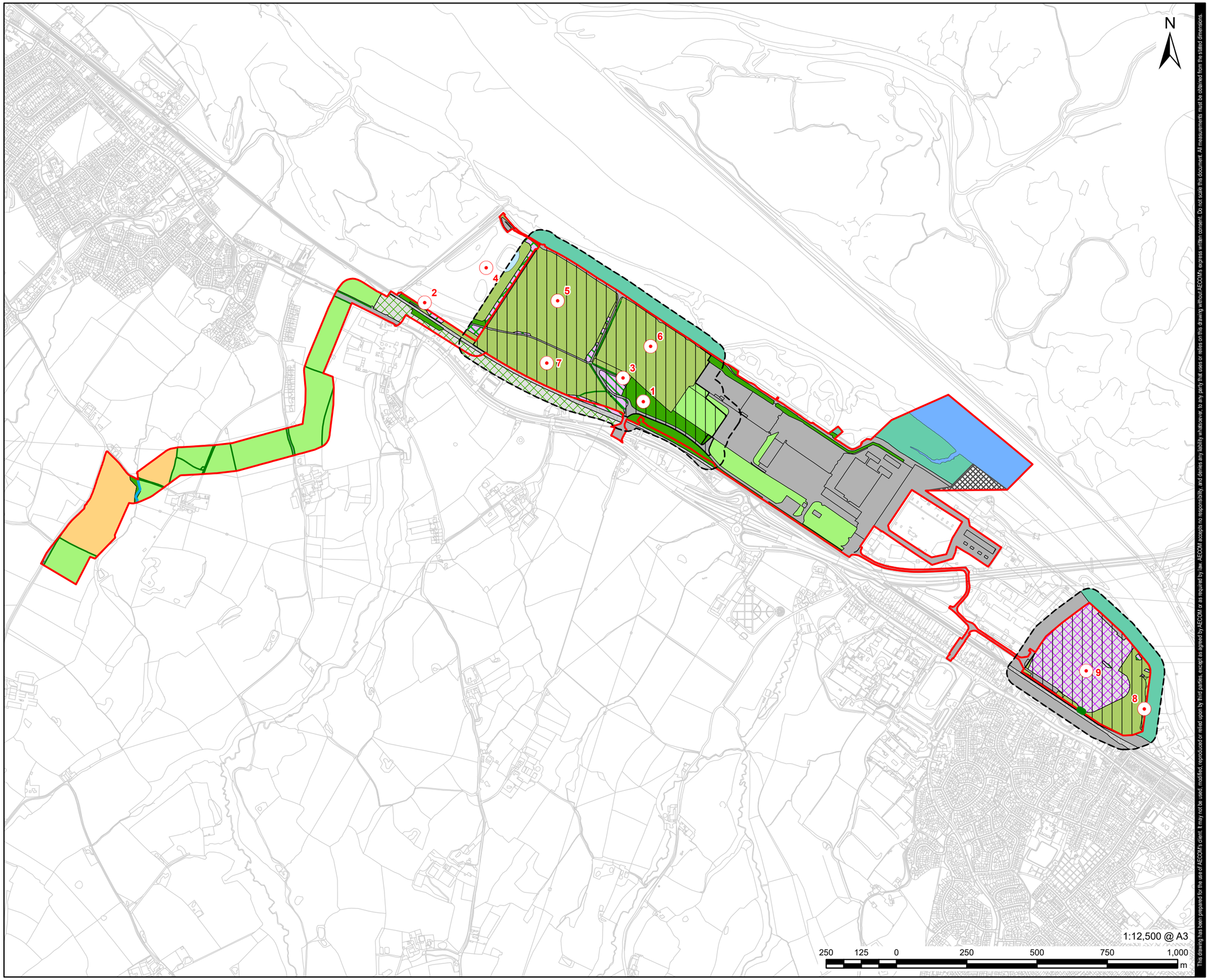
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Figure 11C-3

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Revision: 0 Drawn: LP Checked: AG Approved: JC Date: 2024-09-18

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Connah's Quay Low Carbon Power

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LEGEND

- Indicative Site Boundary (Excluding Temporary AIL Works)
- Area Accessed on Site
- 50m Buffer of the Area Accessed on Site
- Rural Tree
- Target Note
- Native hedgerow
- Other Rivers And Streams
- Coastal saltmarsh - Saltmarshes and saline reedbeds
- Cropland - Cereal crops
- Grassland - Bracken
- Grassland - Modified grassland
- Grassland - Other neutral grassland
- Heathland and shrub - Bramble scrub
- Heathland and shrub - Mixed scrub
- Urban - Artificial unvegetated, unsealed surface
- Urban - Developed land; sealed surface
- Urban - Open Mosaic Habitats on Previously Developed Land
- Urban - Vegetated garden
- Woodland and forest - Lowland mixed deciduous woodland
- Rivers
- Other Standing Water Ponds
- Area to be Surveyed in 2024

NOTES

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The Open Mosaic Habitat classification is subject to further survey.

ISSUE PURPOSE

Preliminary Ecological Appraisal Report

PROJECT NUMBER

60717119

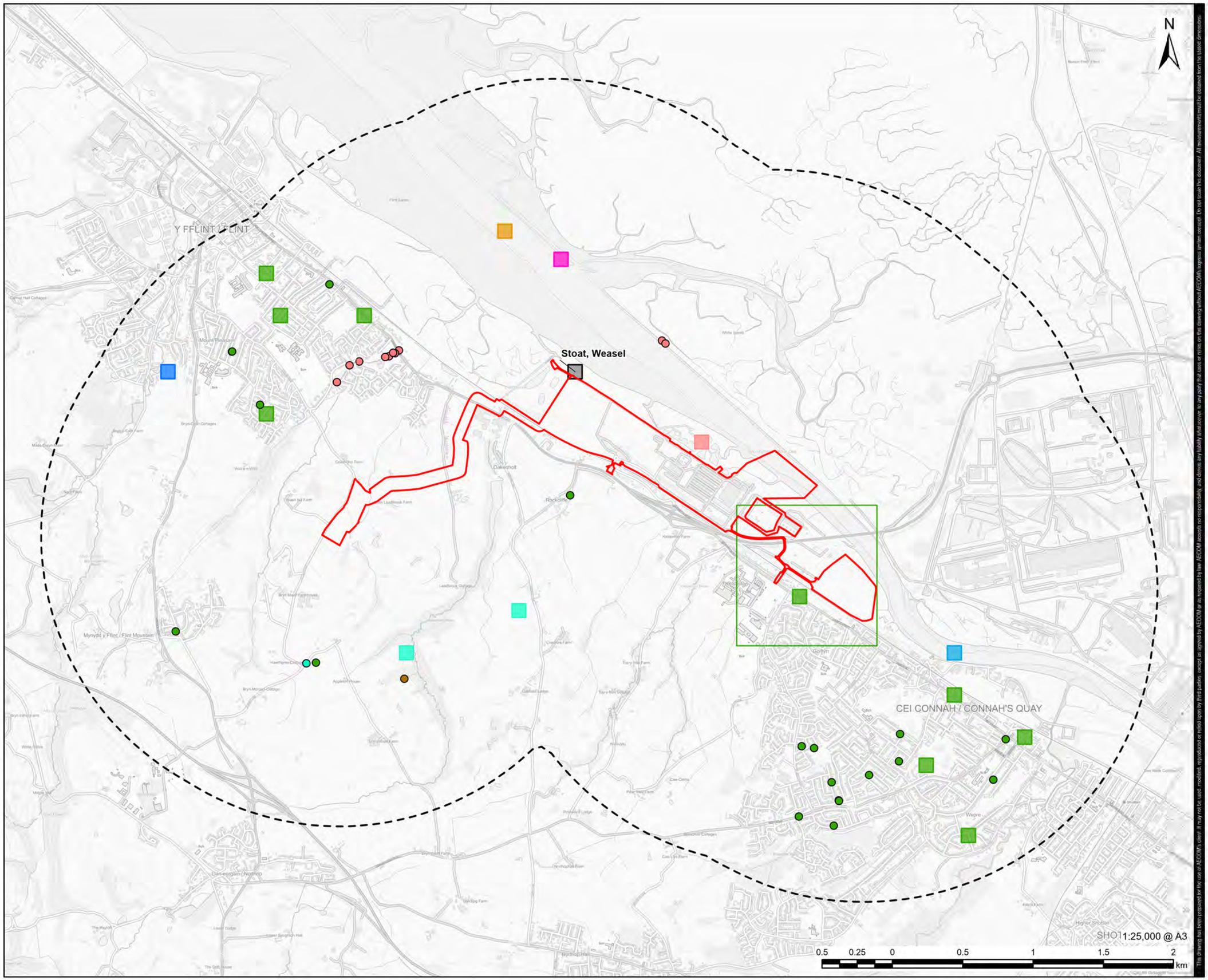
FIGURE TITLE

Indicative UK Habitats

FIGURE NUMBER

Figure 11C-4

Revision: 0 Drawn: AG Checked: JG Approved: JC Date: 2024-09-13



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PROJECT

Connah's Quay Low Carbon Power

CLIENT

Uniper

CONSULTANT

AECOM Limited
2 City Walk, Holbeck
Leeds
LS11 9AR
www.aecom.com

LEGEND

- Indicative Site Boundary (Excluding the Temporary AIL Work Areas)
- 2km Study Area of Site Boundary (Excluding Temporary AIL Works)

Category 1 Species

1m to 10m Accuracy

- Mammal - Hare
- Mammal - Hedgehog
- Mammal - Otter

100m Accuracy

- Mammal - Common Porpoise
- Mammal - Grey Seal
- Mammal - Hare
- Mammal - Hedgehog
- Mammal - Otter
- Mammal - True Seals
- Mammal - Water Vole
- Multiple Species Records (see label)

1km Accuracy

- Mammal - Hedgehog

Category 3 Species

1 to 10m Accuracy

- Mammal - Pygmy Shrew

NOTES

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ISSUE PURPOSE

Preliminary Ecological Appraisal Report

PROJECT NUMBER

60717119

FIGURE TITLE

Protected and Notable Species: Mammals

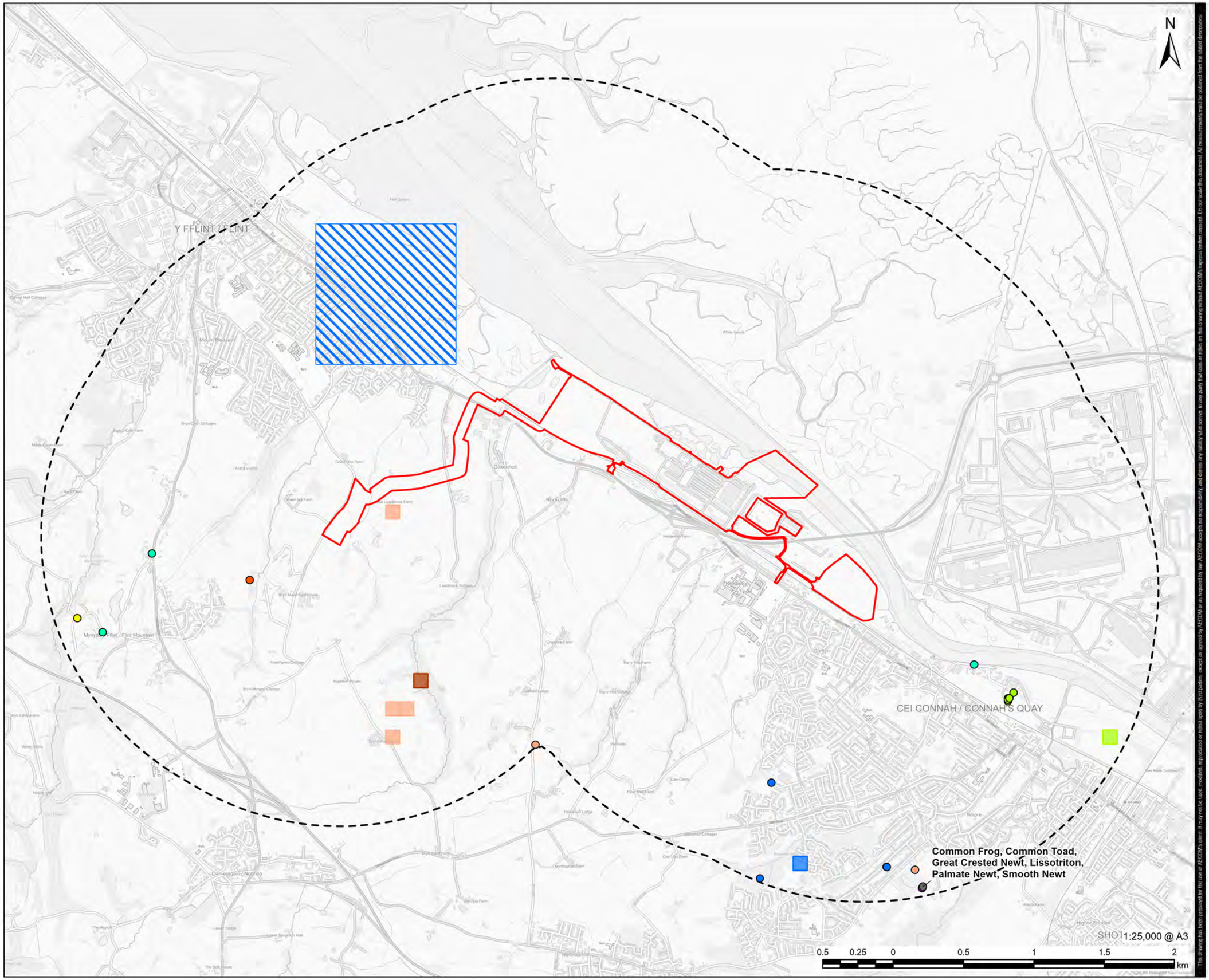
FIGURE NUMBER

Figure 11C-5a

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Revision: 0 Drawn: AG Checked: JG Approved: JC Date: 2024-09-13



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www.aecom.com

LEGEND

- Indicative Site Boundary (Excluding the Temporary AIL Work Areas)
- 2km Study Area of Site Boundary (Excluding Temporary AIL Works)

Category 1 Species

1m to 10m Accuracy

- Amphibian - Common Frog
- Amphibian - Common Toad
- Amphibian - Great Crested Newt
- Amphibian - Palmate Newt
- Amphibian - Smooth Newt
- Reptile - Common Lizard
- Reptile - Grass Snake
- Multiple Species Records (see label)

100m Accuracy

- Amphibian - Common Frog
- Amphibian - Great Crested Newt
- Fish - Brown Trout
- Reptile - Common Lizard

1km Accuracy

- Amphibian - Common Frog

NOTES

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PROJECT NUMBER

60717119

FIGURE TITLE

Protected and Notable Species: Reptiles, Amphibians, and Fish

FIGURE NUMBER

Figure 11C-5b

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Puccinia dioicae, Scots Pine

Charlock, Welsh Poppy

Common Aloe-moss, Garland Roundhead

Scots Pine, Sea-buckthorn

Charlock, Scots Pine, Sea-buckthorn

Charlock, Corn Mint, Scots Pine

Charlock, Scots Pine

Charlock, Welsh Poppy

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LEGEND

- Indicative Site Boundary (Excluding the Temporary AIL Work Areas)
- 2km Study Area (Excluding the Temporary AIL Work Areas)

Category 2 Species

1m to 10m Accuracy

- Flowering Plant - Chives
- Flowering Plant - Curved Hard-grass
- Flowering Plant - Strawberry Clover

100m Accuracy

- Flowering Plant - Bladder Campion
- Flowering Plant - Charlock
- Fungus - Hemlock Rust
- Fungus - Illosporiopsis christiansenii
- Fungus - Melampsora allii-fragilis

1km Accuracy

- Conifer - Scots Pine
- Flowering Plant - Bladder Campion
- Flowering Plant - Welsh Poppy
- Invasive Non-native Species - Sea-buckthorn
- Multiple Species Records (see label)

Category 3 Species

1m to 10m Accuracy

- Fungus - Agaricus subperonatus
- Invasive Non-native Species - Common Cord-grass

100m Accuracy

- Fungus - Cultivated Mushroom
- Fungus - Merismodes anomala
- Multiple Species Records (see label)

1km Accuracy

- Bryophyte - Common Aloe-moss
- Flowering Plant - R. x pratensis
- Invasive Non-native Species - Common Cord-grass

ISSUE PURPOSE

Preliminary Ecological Appraisal Report

PROJECT NUMBER

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FIGURE TITLE

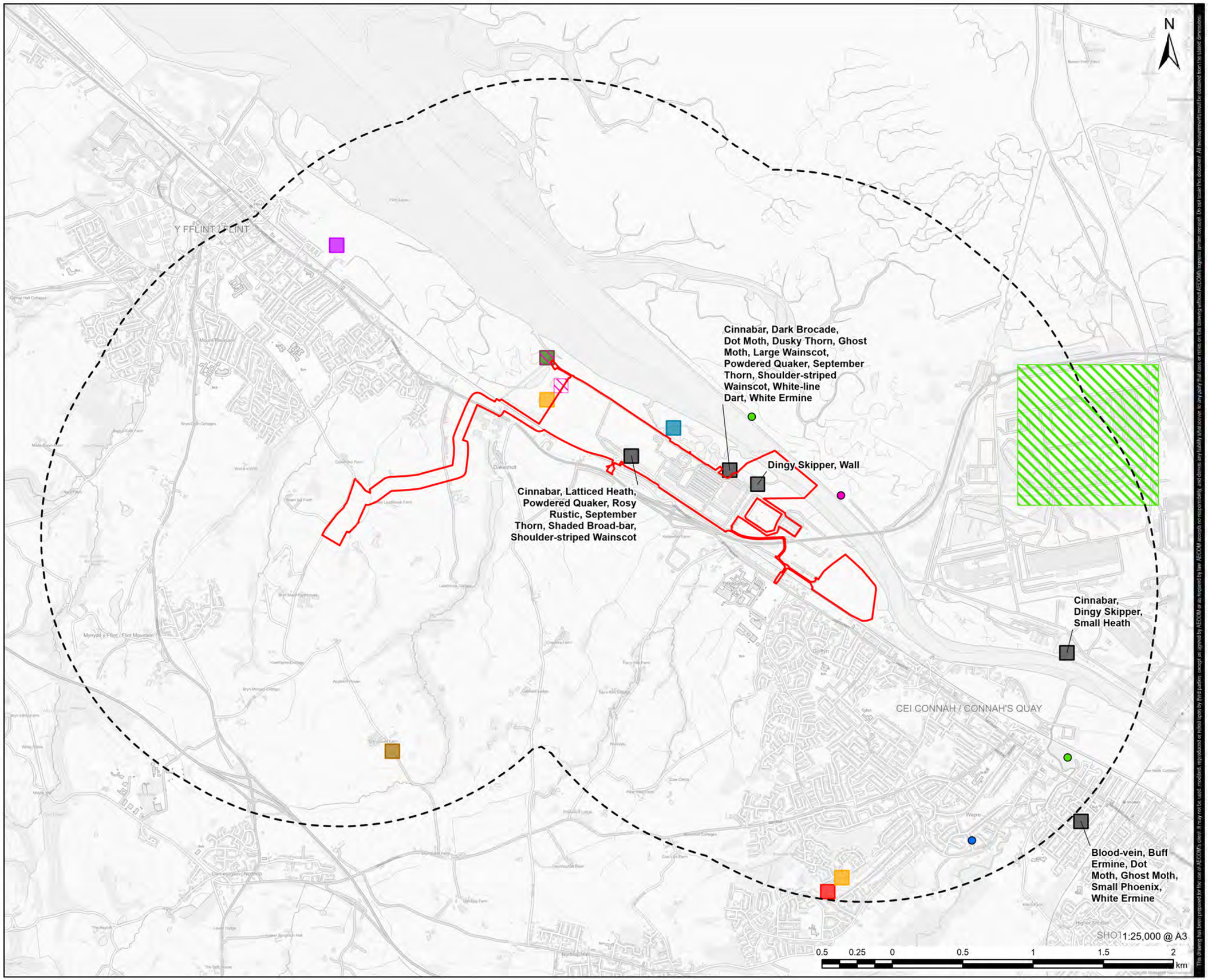
Protected and Notable Species: Vegetation

FIGURE NUMBER

Figure 11C-5c

Filename: C:\Users\Alex.Gillott\AECOM\Uniper Connah's Quay LCDP DCO - 920_GIS\02_Maps\PEAR\CQ_PEA_Fig05_ProtectedAndNotableSpecies_20240913_01.aprx

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LEGEND

- Indicative Site Boundary (Excluding the Temporary AIL Work Areas)
- 2km Study Area of Site Boundary (Excluding Temporary AIL Works)

Category 1 Species

1m to 10m Accuracy

- Invertebrate - Grayling
- Invertebrate - Small Heath
- Invertebrate - White-letter Hairstreak

100m Accuracy

- Invertebrate - Cinnabar
- Invertebrate - Oak Hook-tip
- Invertebrate - Wall
- Multiple Species Records (see label)

1km Accuracy

- Invertebrate - Small Heath

Category 2 Species

100m Accuracy

- Invertebrate - Alder Leaf Beetle

Category 3 Species

100m Accuracy

- Invertebrate - Buff-tailed Bumblebee
- Invertebrate - Dark Green Fritillary
- Invertebrate - Red-tailed Bumblebee

NOTES

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Preliminary Ecological Appraisal Report

PROJECT NUMBER

60717119

FIGURE TITLE

Protected and Notable Species: Invertebrates

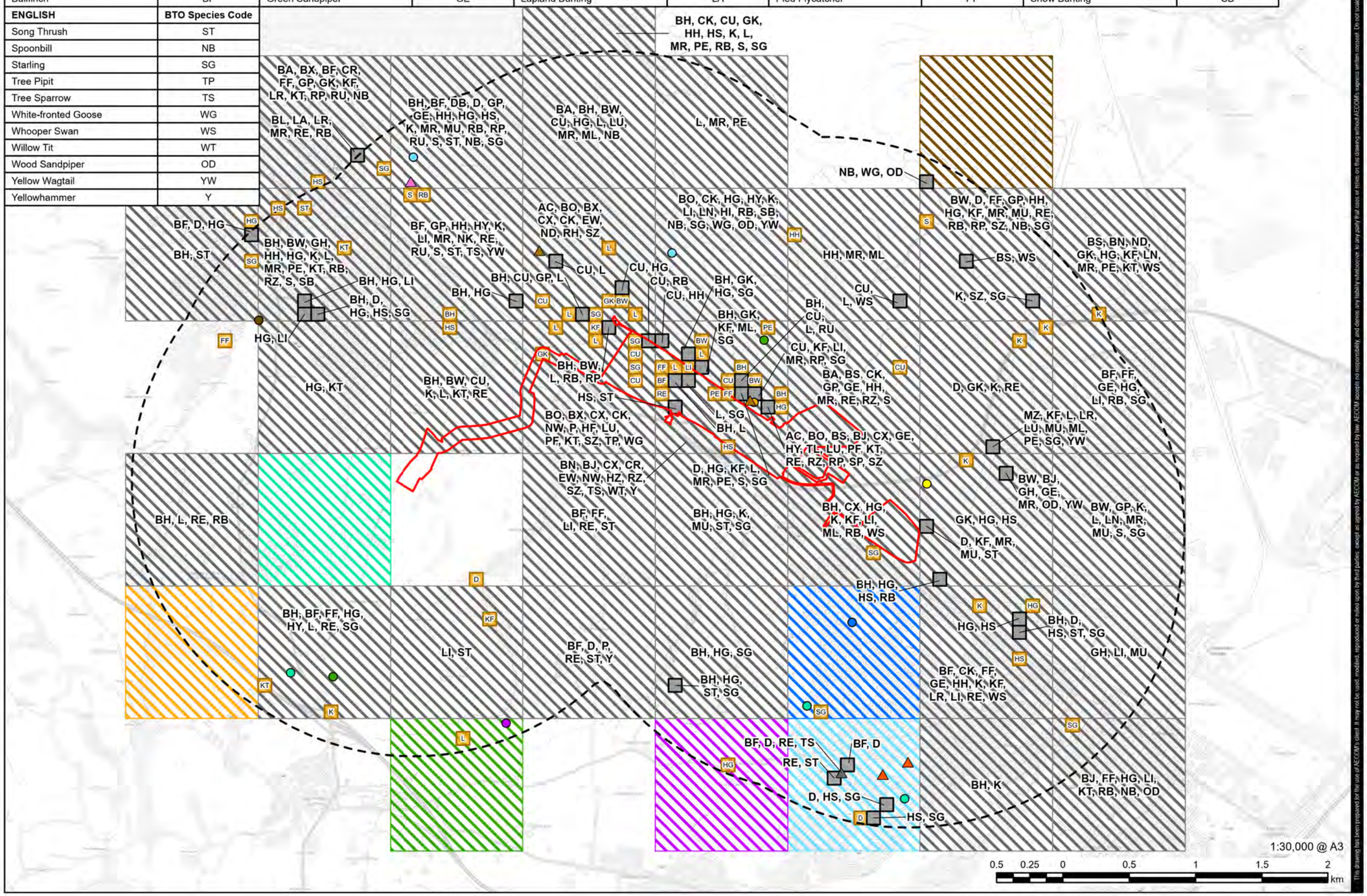
FIGURE NUMBER

Figure 11C-5d

Filename: C:\Users\Alex.Gillott\AECOM\Uniper Connah's Quay LCDP DCO - 920_GIS\02_Maps\PEAR\CQ_PEA_Fig05_ProtectedAndNotableSpecies_20240913_01.aprx

ENGLISH	BTO Species Code	ENGLISH	BTO Species Code	ENGLISH	BTO Species Code	ENGLISH	BTO Species Code	ENGLISH	BTO Species Code
Arctic Skua	AC	Common Scoter	CX	Greenland White-fronted Goose	NW	Lapwing	L	Red-necked Phalarope	NK
Bar-tailed Godwit	BA	Crossbill	CR	Greenshank	GK	Leach's Petrel	TL	Red-throated Diver	RH
Barn Owl	BO	Cuckoo	CK	Grey Partridge	P	Lesser Redpoll	LR	Red Kite	KT
Bee-eater	MZ	Curlew	CU	Hawfinch	HF	Linnet	LI	Redwing	RE
Bewick's Swan	BS	Dark-bellied Brent Goose	DB	Hen Harrier	HH	Little Gull	LU	Reed Bunting	RB
Black-headed Gull	BH	Dunnock	D	Herring Gull	HG	Long-tailed Duck	LN	Ring Ouzel	RZ
Black-necked Grebe	BN	European White-fronted Goose	EW	Hobby	HY	Marsh Harrier	MR	Ringed Plover	RP
Black-tailed Godwit	BW	Fieldfare	FF	Honey-buzzard	HZ	Mediterranean Gull	MU	Ruff	RU
Black Redstart	BX	Golden Plover	GP	House Sparrow	HS	Merlin	ML	Scaup	SP
Black Tern	BJ	Grasshopper Warbler	GH	Kestrel	K	Pallid Harrier	HI	Skylark	S
Brambling	BL	Great Northern Diver	ND	Kingfisher	KF	Peregrine	PE	Slavonian Grebe	SZ
Bullfinch	BF	Green Sandpiper	GE	Lapland Bunting	LA	Pied Flycatcher	PF	Snow Bunting	SB

ENGLISH	BTO Species Code
Song Thrush	ST
Spoonbill	NB
Starling	SG
Tree Pipit	TP
Tree Sparrow	TS
White-fronted Goose	WG
Whooper Swan	WS
Willow Tit	WT
Wood Sandpiper	OD
Yellow Wagtail	YW
Yellowhammer	Y



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PROJECT

Connah's Quay Low Carbon Power

CLIENT

Uniper

CONSULTANT

AECOM Limited
2 City Walk, Holbeck
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www.aecom.com

LEGEND

- Indicative Site Boundary (Excluding the Temporary AIL Work Areas)
- 2km Study Area of Site Boundary (Excluding Temporary AIL Works)

1m to 10m Accuracy

- Bird - Black-tailed Godwit
- Bird - Bullfinch
- Bird - Greenshank
- Bird - Hen Harrier
- Bird - Kestrel
- Bird - Lapwing
- Bird - Peregrine
- Bird - Red Kite
- Bird - Skylark
- Bird - Song Thrush
- Bird - Spoonbill
- Multiple Species Records (see label)

100m Accuracy

- Single Species Record (see label)
- Multiple Species Records (see label)

1km Accuracy

- Bird - Black-headed Gull
- Bird - Bullfinch
- Bird - Hen Harrier
- Bird - Herring Gull
- Bird - Lapwing
- Bird - Red Kite
- Bird - Reed Bunting
- Multiple Species Records (see label)

NOTES

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PROJECT NUMBER

60717119

FIGURE TITLE

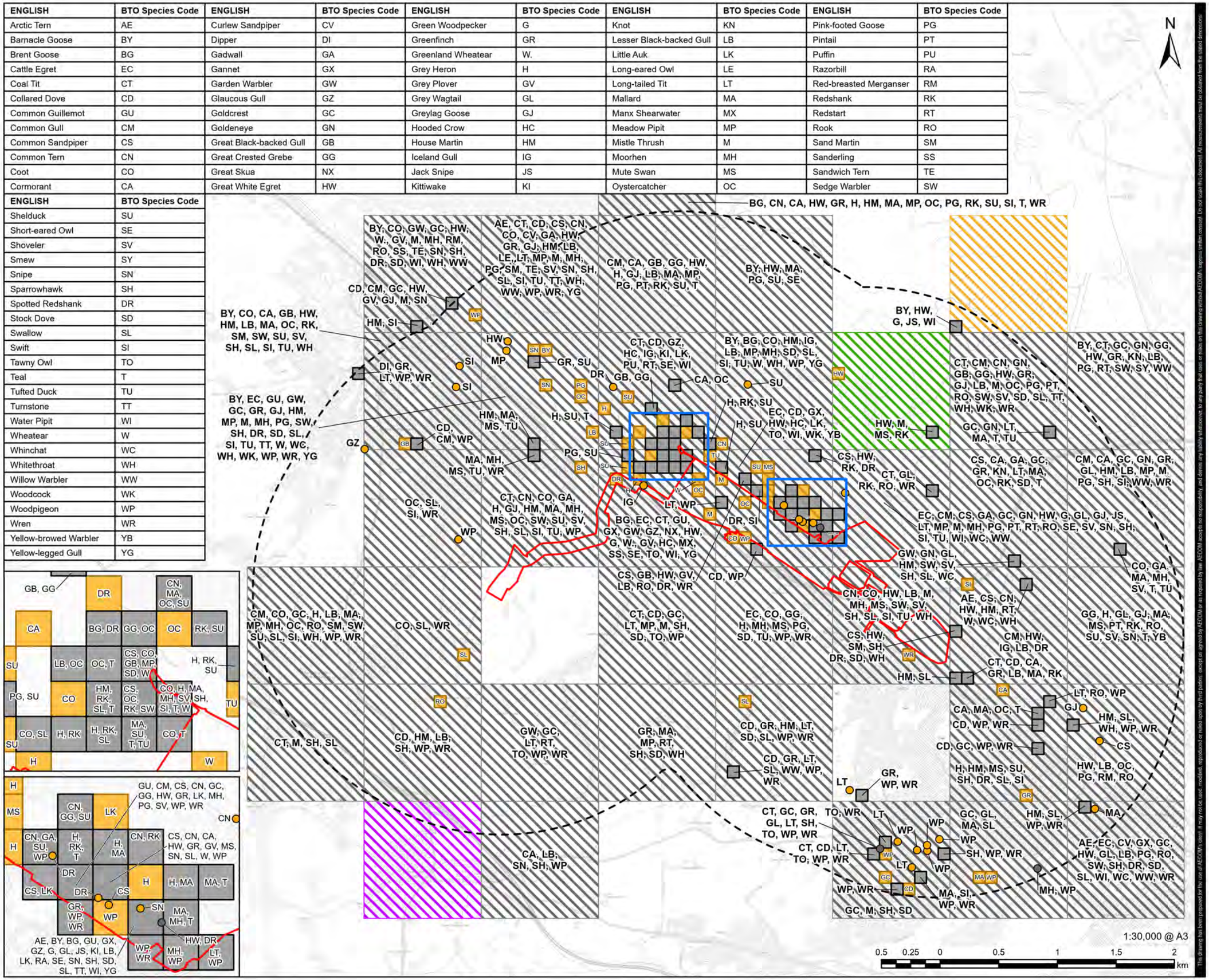
Protected and Notable Species: Category 1 Bird Species

FIGURE NUMBER

Figure 11C-5e

ENGLISH	BTO Species Code	ENGLISH	BTO Species Code	ENGLISH	BTO Species Code	ENGLISH	BTO Species Code	ENGLISH	BTO Species Code
Arctic Tern	AE	Curlew Sandpiper	CV	Green Woodpecker	G	Knot	KN	Pink-footed Goose	PG
Barnacle Goose	BY	Dipper	DI	Greenfinch	GR	Lesser Black-backed Gull	LB	Pintail	PT
Brent Goose	BG	Gadwall	GA	Greenland Wheatear	W.	Little Auk	LK	Puffin	PU
Cattle Egret	EC	Gannet	GX	Grey Heron	H	Long-eared Owl	LE	Razorbill	RA
Coal Tit	CT	Garden Warbler	GW	Grey Plover	GV	Long-tailed Tit	LT	Red-breasted Merganser	RM
Collared Dove	CD	Glaucous Gull	GZ	Grey Wagtail	GL	Mallard	MA	Redshank	RK
Common Guillemot	GU	Goldcrest	GC	Greylag Goose	GJ	Manx Shearwater	MX	Redstart	RT
Common Gull	CM	Goldeneye	GN	Hooded Crow	HC	Meadow Pipit	MP	Rook	RO
Common Sandpiper	CS	Great Black-backed Gull	GB	House Martin	HM	Mistle Thrush	M	Sand Martin	SM
Common Tern	CN	Great Crested Grebe	GG	Iceland Gull	IG	Moorhen	MH	Sanderling	SS
Coot	CO	Great Skua	NX	Jack Snipe	JS	Mute Swan	MS	Sandwich Tern	TE
Cormorant	CA	Great White Egret	HW	Kittiwake	KI	Oystercatcher	OC	Sedge Warbler	SW

ENGLISH	BTO Species Code
Shelduck	SU
Short-eared Owl	SE
Shoveler	SV
Smew	SY
Snipe	SN
Sparrowhawk	SH
Spotted Redshank	DR
Stock Dove	SD
Swallow	SL
Swift	SI
Tawny Owl	TO
Teal	T
Tufted Duck	TU
Turnstone	TT
Water Pipit	WI
Wheatear	W
Whinchat	WC
Whitethroat	WH
Willow Warbler	WW
Woodcock	WK
Woodpigeon	WP
Wren	WR
Yellow-browed Warbler	YB
Yellow-legged Gull	YG



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LEGEND

- Indicative Site Boundary (Excluding the Temporary AIL Work Areas)
- 2km Study Area of Site Boundary (Excluding Temporary AIL Works)

1m to 10m Accuracy

- Single Species Record (see label)
- Multiple Species Records (see label)

100m Accuracy

- Single Species Record (see label)
- Multiple Species Records (see label)

1km Accuracy

- Bird - Great White Egret
- Bird - Grey Heron
- Bird - Short-eared Owl
- Multiple Species Records (see label)

NOTES

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PROJECT NUMBER

60717119

FIGURE TITLE

Protected and Notable Species: Category 2 Bird Species

FIGURE NUMBER

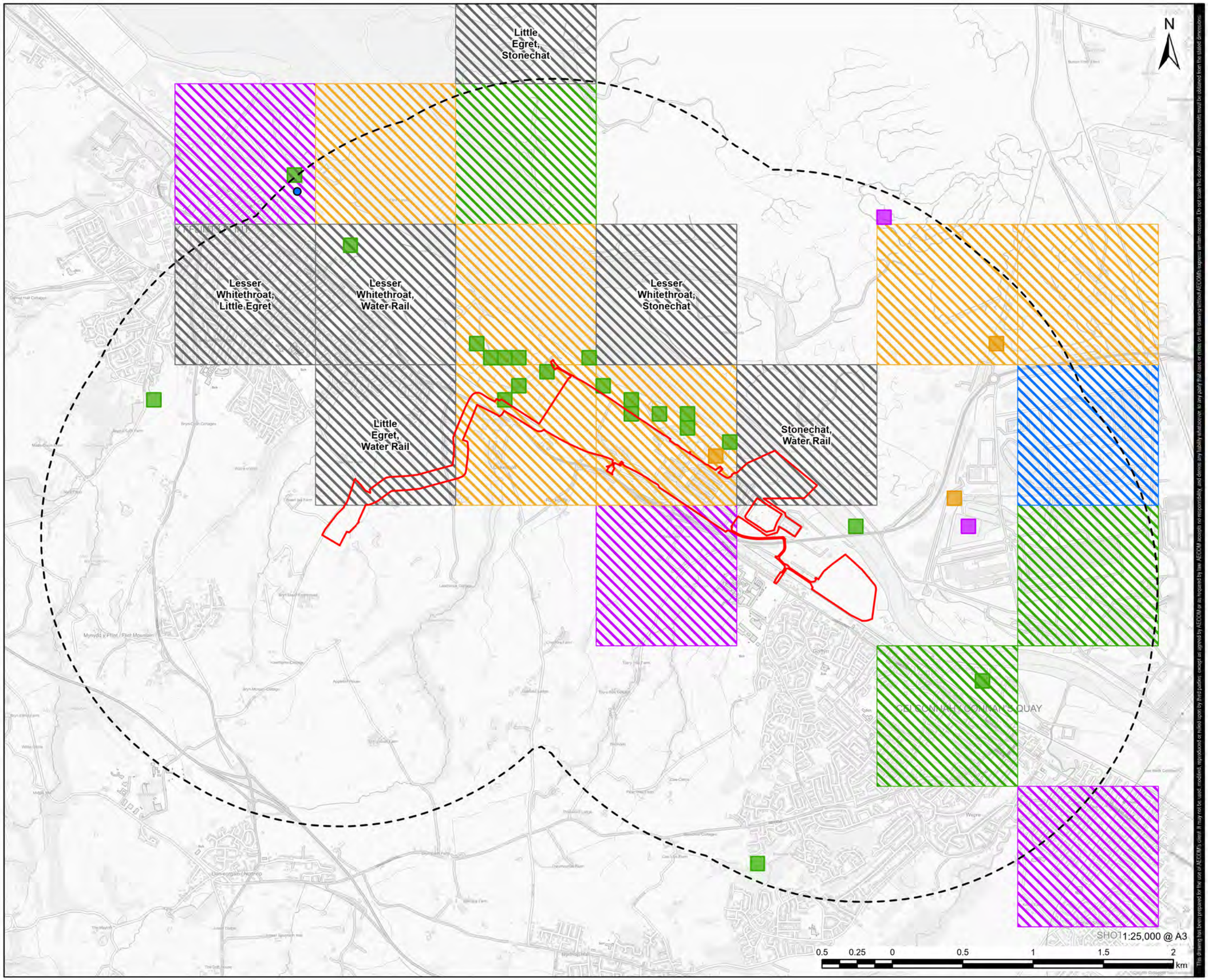
Figure 11C-5f

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CONSULTANT

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2 City Walk, Holbeck
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www.aecom.com

LEGEND

- Indicative Site Boundary (Excluding the Temporary AIL Work Areas)
- 2km Study Area of Site Boundary (Excluding Temporary AIL Works)

1m Accuracy

- Bird - Stonechat

100m Accuracy

- Bird - Lesser Whitethroat
- Bird - Little Egret
- Bird - Water Rail

1km Accuracy

- Bird - Lesser Whitethroat
- Bird - Little Egret
- Bird - Stonechat
- Bird - Water Rail
- Multiple Species Records (see label)

NOTES

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PROJECT NUMBER

60717119

FIGURE TITLE

Protected and Notable Species: Category 3 Bird Species

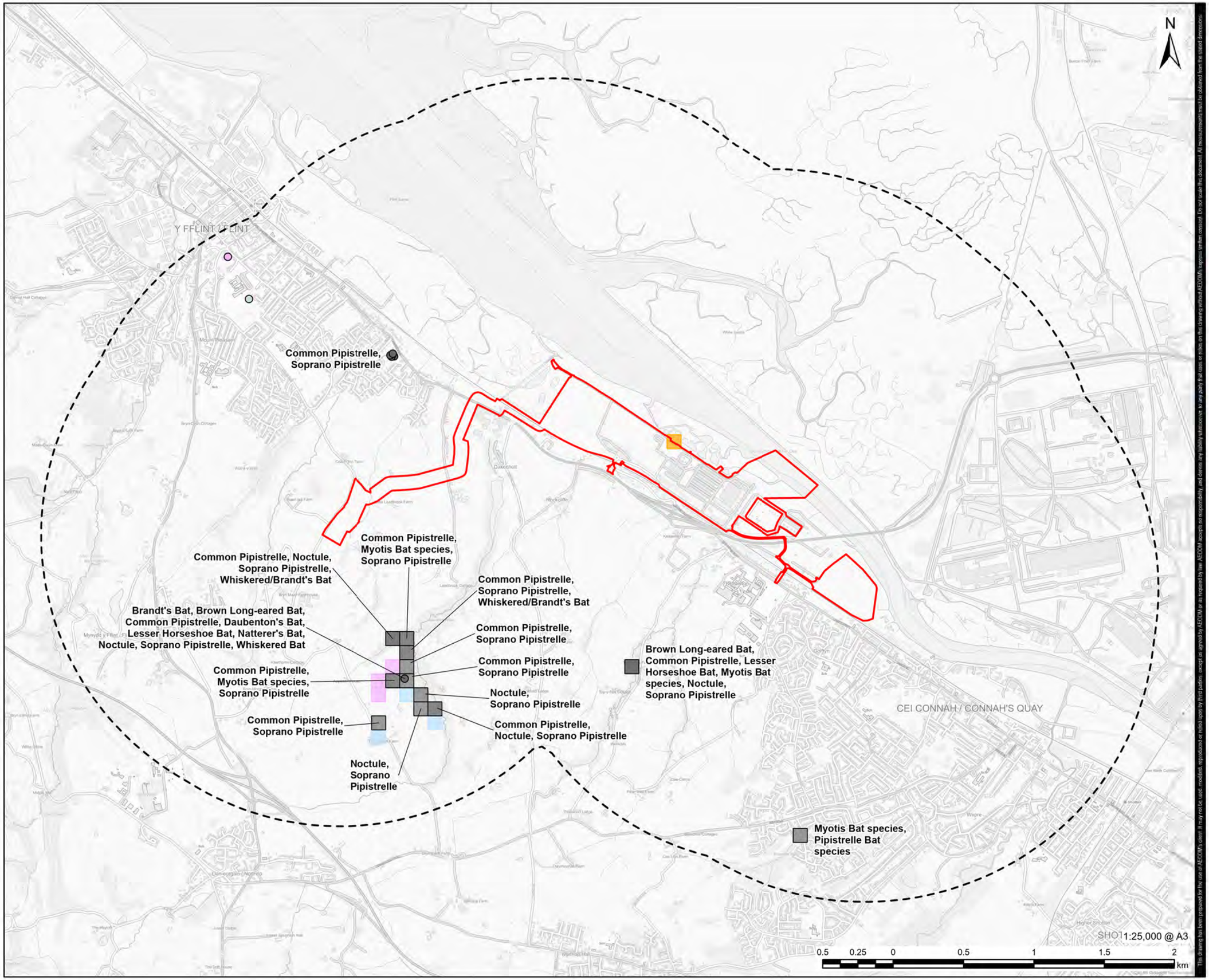
FIGURE NUMBER

Figure 11C-5g

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LEGEND

- Indicative Site Boundary (Excluding the Temporary AIL Work Areas)
- 2km Study Area of Site Boundary (Excluding Temporary AIL Works)

Category 1 Species

1m to 10m Accuracy

- Bat - Common Pipistrelle
- Bat - Pipistrelle Bat species
- Multiple Species Records (see label)

100m Accuracy

- Bat - Daubenton's Bat,100
- Bat - Common Pipistrelle,100
- Bat - Soprano Pipistrelle
- Multiple Species Records (see label)

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PROJECT NUMBER

60717119

FIGURE TITLE

Protected and Notable Species: Bats

FIGURE NUMBER

Figure 11C-5h

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Annex B: Relevant Legislation and Planning Policy

Legislation

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

The Secretary of State for the Environment, Food and Rural Affairs and Welsh Ministers have made changes to parts of the Conservation of Habitats and Species Regulations 2017 (referred to as the 2017 Habitats Regulations) (Ref 40) so that they operate effectively. Most of these changes involve transferring functions from the European Commission to the appropriate authorities in Wales. All other processes or terms in the 2017 Habitats Regulations remain unchanged and existing guidance is still relevant.

Designated Sites

Special Protection Areas (SPA) / Special Areas of Conservation (SAC)

These sites in the UK no longer form part of the EU's Natura 2000 ecological network. The *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019* (referred to as the 2019 Regulations) (Ref 41) have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes:

- existing SACs and SPAs
- new SACs and SPAs designated under these Regulations

Any references to Natura 2000 in the 2017 Habitats Regulations and in guidance now refer to the new national site network.

Formal Appropriate Assessment is required to be undertaken by the competent authority (in the case of this application, the Secretary of State) before undertaking, or giving consent, permission or other authorisation for any work which are likely to have a significant effect on such a site.

Wetland of International Importance (Ramsar site)

Designated under the Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971 (the Ramsar Convention) (Ref 42), in the UK, these sites are treated as having the same level of protection as SPAs and SACs.

Sites of Special Scientific Interest

Under the Wildlife and Countryside Act 1981 (as amended) (Ref 43), it is an offence to carry out or permit to be carried out any operations likely to damage the Site of Special Scientific Interest (SSSI). These operations are listed in the SSSI notification.

Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate consent under section 28 of the Wildlife and Countryside Act 1981 (as amended) (Ref 43), before undertaking operations likely to damage a SSSI.
National Nature Reserve

National Nature Reserves (NNR) are established under the National Parks and Access to the Countryside Act 1949 (Ref 44). Most NNRs are also underpinned by SSSIs and are therefore protected by the measures detailed above. For NNRs not underpinned by SSSIs it is still an offence to carry out or permit to be carried out any potentially damaging operation.

NNRs are given protection through policies in a local development plan.

Local Nature Reserve

A Local Nature Reserve (LNR) is a statutory designation made under National Parks and Access to the Countryside Act 1949 (Ref 44), by principal local authorities (district, borough or unitary councils).

The local authority must control the LNR land - either through ownership, a lease, or an agreement with the owner.

LNRs are given protection through policies in a local development plan.

Locally Designated Sites

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

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

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

Protected Species

Bats / Hazel Dormouse / Otter / Great Crested Newt / Smooth Snake / Sand Lizard / Natterjack Toad

These species, known as European Protected Species, are protected under Regulation 43 of the 2017 Habitats Regulations as amended by the 2019 Regulations (Ref 41). This makes it an offence to deliberately capture, injure or kill an animal; deliberately disturb an animal; or damage or destroy a breeding site or resting place used by an animal.

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

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

These species are also protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (Ref 43). This makes it an offence to intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb an animal in such a place.

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

Water Vole

Water voles are protected under the Wildlife and Countryside Act 1981 (as amended) (Ref 43). There are no licensing purposes that explicitly cover development or other construction activities which could have an impact on water voles.

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

Where impacts cannot be avoided, operations aimed at displacing water voles from a development site are now no longer covered by the "*incidental result of an otherwise lawful action*" defence in the Wildlife and Countryside Act 1981 (as amended) (Ref 43). Displacement of water voles now needs to be undertaken under a licence.

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

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

Nesting Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) (Ref 43), with some species afforded greater protection under Schedule 1 of the

Wildlife and Countryside Act 1981 (as amended) (Ref 43). In addition to the protection from killing or taking that all birds receive, Schedule 1 birds and their young must not be disturbed at the nest.

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

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

Common species of reptile are protected against intentional killing and injury under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (Ref 43). There is no requirement for a licence where development works affect common species of reptiles. Instead, where reptiles are present, they should be protected from any harm that might arise during the development works through appropriate mitigation.

Badger

Badgers and their setts are protected under the Protection of Badgers Act 1992 (as amended) (Ref 45). This makes it an offence to wilfully kill, injure or take a badger; or intentionally or recklessly damage, destroy or obstruct access to a badger sett or disturb a badger in its sett.

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

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

Natural Resources Wales provide guidance on working close to badger setts and the methods that can be employed to avoid or minimise impacts to active badger setts (Ref 24).

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

Species and Habitats of Principal Importance for the Conservation of Biodiversity

Section 7 of the Environment (Wales) Act 2016 (Ref 46) replaces the duty in section 42 of the Natural Environment and Rural Communities (NERC) Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.

The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section and encourage others to take such steps.

Part 1 of the Act, including Sections 6 and 7, came into force on 21 May 2016.

Hedgerows

Under the Hedgerows Regulations 1997 (Ref 47), it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. In general, permission will be required before removing hedges that are at least 20 metres in length, over 30 years old and contain certain species of plant. The local planning authority will assess the importance of the hedgerow using criteria set out in the regulations.

Non-native Invasive Species

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

Any contaminated soil or plant material is classified as controlled waste and should be disposed of in a suitably licensed landfill site, accompanied by appropriate Waste Transfer documentation, and must comply with section 34 of the Environmental Protection Act 1990 (Ref 48).

Planning Policy

Planning Policy Wales

Planning Policy Wales (PPW) (2024) (Ref 49) explains that planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions so that development does not cause any significant loss of habitats or populations of species, locally or nationally and 'must provide a net benefit for biodiversity'. PPW also notes that ancient woodland and individual ancient and veteran trees are irreplaceable habitat and should be afforded protection from development unless there are significant and clearly defined public benefits.

Local Planning Policy

The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)' (Ref 25). The following policies are relevant to the EcIA:

- Policy STR13: Natural and Built Environment, Green Networks and Infrastructure;
- Policy EN2: Green Infrastructure;
- Policy EN3: Undeveloped Coast and Dee Estuary Corridor;
- Policy EN6: Site of Biodiversity Importance; and
- Policy EN7: Development Affecting Trees, Woodland and Hedgerows.

Local Biodiversity Action Plans

The Flintshire Biodiversity Strategy is set out on the Flintshire Biodiversity Action Plan (FBAP) (Ref 26).

Annex C: Methodology

Desk Study

Background Records Search

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

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

The Multi-Agency Geographic Information for the Countryside (MAGIC) website (Ref 2) was reviewed for the following information:

- designated sites of nature conservation importance (statutory sites only) within 2 km of the Site. This was extended to 15 km for internationally designated sites: Special Protection Areas (SPAs), Wetlands of International Importance (Ramsar sites) Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSIs); and,
- notable habitats within 2 km of the Site, these being areas of ancient woodland and 'Habitats of Principal Importance for the Conservation of Biodiversity' included in Section 7 of the Environment (Wales) Act 2016.
- historic European protected species licence information within 2 km of the Site where it is within England (this data is not available for Wales).

The following data was requested from the North Wales Local Environmental Records Centre (Cofnod):

- non-statutory designated sites of nature conservation importance within 2 km of the Site
- records of protected and notable species within 2 km of the Site.

Aerial habitat survey

The habitats within areas of the Site boundary not covered by the field surveys were identified using publicly available aerial mapping sources such as Google Earth since land access had not been agreed at the time of survey (Ref 27).

Field Survey

A site-walkover to survey habitats within the Main Site and C&IEA boundary and a buffer of up to 50 m to re-affirm habitats on the ground with reference to existing baseline surveys (see Section 3), the UK Habitat Classification (Ref 9) and the CIEEM guidelines for Preliminary Ecological Appraisal (PEA) (Ref 1).

The Habitat Survey was also used to re-affirm the potential of habitats to support protected and/or notable fauna, including protected species, Species of Principal Importance and local Biodiversity Action Plan (BAP) species. Any field signs and direct sightings of protected or notable species and any invasive species noted during the survey were also recorded using the following methodologies:

- Badger: the survey involves assessing the potential of habitats within the survey area to support badger, following the methodology detailed in Scottish Badgers (2018), Harris et al (1989) and Badger Trust (2023) (Ref 18, Ref 19, and Ref 30);
- Bats: the survey involves assessing the potential of habitats within the survey area to support bats, in accordance with Bat Conservation Trust (BCT) guidance (2023) (Ref 17);
- Hazel dormouse: the survey involves assessing the potential of habitats within the survey area to support hazel dormouse, following English Nature guidance (2006) (Ref 32);
- Otter: the survey involves assessing the potential of watercourses and water bodies, and adjacent terrestrial habitat within the survey area to support otter, following RSPB (1994) and Chanin, P. (2003) guidance (Ref 20 and Ref 34);
- Water vole: the survey involves assessing the potential of watercourses and water bodies within the survey area to support water vole, following The Mammal Society (2016) guidance (Ref 23);
- Birds: the survey involves assessing the potential of habitats within the survey area to support breeding, wintering or migrating birds, either individually notable species or assemblages of both common and rarer species;
- Great crested newt: the survey involves assessing the potential of habitats within the survey area to support great crested newt, following English Nature (2001) and Froglife (2001) guidance (Ref 34 and Ref 35);
- Reptiles: the survey involves assessing the potential of habitats within the survey area to support reptiles (typically adder, grass snake, common lizard and slow worm only, though in some locations and habitat types (most notably heathland) may also include smooth snake and sand lizard), following Froglife (1999) and JNCC (2003) guidance (Ref 36 and Ref 3);
- notable species of invertebrate: the survey involves assessing the potential of habitats within the survey area to support notable species of invertebrates, both terrestrial and aquatic (including white-clawed crayfish);
- protected or notable species of plants: the survey involves recording protected or notable plant species;
- other notable species: the survey involves assessing the potential of habitat within the survey area to support other Notable Species, such as hedgehog, brown hare, polecat or common toad;

- non-native invasive plant species: the survey involves recording evidence of the presence of invasive plants listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and subject to strict legal control.

Limitations and Assumptions

- this PEA (June 2024) is a point in time appraisal of the indicative land required for the Proposed Development utilising data gathered up to March 2024, as detailed in this report .
- the data informing the advice given in this PEA report cannot be relied on indefinitely, however, "*it is difficult to set a specific timeframe over which reports, or survey data should be considered valid, as this will vary in different circumstances*" (Ref 1).
- it was not possible to directly access the areas of salt marsh (on health and safety grounds and to avoid disturbance to foraging and roosting birds) to the north of the survey area. Further surveys are recommended of this area.
- some field signs associated with fauna may not have been identified, but that sufficient information was gathered to evaluate habitats and features and provide recommendations for further survey and outline recommendations for mitigation.
- the field survey was conducted in November so many plant species may have died off and not been present at the time of the survey. Detailed botanical survey are recommended in 2024.

Annex D: Target Notes and Photos

Target Note (Reference to Figure 11C-4 in Annex A)	Description	Photo
TN1	Woodland corridor suitable for commuting bats (tree roost potential assessment needed) and nesting, foraging and sheltering birds, [redacted]	
TN2	Woodland corridor suitable for commuting bats (tree roost potential assessment needed) and nesting, foraging and sheltering birds, [redacted]	

Target Note (Reference to Figure 11C-4 in Annex A)	Description	Photo
TN3	Ruderal with mammal tracks, likely fox, but potential for [redacted] potential for reptiles	
TN4	Grassland and wetland habitats suitable for waders	

Target Note (Reference to Figure 11C-4 in Annex A)	Description	Photo
TN5	Grassland and suitable for waders. Approx 60 curlew present during survey	
TN6	Grassland and suitable for waders. Approx 30 curlew present during survey	

Target Note (Reference to Figure 11C-4 in Annex A)	Description	Photo
TN7	Grassland potentially suitable for waders, perhaps less so than other fields. Sheep present. No waders present during survey	
TN8	Bracken potentially suitable for reptiles	No picture
TN9	Ephemeral/colonising habitat potentially botanically interesting and potential for invertebrates/pollinators - needs both survey assessments.	

Annex E: Aspect Ecology Reports

Connah's Quay Power Station:
Northern Land Parcel

Phase 1 Habitat and Faunal Surveys

July 2023

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Executive Summary

i) **Introduction.** Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, Flintshire.

ii) **Survey.** The site was surveyed in August 2021 and April 2023 based on standard extended Phase 1 methodology. In addition, a general appraisal of faunal species was undertaken to record the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of bats, Badger and Otter.

iii) **Ecological Designations.** The site lies adjacent to the statutory designation Dee Estuary (SPA, Ramsar and SAC). This is a vast site which extends substantially from the site's northern and western boundaries. The nearest non-statutory designation is Leadbrook Wood (LWS) located approximately 260m south of the site, separated from it by industrial development, roads and the railway.

iv) **Habitats.** The site comprises areas of rough pasture and improved grassland, scrub, tall ruderal vegetation, hardstanding, hedgerows and tree lines.

v) **Protected Species.** The site generally offers few opportunities for protected species although evidence of badger foraging activity was recorded during the survey work. Several trees were identified with low potential to support roosting bats and it is likely that bats forage and commute along linear habitats within and around the site. Although no evidence of their presence was confirmed by surveys, Otter are highly likely to make use of habitat adjacent to and outside the site boundary associated with the Dee Estuary.

1 Introduction

1.1 Background and Proposals

1.1.1 Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake a desk study and baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, approximately centred at grid reference SJ 270 716 (see Plan 6322/ECO1), hereafter referred to as 'the site'.

1.2 Site Overview

1.2.1 The site is located in north-east Flintshire in North Wales (see Plan 6322/ECO1). The site is bounded to the north-east by the River Dee, beyond which extend large areas of open wetland associated with the River Dee Estuary. Connah's Quay Power Station is located immediately adjacent to the site's south-eastern boundary and a railway line and industrial development, with associated planting, forms the site's southern boundary. A field outside the site, adjacent to the northern site boundary, contains three ponds.

1.2.2 The site itself comprises grassland fields with roads, treelines, hedgerows, along with areas of scrub and tall ruderal vegetation.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the desk study and baseline ecology surveys undertaken. The importance of the habitats and species present is evaluated.

2 Methodology

2.1 Data Search

2.1.1 Background information relevant to the site and its immediate surroundings to a distance of 2km was sourced from the North Wales Environmental Information Service (Cofnod) in August 2021. The data obtained comprised information on designated sites and species records.

2.1.2 Information on statutory designations was obtained from the MAGIC database[1], which uses data provided by Natural England, from within an extended search area of 25km. The MAGIC database was also searched for the presence of Priority Habitats within or adjacent to the site. Relevant information is reproduced in Appendix 6322/1 and on Plan 6322/ECO2.

2.1.3 In addition, the Woodland Trust database[2] was searched for records of ancient, veteran or notable trees within or in proximity to the site.

2.2 Habitat Survey

2.2.1 The site was surveyed in August 2021 and April 2023 to assess the general ecological value of the land and to identify the main habitats and ecological features present. Habitats present are shown on Plan 6322/ECO3.

2.2.2 The site was surveyed based on standard Phase 1 Habitat Survey methodology[3], whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal[4] to record details on the actual or potential presence of any notable or protected species or habitats.

2.2.3 The nomenclature used for plant species within this report is based on that of the Botanical Society for the British Isles (BSBI) Checklist and Stace (2019) [5].

2.3 Faunal Surveys

2.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded during all surveys. Attention was paid to the potential presence of protected, rare or notable species as described below.

[1] Multi-Agency Geographic Information for the Countryside (MAGIC), https://magic.defra.gov.uk/

[2] Woodland Trust Ancient Tree Inventory, https://ati.woodlandtrust.org.uk/, consulted March 2022.

[3] Joint Nature Conservation Committee (2010, as amended) 'Handbook for Phase 1 habitat survey: A technique for environmental audit.'

[4] Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) 'Guidelines for Preliminary Ecological Appraisal.'

[5] Stace, C (2019) *'New Flora of the British Isles (4th Edition)'* C & M Floristics

Bats[6]

Visual Inspection Surveys

2.3.2 **Trees**. Trees were assessed for their suitability to support roosting bats based on the presence of potential roosting features such as holes, cracks, splits or loose bark. Suitability for roosting bats was rated based on relevant guidance[7] as:

- Negligible;
- Low;
- Moderate; or
- High.

2.3.3 Where possible. potential roost features identified were inspected for signs indicating possible use by bats, including staining, scratch marks or bat droppings.

Badger (*Meles meles*)

2.3.4 A Badger survey was carried out in August 2021 and again in April 2023. The survey, undertaken in accordance with standard methods[8], comprised two main elements. The first element involved searching for evidence of Badger setts. For any setts that were encountered, each sett entrance was noted and mapped. The survey set out to record the following information, where present:

- Number and location of well used / active entrances; these are clear from any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently;
- Number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance; and
- Number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.

2.3.5 The second element involved searching for signs of Badger activity such as well-worn paths and push-throughs, snagged hair, footprints, latrines and foraging signs, so as to build up a picture of any use of the site by Badger.

Otter (*Lutra lutra)*

2.3.6 The boundary of the site beside the Dee Estuary and all parts of the site itself were searched for signs of Otter[9] in August 2021 and again in April 2023. Such signs include holts (underground chambers used for lying up), spraints, prints, paths and slides. The southern bank of the estuary was examined where possible, using binoculars where appropriate.

[6] English Nature (2004) *'Bat Mitigation Guidelines'*

[7] Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

[8] Mammal Society (1989) '*Occasional Publication No. 9 – Surveying Badgers*'

[9] Life in UK Rivers (2003) *'Monitoring the Otter - Conserving Natura 2000 Rivers*'. Monitoring Series No. 10

Water Vole (*Arvicola amphibius)*

2.3.7 The boundary of the site beside the Dee Estuary and all parts of the site itself were searched for signs of Water Vole[10] in August 2021 and again in April 2023. Such signs include latrines, tunnels, lawns (small areas of vegetation grazed by Water Vole) and footprints. The southern bank of the estuary was examined where possible, using binoculars where appropriate.

2.4 Survey Constraints and Limitations

2.4.1 All of the species that occur in each habitat are not necessarily detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. The Phase 1 habitat surveys were undertaken within the optimal season and during different months, thereby allowing a robust and thorough assessment of habitats and botanical interest across the site.

2.4.2 All parts of the site and its immediate surroundings were accessed at the time of both surveys.

2.4.3 The presence of invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was noted. However, the detectability of such species varies according to time of year, management regime and other factors and this report should not be taken as definitive regarding the presence or absence of such species at the site.

2.4.4 Densely vegetated habitats and areas that have limited access such as steep river banks may reduce the detectability of field signs of species such as Badger, Otter and Water Vole. Whilst some areas of dense vegetation are present within the site, these were searched as thoroughly as practicable and hence it is considered that the survey results provide a sufficiently accurate baseline to assess the potential impacts of the proposals on all species assessed.

2.5 Ecological Evaluation Methodology

2.5.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)[11], which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). Further detail is provided in Appendix 6322/2.

2.6 National Policy Approach to Biodiversity in the Planning System

2.6.1 National Planning Policy in Wales is set out in Planning Policy Wales (PPW)[12]. This describes policies designed to maximise environmental protection and limit environmental impact including the promotion of resilient biodiversity and ecosystems, citing biodiversity as an

[10] Surveys based on: Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) '*Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.*

[11] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine'*, ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

[12] Llywodraeth Cymru/Welsh Government (2021). *'Planning Policy Wales'*, Edition 11, February 2021.

element in the delivery of distinctive and natural places, and ensuring environmental sustainability through good design.

2.6.2 PPW sets out a framework for the sustainable management of natural resources, which within which the planning system contribute by:

'• improving the resilience of ecosystems and ecological networks;

• halting and reversing the loss of biodiversity;

• maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions;' amongst other measures.

2.6.3 PPW embeds the protection and enhancement of biodiversity within all components of the planning system in Wales, stating that:

'Biodiversity loss should be reversed, pollution reduced, environmental risks addressed and overall resilience of ecosystems improved.'

2.6.4 The approach to dealing with biodiversity in the context of planning applications is set out on Section 6.4, stating:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.'

and

'Development plan strategies, policies and development proposals must consider the need to:

• support the conservation of biodiversity, in particular the conservation of wildlife and habitats;

• ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;

• ensure statutorily and non-statutorily designated sites are properly protected and managed;

• safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and

• secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.'

'All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission.'

2.6.5 PPW does not currently mandate a target for Biodiversity Net Gain, but does set out that:

'…development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity;'

'…planning decisions should incorporate measures which seek the creation, restoration and appropriate management of green networks and linkages between habitats and maintaining and enhancing other green infrastructure features and networks'.

2.6.6 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019[13], which involves the following step-wise process:

- **Avoidance –** avoiding adverse effects through good design;
- **Mitigation –** where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation –** where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement –** planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.6.7 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

2.7 Local Policy

2.7.1 The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)'. Policies that relate specifically to ecology and biodiversity are set out below.

2.7.2 Policy EN2: Green Infrastructure

"Development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate:

a. Create new green infrastructure linkages from the proposed development to the existing local network;

b. Fill in gaps in the existing network to improve connectivity.

Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required."

2.7.3 Policy EN3: Undeveloped Coast and Dee Estuary Corridor states:

"Within the undeveloped coast development will only be permitted where:

[13] British Standards Institution (2013) '*Biodiversity – Code of practice for planning and development*', BS 42020:2019

a. *It can be demonstrated a coastal location is essential;*

b. *It conserves and enhances the open character of the coast;*

c. *It would not unacceptably harm areas of nature conservation, landscape or biodiversity;*

d. *It would not harm existing or proposed recreational or active travel routes;*

e. *Extensive coastal protection measures are not required; and*

f. *It would not be potentially at risk of flooding nor unacceptably increase erosion or flooding or interfere with natural coastal processes."*

2.7.4 Policy EN6: Sites of Biodiversity and Geodiversity Importance states:

"Development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance. Proposals where adverse effects on site integrity cannot be ruled out would not be supported.

Development likely to impact the special features of a Nationally Designated Site will only be granted in exceptional circumstances where appropriate compensation can be provided. Development proposals that would have a significant adverse effect on locally designated sites or site with other biodiversity and / or geological interest, including priority species, will only be permitted where:

a. *it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the site; and*

b. *it can be demonstrated that the development cannot reasonably be located elsewhere; and*

c. *any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided.*

Development that results in the restoration, enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems."

2.7.5 Policy EN7: Development Affecting Trees, Woodlands and Hedgerows states:

"Development proposals that will result in significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value will not be permitted.

Where the impact of development affecting trees, woodlands or hedgerows is considered acceptable, development will only be permitted where:

a. *the development maximises their retention through sensitive design*

b. *measures; and*

c. *where the removal of trees is considered necessary, suitable replacements*

d. *shall be provided elsewhere within the site; and*

e. *it results in a net benefit in biodiversity."*

2.7.6 Policy EN7: Development In or Adjacent to Conservation Areas states:

"Development within or adjacent to a conservation area will only be permitted if it would preserve or enhance the character and appearance of the conservation area or its setting. New development in such locations must also be of a high standard of design, respond to the area's special characteristics, and pay particular regard to:

a. important views, vistas, street scenes, roofscapes, trees, open spaces, gaps and other features that contribute to the character or appearance of the conservation area;

b. the retention of historically significant boundaries or other elements that contribute to the established form of development;

c. the relationship to existing buildings and spaces, and pattern of development;

d. scale, height and massing, architectural design and detailing, the use of materials, boundary treatment, and public realm materials."

3 Ecological Designations

3.1 Statutory Designations

Description

3.1.1 The statutory designations of ecological importance that occur within the local area are shown on Plan 6322/ECO2.

3.1.2 The Dee Estuary Special Protection Area (SPA), Ramsar site, Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI), all of which designations cover the same area, extends beyond the site's northern and western boundaries. The Dee Estuary is designated as a SPA and Ramsar site on the basis of its breeding and winter waterbird populations and assemblages. It is designated as a SAC on the basis of its mudflats and sandflats, annual colonising mud and sand and Atlantic salt meadow habitats (see Appendix 6322/1 for citation sheets).

3.1.3 The next closest statutory designation to the site is Mynydd y Fflint/Flint Mountain SSSI, approximately 1.4km to the west. This site comprises unimproved grassland and woodland in association with other habitats that support a diverse flora

3.1.4 The River Dee and Bala Lake Special Area of Conservation (SAC) is located approximately 2.6km east of the site at its closest point. This is an extensive site covering over 1200ha extending through North Wales along the River Dee to Bala Lake. The SAC is designated for Atlantic Salmon *Salmo salar*, Floating Water-plantain *Luronium natans*, and for comprising a watercourse of plain to montane level with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation characterised by an abundance of Water-crowfoot *Ranunculus* spp.

3.1.5 Other statutory designations in the wider area include Deeside and Buckley Newt Sites SAC approximately 2.5km south of the site and Halkyn Mountain SAC over 5km to the west.

Evaluation

3.1.6 The site lies adjacent to the Dee Estuary SPA/Ramsar/SAC (see Plan 6322/ECO2).

3.1.7 No other statutory designation would be at risk of adverse effects as a result of works at the site.

3.2 Non-statutory Designations

Description

3.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 6322/ECO2. The nearest non-statutory designation is Leadbrook Wood Local Wildlife Site (LWS) approximately 260m south of the site, separated from it by industrial development, roads and the railway. This LWS is designated because it is an area of semi-natural broad-leaved woodland occupying a deeply wooded valley in which the Lead Brook and its tributaries flow (see Appendix 6322/1 for citation).

3.2.2 The next nearest non-statutory designation is Top-y-fron Dingle and Kelserton Brook LWS approximately 800m south-east of the site. This is a similar wooded valley to Leadbrook Wood LWS located further to the south.

3.2.3 All non-statutory designations are separated from the site by intervening development and road and rail infrastructure and are not likely to be at risk of adverse effects resulting from works undertaken at the site.

Evaluation

3.2.4 The site itself is not subject to any non-statutory nature conservation designations. All non-statutory designations in the surrounding area are sufficiently distant from the site and separated by other land uses that they are unlikely to be affected by activities at the site.

3.3 Priority Habitats, Ancient Woodland and Notable Trees

Description

3.3.1 No Priority habitats are located within the site, however, the Priority Habitat Saltmarsh is present outside the site immediately adjacent to the northern and western site boundaries, within the River Dee Estuary.

3.3.2 There are no areas of ancient woodland within the site or its wider area.

3.3.3 There are no records of any notable or veteran trees within or adjacent to the site.

4 Habitats and Ecological Features

4.1 Background Records

4.1.1 Data supplied by Cofnod from the last 10 years within 2km of the site included records of the Flintshire Rare plant species (occurring in no more than three 2km tetrads within the vice-county) Rock Samphire *Crithmum maritimum*, Caper Spurge *Euphorbia lathyris*, Narrow-leaved Pepperwort *Lepidium ruderale*, Sweet Briar *Rosa rubiginosa*, Annual Pearlwort *Sagina apetala* subsp. *apetala*, Long-spiked Glasswort *Salicornia dolichostachya*, Wild Clary *Salvia verbenaca*, Knotted Hedge-parsley *Torilis nodosa* and Navelwort *Umbilicus rupestris.*

4.1.2 Records were also returned of the Flintshire Scarce species (occurring in 4-8 2km tetrads) Red Goosefoot *Chenopodium rubrum*, Perennial Wall-rocket *Diplotaxis tenuifolia*, Wood Spurge *Euphorbia amygdaloides*, Small-flowered Crane's-bill *Geranium pusillum*, Stinking Iris *Iris foetidissima*, Prickly Lettuce *Lactuca serriola*, Narrow-leaved Meadow-grass *Poa angustifolia* and Reflexed Saltmarsh-grass *Puccinellia distans.*

4.1.3 Records were also returned of numerous invasive species including Japanese Knotweed *Fallopia japonica*, Himalayan Balsam *Impatiens glandulifera,* Cherry Laurel *Prunus laurocerasus* and *Cotoneaster* sp.

4.1.4 No evidence of the presence of any of these species within the site was recorded during any of the surveys undertaken.

4.2 Overview

4.2.1 The habitats and ecological features present within the site are described below and evaluated in terms of whether they constitute an important ecological feature and their level of importance, taking into account the status of habitat types and the presence of rare plant communities or individual plant species of elevated interest. The likely effects of potential works on these habitats and ecological features are then assessed. The value of habitats for the fauna they may support is considered separately in Chapter 5 below.

4.2.2 The following habitats and ecological features were identified within the site:

- Rough Pasture and Improved Grassland;
- Scrub;
- Tall Ruderal Vegetation;
- Hardstanding; and
- Hedgerows and Tree Lines.

4.2.3 These habitats and features are shown on Plan 6322/ECO3 and described below.

4.3 Priority Habitats

4.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats which are of principal importance for conservation in England. This list is largely derived from the 'Priority Habitats' listed under the former UK

Biodiversity Action Plan (BAP), which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.

4.3.2 Of the habitats within the site, hedgerows are likely to qualify as Priority Habitat.

4.4 Rough Pasture and Improved Grassland

Description

4.4.1 The site contains three grassland fields (**F2-F4**).

4.4.2 Field **F2** comprises rough grassland dominated by common and widespread species including Perennial Rye-grass *Lolium perenne*, Creeping Bent *Agrostis stolonifera*, Red Fescue *Festuca rubra,* Yorkshire-fog *Holcus lanatus* and Cock's-foot *Dactylis glomerata*. Herbs include Creeping Thistle *Cirsium arvense*, Ragwort *Senecio jacobaea*, Nettle *Urtica dioica,* Dock *Rumex* sp., Hogweed *Heracleum sphondylium*, Wild Carrot *Daucus carota*, Burdock *Arctium minus* and Red Clover *Trifolium pratense*. This field is occasionally sheep-grazed with a sward height of 20-30cm.

4.4.3 Field **F3**, immediately south of **F2**, comprises sheep-grazed pasture with a sward height of 2-5cm. Species present included Perennial Rye-grass *Lolium perenne*, False Oat-grass *Arrhenatherum elatius*, Crested Dog's-tail *Cynosurus cristatus,* Yarrow *Achillea millefolium* and Red Clover.

4.4.4 Field **F4** which is the easternmost mostly comprises improved grassland with a sward height of 2-5cm, with smaller areas of longer rough grassland to the south. The field is dominated by Perennial Rye-grass, with Red Clover and Creeping Thistle also present. Rough grassland tends to scrub along the southern field boundary, where a higher proportion of False Oat-grass is present amongst the scrub (see 4.5).

Evaluation

4.4.5 Overall, the grassland fields support a low diversity of common and widespread species. These habitats are considered to be of low ecological value and do not form important ecological features.

4.5 Scrub

Description and Evaluation

4.5.1 Areas of dense and scattered scrub are present within the site as shown on Plan 6322/ECO3.

4.5.2 Dense scrub is present beyond the northern boundary of field **F2** and also immediately south of field **F4** and beside the entrance road to the site. Scattered scrub is intermittently present throughout the site. Patches of dense scrub are also present beside hedgerow **H3** between fields **F2** and **F4**.

4.5.3 Scrub comprises common and widespread species of limited botanical interest including Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa*, Bramble *Rubus fruticosus* agg., Dogwood *Cornus sanguinea*, Hazel *Corylus avellana,* Silver Birch *Betula pendula*, Elder *Sambucus nigra*, Gorse *Ulex europaeus* and Ash *Fraxinus excelsior*.

4.5.4 The areas of scrub within the site are composed of common and widespread species of low botanical interest. These habitats are not important ecological features and their loss would be of minor significance.

4.6 Tall Ruderal Vegetation

Description and Evaluation

4.6.1 Several small areas of tall ruderal vegetation were recorded, typically in association with field boundaries and hedges (see Plan 6322/ECO3).

4.6.2 Tall ruderal vegetation was dominated by Common Nettle, Dock, Hogweed, Creeping Thistle, Mugwort *Artemisia vulgaris*, and Redshank *Persicaria maculosa*. These are common and widespread species of limited botanical interest which readily colonise field margins and disturbed ground. Tall ruderal vegetation does not constitute an important ecological feature and its loss would be of negligible ecological significance.

4.7 Hard Standing

Description and Evaluation

4.7.1 Tracks within the site, associated with field boundaries and access to an off-site bird hide, comprise areas of hard standing. These areas are largely devoid of vegetation and of negligible ecological value.

4.8 Hedgerows and Tree Lines

Description

4.8.1 Several short lengths of hedgerow and a single tree line are present within the site. These features are described in Table 4.2 below.

Table 4.2. Hedgerow descriptions.

Ref	H	W	Woody species	Avg. per 30m*	Ground flora & climbers	Associated features	Likely to qualify#
H1	4m	2-3m	Hawthorn (D)	1	Bramble	Continuous	N
H2	2-4m	2-3m	Hawthorn, Blackthorn, Elder, Hazel	2-3	Bramble, Dog Rose	Continuous, no gaps. Outgrown within adjacent scrub	N
H3	4m	3m	Hawthorn (D), Elder	2	Bramble	Few gaps, tall ruderals adjacent and throughout	N
TL1			Oak, Sycamore	<2	Common Nettle	<10% gaps	N

Woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) and woodland ground flora species (as listed under Schedule 2 of the Hedgerows Regulations 1997) underlined, y = young, sm = semi-mature, m = mature, pv = possible veteran, B = bank, W = wall, br = bridleway, f/p = footpath, b/w = byway, (D) = dominant species

** estimated average number of woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) in any one 30m stretch*

 # likely to qualify – as 'important' under the wildlife and landscape criteria of the Hedgerows Regulations 1997

Evaluation

4.8.2 Hedges **H1-H3** are not species-rich[14] and none are likely to qualify as *Important* under the Hedgerows Regulations 1997, based on the number of woody species and other associated features present.

[14] Five or more native woody species within a 30m length (or four or more in Northern England) – FEP Manual

4.8.3 Hedgerows **H1-H3** are, however, likely to qualify as a Priority Habitat based on the standard definition[15], which includes all hedgerows (>20m long and <5m wide) consisting predominantly (≥80%) of at least one native woody species. It has been estimated that approximately 84% of countryside hedgerows in Great Britain qualify as Priority Habitat under this definition.[15] On this basis, hedgerows constitute important ecological features, although given their relative isolation from the wider network are only considered to be of importance at the local level.

4.8.4 Tree line **TL1** contains mature native trees within formal lines which are likely to provide some cover for use by wildlife. This tree line is therefore considered to be an important ecological feature at the local level.

4.9 Habitat Evaluation Summary

4.9.1 On the basis of the above, the following habitats within and adjacent to the site are considered to form important ecological features:

Table 4.3. Evaluation summary of habitats forming important ecological features.

Habitat	Level of Importance
Hedgerow and Tree Line	Local

4.9.2 Other habitats present within the site include rough, pasture and improved grassland, scrub tall ruderal vegetation and hardstanding. However, these habitats do not form important ecological features.

[15] Biodiversity Reporting and Information Group (2011) '*UK Biodiversity Action Plan (BAP) Priority Habitat Descriptions'*, ed. Ant Maddock

5 Faunal Use of the Site

5.1 Overview

5.1.1 During the survey work, general observations were made of faunal use of the site with particular attention paid to the potential presence of protected or notable species. Specific surveys and assessments were undertaken in respect of Badgers, bats, Otter and Water Vole as described below.

5.1.2 Surveys for birds and reptiles have also been undertaken at the site and these are documented in separate reports.

5.2 Priority Species

5.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of species which are of principal importance for conservation in England. This list is largely derived from the 'Priority Species' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority species under the subsequent country-level biodiversity strategies.

5.2.2 During the survey work undertaken, no Priority Species were recorded within the site. This is discussed further below.

5.3 Bats

5.3.1 **Legislation.** All British bats are listed as European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended) and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 6322/3 for detailed provisions). If works are likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. Given all bats are protected species, they are considered to represent important ecological features. A number of bat species are also S41 Priority Species.

5.3.2 **Background Records.** No records of bats from within or adjacent to the site were returned from the data search. Data from within 2km of the site included records of Pipistrelle *Pipistrellus* sp., Daubenton's Bat *Myotis daubentonii*, and Whiskered Bat *Myotis mystacinus.*

5.3.3 **Survey Results and Evaluation**

Roosting

Trees

5.3.4 No trees are present within the site that contain potential bat roosting features or have the potential to support roosting bats.

Foraging / Commuting

5.3.5 The habitats present on site include rough grassland and scrub that may potentially be used by foraging bats, although connectivity with suitable areas of habitat off-site is limited. It is possible that the adjacent railway corridor may offer some connectivity and foraging

potential for bats, as might the River Dee corridor, although as it comprises a large open estuarine area any bat activity is likely to be limited. Lighting from the power station and the town of Connah's Quay is anticipated to further limit the suitability of the area to provide important features used by bats.

5.4 Badger

5.4.1 **Legislation.** Badger receive legislative protection under the Protection of Badgers Act 1992 (see Appendix 6322/3 for detailed provisions), and as such should be assessed as an important ecological feature. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status; Badger is common throughout most of Britain. It is the duty of planning authorities to consider the conservation and welfare impacts of development upon Badger and issue permissions accordingly.

5.4.2 Licences can be obtained from Natural England for development activities that would otherwise be unlawful under the legislation. Guidance on the types of activity that should be licensed is laid out in the relevant best practice guidance. [16, 17]

5.4.3 **Background Records.** Records for Badger were returned from within 2km of the site, although precise locations are unspecified.

5.4.4 [redacted]

5.4.5

5.5 Dormouse

5.5.1 **Legislation.** Dormouse is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals of the species and their breeding sites and places of rest (see Appendix 6322/3 for detailed provisions). Dormouse is also a S41 Priority Species. On this basis, Dormouse is considered to form an important ecological feature.

5.5.2 **Background Records.** No records of Dormouse were returned from the local record centre from within 2km of the site.

5.5.3 **Survey Results and Evaluation.** The site is close to the limits of the known UK distribution of this species. Habitats present provide very limited opportunities for Dormouse, restricted to scrub but this habitat lacks the structure and preferred species such as Hazel *Corylus avellana* and Honeysuckle *Lonicera periclymenum*. The site also lacks connectivity with offsite habitats, being isolated by the River Dee to the north and east, and development to the west and south.

[16] English Nature (2002) '*Badgers and Development*'
[17] Natural England (2011) '*Badgers and Development: A Guide to Best Practice and Licensing*', Interim Guidance Document

5.5.4 The lack of connectivity and limited suitability, combined with the lack of local records and the UK location of the site, indicates that Dormouse is likely to be absent from the site.

5.6 Otter and Water Vole

5.6.1 **Legislation.** Otter is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals of the species and their breeding sites and places of rest (see Appendix 6322/3 for detailed provisions). Otter is also a S41 Priority Species. On this basis, Otter is considered to represent an important ecological feature.

5.6.2 Water Vole is also fully protected under the Wildlife and Countryside Act 1981 (as amended). Water Vole is also a S41 Priority Species. As such, this species is considered to represent an important ecological feature. The legislation affords protection to individuals of the species and their breeding sites and places of shelter (see Appendix 6322/3 for detailed provisions).

5.6.3 If, despite all reasonable efforts, properly authorised development will adversely affect Water Vole and there are no alternative habitats nearby, Natural England may issue a licence to displace or trap and translocate Water Vole for the purpose of development. To issue such a licence, Natural England would need to be assured there is no reasonable alternative to the development and that there are no other practical solutions that would allow Water Vole to be retained at the same location. Natural England would also require no net loss of Water Vole habitat resulting from the works.

5.6.4 **Background Records.** Several records of Otter and Water Vole were returned from within 2km of the site. Two records of Water Vole originated from a site North of the River Dee and three records of Otter were associated with the River Dee itself.

5.6.5 **Survey Results and Evaluation.** The habitats within the site itself are unsuitable for Otter and Water Vole, however the offsite adjacent River Dee Estuary provides highly suitable foraging and commuting habitat for Otter with potential for resting sites. These potential resting sites are relatively distant from the site itself.

5.6.6 The River Dee Estuary does not provide suitable habitat for Water Vole which favours smaller, more densely vegetated watercourses.

5.6.7 Targeted surveys for evidence of Otter and Water Vole were undertaken at the site in August 2021 and again in April 2023. No evidence of Otter or Water Vole was found during any of the surveys undertaken and it is concluded that neither species currently makes use of habitats within the site. Nevertheless, it is highly likely that Otter make use of the corridor of the River Dee and its fringing habitats outside the site boundary.

5.7 Other Mammals

5.7.1 **Legislation.** Other native UK mammals receive protection against acts of cruelty (e.g. under the Wild Mammals (Protection) Act 1996). Additionally, some are S41 Priority Species and should therefore be assessed as important ecological features.

5.7.2 **Background Records.** Records of Hedgehog *Erinaceus europaeus* (Priority Species), Stoat *Mustela erminea* and Brown Hare *Lepus europaeus* were returned from within 2km of the site.

5.7.3 **Survey Results and Evaluation.** No evidence of any other protected, rare or notable mammal species was recorded within the site. Other mammal species likely to make use of the site, such as Fox *Vulpes vulpes*, remain common in both a local and national context. As such, these species are not a material planning consideration and the loss of potential opportunities for these species would be of negligible significance.

5.7.4 The data search returned background records of Hedgehog within the surrounding area. Hedgehog is a Priority Species, albeit one that remains common and widespread in England. The site offers potential opportunities for this species, particularly in the form of areas of scrub, tall ruderal vegetation and grassland, and therefore it is likely that Hedgehog uses the site, and as such is assessed as of importance at the site level.

5.8 Amphibians

5.8.1 **Legislation.** All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt is protected under the Act and is also classed as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). As such, both Great Crested Newt and habitats utilised by this species are afforded protection (see Appendix 6322/3 for detailed provisions). Great Crested Newt is also a S41 Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita*, and Pool Frog *Pelophylax lessonae*. As such, these species should be assessed as important ecological features.

5.8.2 **Background Records.** No specific records of amphibians from within or adjacent to the site were returned by the data search. Three records of Smooth Newt *Lissotriton vulgaris* were returned from within 2km of the site.

5.8.3 **Survey Results and Evaluation.** Three ponds are present within field **F1** outside the site, two of which contained water at the time of the survey. These ponds are all heavily used by waterfowl and are highly unlikely to support breeding Great Crested Newt given this and the lack of connectivity with off-site ponds. Additionally, one other pond and a number of drainage ditches are present within 250m of the site boundary, although these are separated from site by the railway line.

5.8.4 The Dee Estuary SAC/SPA/Ramsar site lists a breeding population of Natterjack Toad *Epidalea calamita* as a qualifying species. However, this is a reintroduced population that is restricted to the Gronant Dunes and Talacre Warren SSSI, located 19.5km north-west of the site. As such, given the distance from the known population and the lack of suitable Natterjack Toad habitat present within the site, Natterjack Toad is considered to be absent from the site.

5.8.5 A single Common Toad *Bufo bufo* was recorded at one survey location during the reptile surveys.

5.9 Invertebrates

5.9.1 **Legislation.** Several invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ramshorn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended); see Appendix 6322/3 for detailed provisions. A number of invertebrates are also S41 Priority Species. Where such species are present, they should be assessed as important ecological features.

5.9.2 **Background Records.** No records of invertebrates were returned from within or adjacent to the site. A number of records of Wall *Lasiommata megera*, Small Heath *Coenonympha pamphilus*, Autumnal Rustic *Eugnorisma glareosa*, Garden Dart *Euxoa nigricans*, White-line Dart *Euxoa tritici*, Oak Hook-tip *Watsonalla binaria*, White Ermine *Spilosoma lubricipeda*, Buff Ermine *Spilosoma lutea*, Blood-vein *Timandra comae* and Cinnabar *Tyria jacobaeae* (Priority Species) were returned from Cofnod from within 2km of the site.

5.9.3 **Survey Results and Evaluation.** No evidence of the presence of any protected, rare or notable invertebrate species was recorded within the site. The site contains relatively few micro-habitats that would typically indicate elevated potential for invertebrates[18], such as a variable topography with areas of vertical exposed soil, areas of species-rich semi-natural vegetation; variable vegetation structure with frequent patches of tussocks combined with short turf; free-draining light soils; walls with friable mortar or fibrous dung. Accordingly, given the habitat composition of the site and lack of adjacent sites designated for significant invertebrate interest, it is considered unlikely that significant protected, rare or notable invertebrate populations are present, and the site is unlikely to support an important invertebrate assemblage.

5.10 Summary

5.10.1 On the basis of the above, a summary of the evaluation of fauna is provided below:

Table 5.1: Evaluation summary of fauna forming important ecological features.

Species / Group	Supported by or associated with the site	Level of Importance
[redacted]		
Otter	Likely commuting habitat offsite	Negligible
Hedgehog	Local records of presence; suitable habitat on site	Site

[18] Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

6 Conclusions

6.1.1 Aspect Ecology has carried out baseline ecological surveys at the Connah's Quay Power Station Northern Land Parcel, based on the results of a desk study and ecological surveys of the site.

6.1.2 The available information confirms that a statutory nature conservation designation is present immediately adjacent to the site in the form of the Dee Estuary SPA/Ramsar/SAC.

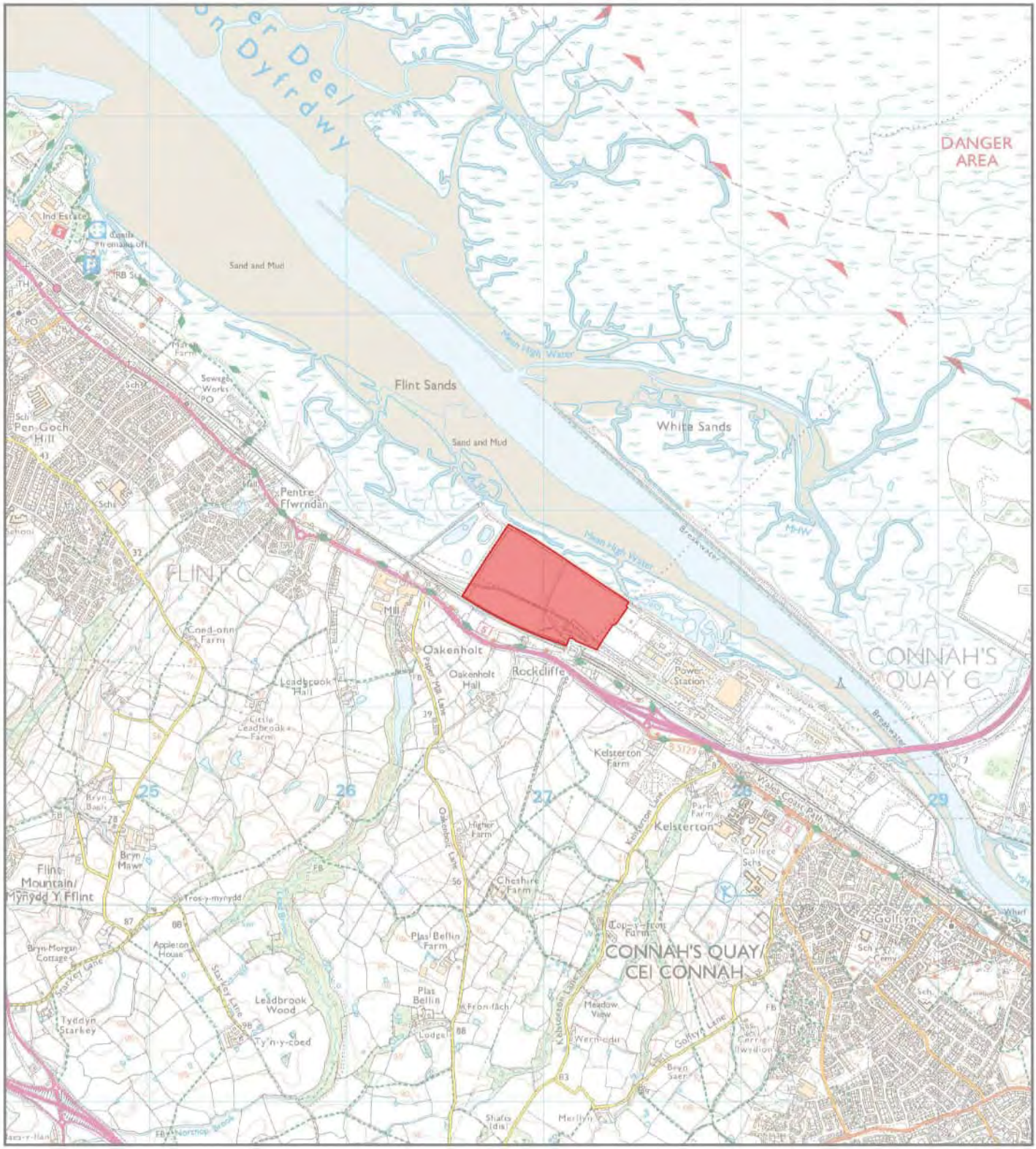
6.1.3 The surveys undertaken have shown that the site is dominated by habitats of low ecological importance. Hedgerows are of higher importance and are likely to qualify as Priority Habitat.

6.1.4 [redacted]

6.1.5 Studies undertaken at the site in respect of reptiles and birds are reported separately.

Plan 6322/ECO1:

Site Location



Key:

Site Location

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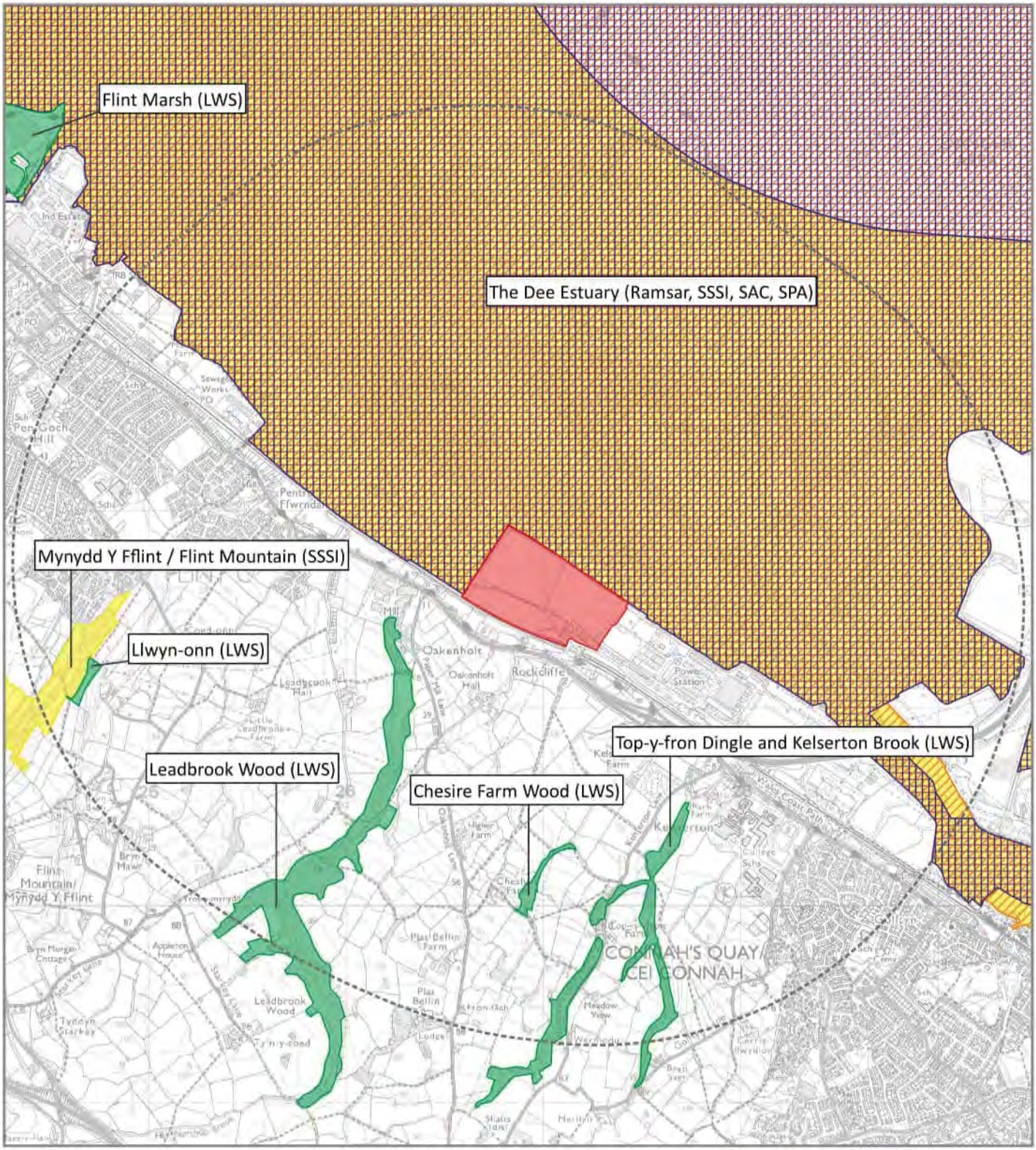
Connah's Quay (North)	PROJECT
Site Location	TITLE
6322/ECO1	DRAWING NO.
B/JP	REV.
September 2023	DATE

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Plan 6322/ECO2:

Ecological Designations



Key:

- Site Location
- 2km Study Area
- Ramsar Site
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Local Wildlife Site (LWS)

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Plan 6322/ECO3:

Habitats and Ecological Features



Key:

- Site Boundary
- Rough Grassland
- Improved Grassland
- Pasture
- Marshy Grassland
- Tall Ruderal Vegetation
- Scattered Scrub
- Dense Scrub
- Pond
- Reed Bed/Rush
- Hedgerow
- Tree Line
- Hardstanding

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Appendix 6322/1:

Desk Study Data

EC Directive 79/409 on the Conservation of Wild Birds: Citation for Special Protection Area (SPA)

Name: The Dee Estuary

Unitary Authority/County: Cheshire West and Chester, Denbighshire, Flintshire, Wirral.

Boundary of the SPA: The Dee Estuary SPA encompasses the Dee Estuary/Aber Afon Dyfrdwy Site of Special Scientific Interest (SSSI); the dunes and intertidal foreshore at Gronant Dunes and Talacre Warren SSSI; the freshwater marsh at Inner Marsh Farm SSSI; and the lagoons and reedbeds at Shotton Lagoons and Reedbeds. The boundary of the SPA is shown on the map enclosed.

Site description: The Dee Estuary lies on the border between England and Wales on the north-west coast of Britain. It is a large, funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish and swamp vegetation on the upper shore. The site also includes the three sandstone islands of Hilbre, with their important cliff vegetation and maritime heathland and grassland. The two shorelines of the estuary show a marked contrast between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England. The site is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders; in summer the site supports nationally important breeding colonies of two species of tern. The site is also important during migration periods, particularly for wader populations moving along the west coast of Britain and for Sandwich terns post-breeding.

Size of SPA: 14,291.56 ha.

European ornithological interest of SPA:

Qualifying species:
The site qualifies under **Article 4.1** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season:

Annex I species	Count and Season	Period	% of GB population
Bar-tailed Godwit *Limosa lapponica*	1,150 individuals - wintering	5 year peak mean 1994/95 - 1998/99	2.2%
Common Tern *Sterna hirundo*	392 pairs - breeding	5 year mean 1995 – 1999	3.2%
Little Tern *Sterna albifrons*	69 pairs – breeding	5 year mean 1995 - 1999	2.9%
Sandwich Tern *Sterna sandvicensis*	957 individuals- autumn passage	5 year mean 1995 - 1999	2.3%

The site qualifies under **Article 4.2** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season:

Migratory species	**Count and Season**	**Period**	**% of population**
Redshank *Tringa totanus*	8,795 individuals - passage	5 year mean 1994/95 – 1998/99	5.9% Eastern Atlantic (wintering)
Shelduck *Tadorna tadorna*	7,725 individuals - wintering	5 year mean 1994/95 - 1998/99	2.6% Northwestern Europe
Teal *Anas crecca*	5,251 individuals - wintering	5 year mean 1994/95 - 1998/99	1.3% Northwestern Europe
Pintail *Anas acuta*	5,407 individuals - wintering	5 year mean 1994/95 - 1998/99	9.0% Northwestern Europe
Oystercatcher *Haematopus ostralegus*	22,677 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Europe & N/W Africa (wintering)
Grey Plover *Pluvialis squatarola*	1,643 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Eastern Atlantic (wintering)
Knot *Calidris canutus islandica*	12,394 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% NE Can/Grl/ Iceland/NW Eur
Dunlin *Calidris alpina*	27,769 individuals - wintering	5 year mean 1994/95 - 1998/99	2.0% N Siberia/Europe/ W Africa
Black-tailed Godwit *Limosa limosa islandica*	1,747 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Iceland (breeding)
Curlew *Numenius arquata*	3,899 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Europe (breeding)
Redshank *Tringa totanus*	5,293 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% Eastern Atlantic (wintering)

Assemblage qualification
The site qualifies under **article 4.2** of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:

In the non-breeding season, the area regularly supports 120,726 individual waterbirds (5 year peak mean 1994/95 - 1998/99), including: Great Crested Grebe *Podiceps cristatus*, Cormorant *Phalacrocorax carbo*, Shelduck *Tadorna tadorna*, Wigeon *Anas penelope*, Teal *Anas crecca*, Pintail *Anas acuta*, Oystercatcher *Haematopus ostralegus*, Grey Plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Knot *Calidris canutus*, Sanderling *Calidris alba*, Dunlin *Calidris alpina*, Black-tailed Godwit *Limosa limosa islandica*, Bar-tailed Godwit *Limosa lapponica*, Curlew *Numenius arquata* and Redshank *Tringa totanus*.

Non-qualifying species of interest: Leach's Petrel *Oceanodroma leucorhoa*, Little Egret *Egretta garzetta*, Bewick's Swan *Cygnus columbianus bewickii*, Whooper Swan *Cygnus cygnus*, Smew *Mergellus albellus*, Hen Harrier *Circus cyaneus*, Merlin *Falco columbarius*, Peregrine *Falco peregrinus*, Golden Plover *Pluvialis apricaria*, Ruff *Philomachus pugnax*, Wood Sandpiper *Tringa glareola*, Short-eared Owl *Asio flammeus* and Kingfisher *Alcedo atthis* (all Annex 1 species) occur in non-breeding numbers of less than European importance (less than 1% of the GB population).

Status of SPA:
The Dee Estuary was first classified as a Special Protection Area on 17 July 1985. The boundaries and site features were revised on 10 December 2009.

European Site Conservation Objectives for The Dee Estuary Special Protection Area Site Code: UK9013011

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying Conservation Advice document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

A048 *Tadorna tadorna*; Common shelduck (Non-breeding)
A052 *Anas crecca*; Eurasian teal (Non-breeding)
A054 *Anas acuta*; Northern pintail (Non-breeding)
A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)
A141 *Pluvialis squatarola*; Grey plover (Non-breeding)
A143 *Calidris canutus*; Red knot (Non-breeding)
A149 *Calidris alpina alpina*; Dunlin (Non-breeding)
A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)
A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
A160 *Numenius arquata*; Eurasian curlew (Non-breeding)
A162 *Tringa totanus*; Common redshank (Non-breeding)
A191 *Sterna sandvicensis*; Sandwich tern (Non-breeding)
A193 *Sterna hirundo*; Common tern (Breeding)
A195 *Sterna albifrons*; Little tern (Breeding)
Waterbird assemblage

This is a cross border site

This site crosses the border between England and Wales. Some features may only occur in one Country. The advice of Natural Resources Wales should therefore be sought separately.

This is a European Marine Site

This SPA is a part of the Dee Estuary European Marine Site (EMS). These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS.

Natural England's formal Conservation Advice for European Marine Sites can be found via GOV.UK.

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a Special Protection Area (SPA).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 21 February 2019 (version 4). This document updates and replaces an earlier version dated 5 February 2016 to reflect the consolidation of the Habitats Regulations in 2017.

Special Areas of Conservation

Dee Estuary/ Aber Dyfrdwy

Designated Special Area of Conservation (SAC)

Country	England/Wales
Unitary Authority	Cheshire, East Wales, Extra-Regio, Merseyside, West Wales and The Valleys
Centroid*	SJ191819
Latitude	53.32833333
Longitude	-3.216111111
SAC EU Code	UK0030131
Status	Designated Special Area of Conservation (SAC)
Area (ha)	15805.27

* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.



Location of Dee Estuary/ Aber Dyfrdwy SAC

General site character

- Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (81.8%)
- Salt marshes, Salt pastures, Salt steppes (16.1%)
- Coastal sand dunes, Sand beaches, Machair (0.7%)
- Shingle, Sea cliffs, Islets (0.5%)
- Bogs, Marshes, Water fringed vegetation, Fens (0.4%)
- Humid grassland, Mesophile grassland (0.2%)
- Improved grassland (0.1%)
- Broad-leaved deciduous woodland (0.1%)
- Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites) (0.1%)

Download the Standard Data Form for this site as submitted to Europe (PDF <100kb)

Note When undertaking an appropriate assessment of impacts at a site, all features of European importance (both primary and non-primary) need to be considered.

Annex I habitats that are a primary reason for selection of this site

- **1140 Mudflats and sandflats not covered by seawater at low tide**
  Species occurrence description not yet available.

- **1310 Salicornia and other annuals colonizing mud and sand**

  The Dee Estuary is representative of pioneer glasswort *Salicornia* spp. saltmarsh in the north-west of the UK. *Salicornia* spp. saltmarsh forms extensive stands in the Dee, especially on the more sandy muds where there is reduced tidal scour. It mainly occurs on the seaward fringes as a pioneer community, and moving landwards usually forms a transition to common saltmarsh-grass *Puccinellia maritima* saltmarsh (SM10). There is also a low frequency of *Salicornia* spp. extending well inland. Associated species often include annual sea-blite *Suaeda maritima* and hybrid scurvy grass *Cochlearia x hollandica*.

- **1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)**
  The Dee Estuary is representative of **H1330 Atlantic salt meadows** in the north-west of the UK. It forms the most extensive type of saltmarsh in the Dee, and since the 1980s it has probably displaced very large quantities of the non-native common cord-grass *Spartina anglica*. The high accretion rates found in the estuary are likely to favour further development of this type of vegetation. The saltmarsh is regularly inundated by the sea; characteristic salt-tolerant perennial flowering plant species include common saltmarsh-grass *Puccinellia maritima*, sea aster *Aster tripolium*, and sea arrowgrass *Triglochin maritima*. In a few areas there are unusual transitions to wet woodland habitats.

Annex I habitats present as a qualifying feature, but not a primary reason for

selection of this site

- **1130 Estuaries**
- **1210 Annual vegetation of drift lines**
- **1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts**
- **2110 Embryonic shifting dunes**
- **2120 "Shifting dunes along the shoreline with Ammophila arenaria (""white dunes"")"**
- **2130 "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")" * Priority feature**
- **2190 Humid dune slacks**

Annex II species that are a primary reason for selection of this site

- Not Applicable

Annex II species present as a qualifying feature, but not a primary reason for site selection

- **1095 Sea lamprey** *Petromyzon marinus*
- **1099 River lamprey** *Lampetra fluviatilis*
- **1395 Petalwort** *Petalophyllum ralfsii*

Many designated sites are on private land: the listing of a site in these pages does not imply any right of public access.

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EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora

Citation for Special Area of Conservation (SAC)

Name:	River Dee and Bala Lake
Unitary Authority/County:	Cheshire, Denbighshire, Flintshire, Gwynedd, Shropshire, Wrexham
SAC status:	English part designated on 1 April 2005 Welsh part designated on 13 December 2004
Grid reference:	SJ422503
SAC EU code:	UK0030252
Area (ha):	1308.93
Component SSSI:	Afon Dyfrdwy (River Dee) SSSI, Llyn Tegid SSSI, River Dee (England) SSSI

Site description:

The River Dee has its source in Snowdonia at the outflow of Llyn Tegid and it includes the Ceiriog, Meloch, Tryweryn and Mynach tributaries. Its catchment contains a wide spectrum of landscape from high mountains around Bala, rugged peaks near Llangollen, steep sided wooded valleys, and the plains of Cheshire, Flintshire, north Shropshire and Wrexham. There is a tidal influence as far upstream as Farndon and high tides regularly exceed the Chester weir crest level.

The aquatic plant community includes Wirtgen's water-crowfoot *Ranunculus x bachii* and pond water-crowfoot *R. peltatus*, and also floating water-plantain *Luronium natans*. Water-crowfoot forms extensive beds along the whole length of the Dee where flow conditions are suitable. Other aquatic plants which occur within the site include intermediate water-starwort *Callitriche hamulata*, alternate-flowered water-milfoil *Myriophyllum alterniflorum* and bryophytes including *Rhynchostegium riparoides* and *Fontinalis antipyretica.* Marginal vegetation consists mainly of reed canary-grass *Phalaris arundinacea* with occasional branched bur-reed *Sparganium erectum*.

There is good tree cover along the banks of the River Dee and the tributaries, with the Ceiriog being tree lined on both banks along much of its length. The dominant species are alder *Alnus glutinosa* and willow *Salix* spp., with occasional ash *Fraxinus excelsior* and oak *Quercus* spp. Where sections of the riverbank have been fenced off the vegetation tends to be dominated by bramble *Rubus fruticosus* agg., nettles *Urtica dioica* and other tall ruderals.

The River Dee is recognised as one of North Wales' premier rivers for Atlantic salmon *Salmo salar*. The Mynach, Meloch and Ceiriog tributaries are the most important salmon spawning tributaries in the Dee catchment. Other migratory fish utilising the river system include river lamprey *Lampetra fluviatilus* and sea lamprey *Petromyzon marinus*. The Dee also supports important populations of non-migratory fish including bullhead *Cottus gobio* and brook lamprey *Lampetra planeri*. The otter *Lutra lutra* is well established throughout the river system, especially where appropriate bank side cover exists.

Qualifying habitats: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. (Rivers with floating vegetation often dominated by water-crowfoot)

Qualifying species: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:

- Atlantic salmon *Salmo salar*
- Brook lamprey *Lampetra planeri*
- Bullhead *Cottus gobio*
- Floating water-plantain *Luronium natans*
- Otter *Lutra lutra*
- River lamprey *Lampetra fluviatilis*
- Sea lamprey *Petromyzon marinus*

This citation relates to a site entered in the Register of European Sites for Great Britain.
Register reference number: UK0030252
Date of registration: 14 June 2005

Signed: [redacted]

On behalf of the Secretary of State for Environment, Food and Rural Affairs

The site is also entered in the Register of European sites for Wales, maintained by the National Assembly for Wales.

European Site Conservation Objectives for River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid Special Area of Conservation Site code: UK0030252

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- **The extent and distribution of qualifying natural habitats and habitats of qualifying species**
- **The structure and function (including typical species) of qualifying natural habitats**
- **The structure and function of the habitats of qualifying species**
- **The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely**
- **The populations of qualifying species, and,**
- **The distribution of qualifying species within the site.**

This document should be read in conjunction with the accompanying Supplementary Advice document (where available), which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

H3260. Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation; Rivers with floating vegetation often dominated by water-crowfoot

S1095. *Petromyzon marinus*; Sea lamprey

S1096. *Lampetra planeri*; Brook lamprey

S1099. *Lampetra fluviatilis*; River lamprey

S1106. *Salmo salar*; Atlantic salmon

S1163. *Cottus gobio*; Bullhead

S1355. *Lutra lutra*; Otter

S1831. *Luronium natans*; Floating water-plantain

This is a cross border site

This site crosses the border between England and Wales. Some features may only occur in one Country. The advice of Natural Resources Wales should therefore be sought separately.

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 as amended from time to time (the "Habitats Regulations"). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment', including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives and the accompanying Supplementary Advice (where available) will also provide a framework to inform the measures needed to conserve or restore the European Site and the prevention of deterioration or significant disturbance of its qualifying features.

These Conservation Objectives are set for each habitat or species of a Special Area of Conservation (SAC). Where the objectives are met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving Favourable Conservation Status for that species or habitat type at a UK level. The term 'favourable conservation status' is defined in regulation 3 of the Habitats Regulations.

Publication date: 27 November 2018 (version 4). This document updates and replaces an earlier version dated 5 February June 2016 to reflect the consolidation of the Habitats Regulations in 2017.

CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

FLINTSHIRE **MYNYDD Y FFLINT/FLINT MOUNTAIN**

Date of Notification: 19 May 2011

National Grid Reference: SJ 243709

OS Maps: 1:50,000 Sheet number: 116
1:10,000 Sheet number: SJ27SW

Site Area: 25.79ha

Description

The site is of special interest for its stands of unimproved neutral grassland and semi-natural broadleaved woodland, which occur in association with scrub, fen-meadow and swamp vegetation. Mynydd y Fflint/Flint Mountain SSSI is located 1km to the south of Flint, north of the village of Flint Mountain, at an altitude ranging from 35 - 70m.

The site follows the course of a brook within a valley with gentle slopes extending on either side. The slopes are free draining, with the underlying geology consisting of mudstones of the Upper Carboniferous Period, which are overlain by mostly till with some glacial sands and gravels.

The neutral grassland areas on the drier slopes are of high floristic quality and hold a range of grasses, including red fescue *Festuca rubra*, sweet vernal-grass *Anthoxanthum odoratum*, common bent *Agrostis capillaris*, Yorkshire fog *Holcus lanatus*, and crested dog's-tail *Cynosurus cristatus*. Herbs are prominent, with frequent to abundant common knapweed *Centaurea nigra*, common bird's-foot-trefoil *Lotus corniculatus*, ribwort plantain *Plantago lanceolata* and red clover *Trifolium pratense*, and frequent field woodrush *Luzula campestris* and bulbous buttercup *Ranunculus bulbosus*. Some notable plants include pale flax *Linum bienne* and an inland population of rest harrow *Ononis repens*.

Alder *Alnus glutinosa* with grey willow *Salix cinerea* dominates the large areas of semi-natural broadleaved woodland found mainly along the valley bottom. The ground flora varies greatly with areas dominated by great horsetail *Equisetum telmateia* with extensive beds of lesser pond sedge *Carex acutiformis* with scattered marsh willowherb *Epilobium palustre*; whilst other areas have frequent ivy *Hedera helix* with bramble *Rubus fruticosus* and yellow archangel *Lamiastrum galeobdolon*.

In places the vegetation grades into swamp dominated by lesser pond sedge *Carex acutiformis*, with scattering of associates such as water mint *Mentha aquatica*, great willowherb *Epilobium hirsutum*, marsh horsetail *Equisetum palustre*, and marsh marigold *Caltha palustris*. This in turn gives way to areas of rich mixed fen with the addition of the locally uncommon greater tussock sedge *Carex paniculata* and sneezwort *Achillea ptarmica*. Some notable associated species in this vegetation included figwort *Scrophularia nodosa*, and hemp agrimony *Eupatorium*

cannabinum.

The transition between the vegetation communities is well developed with small areas of fen-meadow dominated by the locally uncommon blunt flowered rush *Juncus subnodulosus* accompanied by fen bedstraw *Galium uliginosum*, angelica *Angelica sylvestris*, meadowsweet *Filipendula ulmaria*, marsh valerian *Valeriana dioica* and marsh thistle *Cirsium palustr*e. Mynydd y Fflint/Flint Mountain is only the second known site for this fen-meadow community in the North East Wales.

The site also supports a variety of other semi-natural vegetation types including areas bracken, scrub and other broadleaved woodland communities.

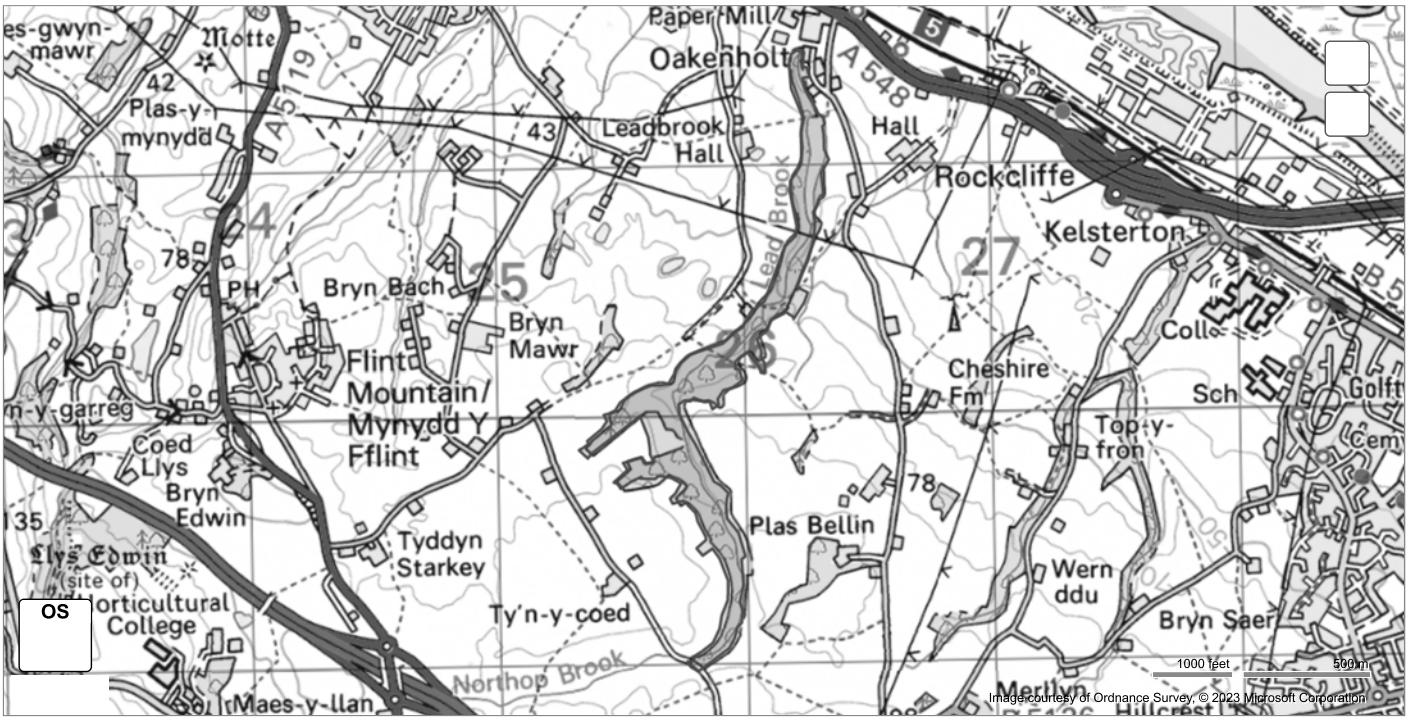
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Safleol

A Local Sites System for Wales

26NE10: Leadbrook Wood

Location:	Flintshire
Centroid Grid Reference:	SJ259701
Area:	35.1 ha
Site Description:	Semi-natural broad-leaved woodland occupying the dingles in which the Lead Brook and its tributaries flow. In several areas drainage is impeded. The woodland canopy is mainly dominated by ash and sycamore with some oak alder, beech, common lime and silver birch. The shrub layer has abundant holly, hazel and wych elm. Also present are hawthorn and grey willow. The ground flora has frequent dog's mercury, bramble, wood anemone, enchanter's nightshade, bluebell, opposite-leaved golden saxifrage and wood speedwell. In wet areas of the southern part of the wood, marsh marigold, giant horsetail and meadowsweet are prominent. The northern tip of the woodland is mixed. In the north, the woodland surrounds a reservoir and alder and oak are dominant with hemlock water-dropwort, yellow flag and figwort. Near Ty'n-y-coed there is a semi-improved and a species-rich marshy grassland, with oval sedge, ragged robin, common spotted orchid, sharp-flowered rush, cuckoo flower, carnation sedge and meadowsweet. On the slope above this is a herb-rich meadow with pignut, black knapweed, cat's-ear, crested dog's tail and sweet vernal grass.
Habitats:	Broad-leaved semi-natural woodland (30.241 ha), Mixed plantation (1.57 ha), Semi-improved neutral grassland (0.721 ha), Marsh/marshy grassland (0.438 ha), Swamp (0.278 ha), Standing water (1.945 ha)
Designation Reason:	Broad-leaved woodland and scrub, Pasture/meadow and scrub

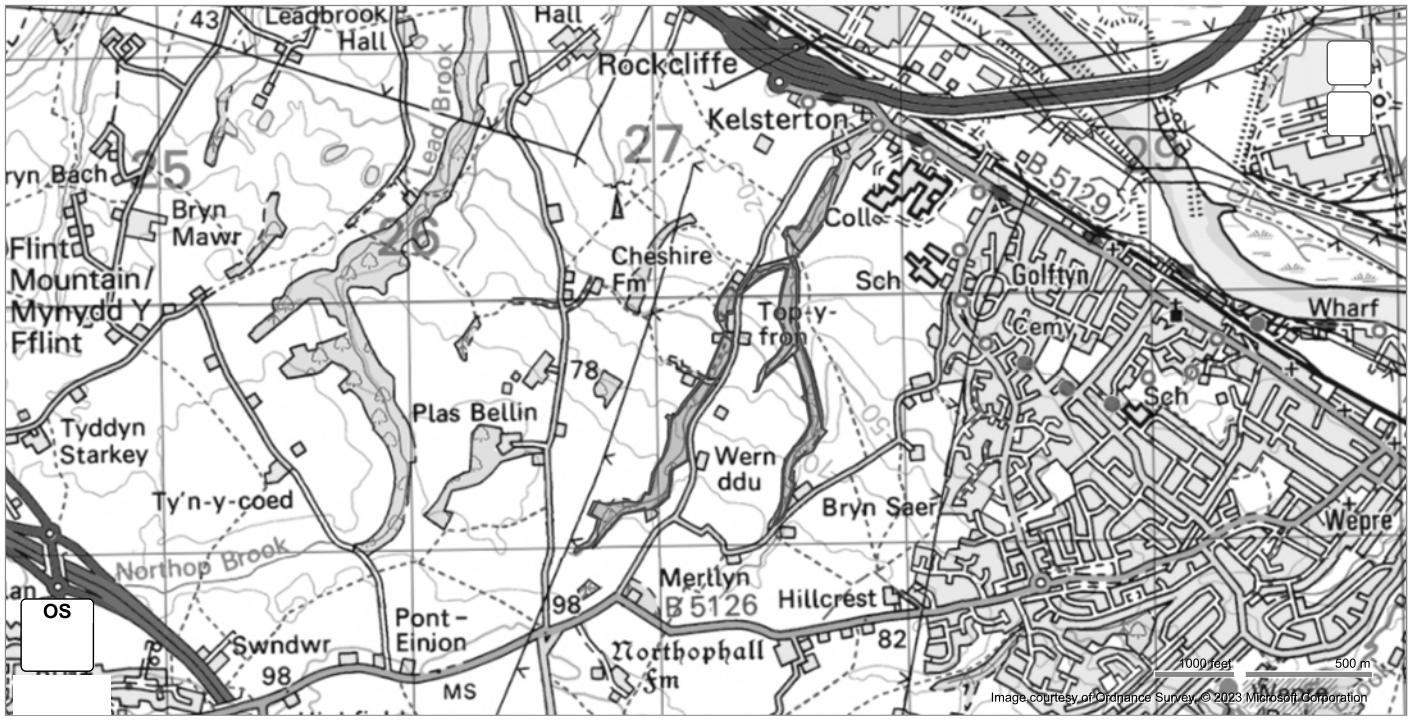


Safleol

A Local Sites System for Wales

26NE09: Top-y-fron Dingle and Kelserton Brook

Location:	Flintshire
Centroid Grid Reference:	SJ273696
Area:	16.4 ha
Site Description:	Semi-natural broad-leaved woodland occupying two narrow steep-sided steam valleys that join into one south of Kelsterton. The dominant woodland canopy species is sycamore, but sessile oak, alder, ash and birch are all locally dominant. The Kelsterton Brook section also has common lime and yew. The shrub layer is variable. Top-y-Fron Dingle has a shrub layer of holly, hazel, elder and canopy saplings. The northern section of Kelsterton Brook lacks a shrub layer and the southern section has abundant elder but rhododendron and other introduced species are locally dominant. There is a rich herb flora. In Top-y-Fron Dingle bramble, ramsons, opposite-leaved golden saxifrage, dog's mercury, wood sorrel and bryophytes are all frequent. The herb layer in the Kelsterton Dingle has frequent wood speedwell, dog's mercury, red campion with some nettle, bramble, bluebell, ramsons and rough meadow-grass. The northern part is dominated by rough meadow-grass.
Habitats:	Broad-leaved semi-natural woodland (16.335 ha)
Designation Reason:	Broad-leaved woodland and scrub

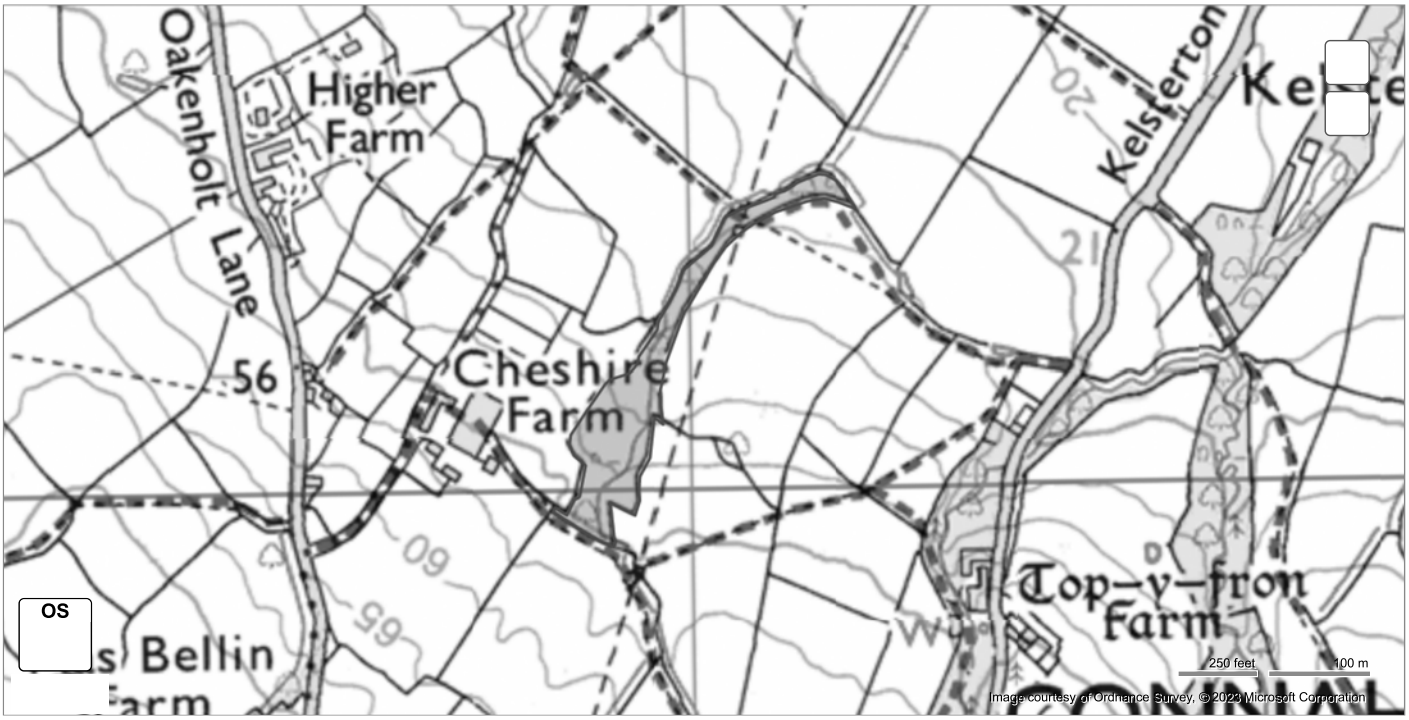


Safleol

A Local Sites System for Wales

27SE01: Cheshire Farm Wood

Location:	Flintshire
Centroid Grid Reference:	SJ269701
Area:	1.6 ha
Site Description:	Semi-natural broad-leaved woodland following the course of a small stream. The woodland canopy is dominated by sessile oak with some beech, sycamore and ash. The shrub layer contains wych elm, hawthorn, hazel and beech. The ground flora has abundant wood melick, soft grass and bluebell with pignut, wood anemone, wood speedwell, bramble and greater stitchwort.
Habitats:	Broad-leaved semi-natural woodland (1.617 ha)
Designation Reason:	Broad-leaved woodland and scrub



Appendix 6322/2:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)[1].

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable".*

3. Various characteristics contribute to the importance of ecological features, including:

- Naturalness;
- Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
- Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
- Endemic species or locally distinct sub-populations of a species;
- Habitat diversity;
- Habitat connectivity and/or synergistic associations;
- Habitats and species in decline;
- Rich assemblages of plants and animals;
- Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
- Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
- Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.

4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

[1] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

<u>Assigning Level of Importance</u>

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:

- International (European);
- National;
- Regional;
- County;
- District;
- Local (e.g. Parish or Neighbourhood);
- Site (not of importance beyond the immediate context of the site).

7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.

8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.

9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.

12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.

13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.

15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.

16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.

17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6322/3:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).

2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself[1]. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.

3. In summary, the key pieces of legislation relating to nature conservation in the UK are:

    - Wildlife and Countryside Act 1981 (as amended)
    - Protection of Badgers Act 1992
    - Hedgerows Regulations 1997
    - Countryside and Rights of Way (CRoW) Act for England and Wales 2000
    - Natural Environment and Rural Communities Act 2006
    - Conservation of Habitats and Species Regulations 2017

4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.

5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.

6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).

7. Under Section 1(1) of the Act, all wild birds are protected such that is an offence to intentionally:

    - Kill, injure or take any wild bird;
    - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
    - Take or destroy an egg of any wild bird.

    * The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.

8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:

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

[1] http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/

9. Under Section 9(1) of the Act, it is an offence to:

- Intentionally kill, injure or take any wild animal included in Schedule 5.

10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:

- Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
- Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.

11. Under Section 13(1) it is an offence:

- To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
- Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.

12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.

13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
- To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

\# A sett is defined as "*any structure or place which displays signs indicating current use by a Badger*". Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way

14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.

15. **Hedgerows Regulations 1997**. 'Important' hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify 'important' hedgerows for wildlife, landscape or historical reasons.

16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).

18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.

19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)[2] classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.

20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:

- Deliberately capture, injure or kill any wild animal of a European Protected Species;
- Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
- Deliberately take or destroy the eggs of such an animal;
- Damage or destroy a breeding site or resting place of such an animal.

21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.

22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

[2] Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

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Connah's Quay Power Station:
Southern Land Parcel

Phase 1 Habitat and Faunal Survey

July 2023

Quality Management	
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Project:	Connah's Quay Power Station: Southern Land Parcel
Report Title:	Phase 1 Habitat and Faunal Survey
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This report may contain sensitive information relating to protected species. All records of Badger setts must remain confidential. Where this report is circulated publicly or uploaded to online planning portals, reference to Badger setts must be redacted and any maps pertaining to the locations of Badger setts removed from the document.

Legal Guidance

The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

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Executive Summary

i) **Introduction.** Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Southern Land Parcel at Connah's Quay Power Station, Connah's Quay, Flintshire.

ii) **Survey.** The site was surveyed in August 2021 and April 2023 based on standard extended Phase 1 methodology. In addition, a general appraisal of faunal species was undertaken to record the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of bats, Badger and Otter.

iii) **Ecological Designations.** No part of the site is designated for its ecological importance. The nearest statutory designation to the site is the Dee Estuary (SPA, Ramsar and SAC). This is a vast site which extends substantially beyond the site's north-western boundary. The nearest non-statutory designation is Top-y-fron Dingle and Kelserton Brook (LWS) located approximately 380m south of the site, separated from it by industrial development, roads and the railway. Ecological designations in the surrounding area are physically separated from the site and are unlikely to be adversely affected by works at the site.

iv) **Habitats.** The site comprises areas of cleared ground, scrub, tall ruderal vegetation, and hardstanding.

v) **Protected Species.** The site generally offers few opportunities for protected species [redacted]
Although no trees or buildings are present that might be used by bats as roosting sites it is likely that bats forage and commute along linear habitats around the site perimeter. Otter are highly likely to make use of habitat outside the site boundary associated with the Dee Estuary, but are unlikely to make use of the site itself.

1 Introduction

1.1 Background and Proposals

1.1.1 Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Southern Land Parcel at Connah's Quay Power Station, Connah's Quay, approximately centred at grid reference SJ 288 703 (see Plan 6322/ECO1), hereafter referred to as 'the site'.

1.2 Site Overview

1.2.1 The site is located in north-east Flintshire in North Wales (see Plan 6322/ECO1). The site is bounded to the north and east by the River Dee. Connah's Quay Power Station is located immediately adjacent to the site's western boundary and a railway line defines the site's southern site boundary. The town of Connah's Quay extends to the south. The Deeside Industrial Park is present to the north and east across the River Dee.

1.2.2 The site itself comprises hard standing and disturbed land which has been recently cleared of scrub, grassland, and small patches of scrub and tall ruderal vegetation.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the desk study and baseline ecology surveys undertaken. The importance of the habitats and species present is evaluated.

2 Methodology

2.1 Data Search

2.1.1 Background information relevant to the site and its immediate surroundings to a distance of 2km was sourced from the North Wales Environmental Information Service (Cofnod) in August 2021. The data obtained comprised information on designated sites and species records.

2.1.2 Information on statutory designations was obtained from the MAGIC database[1], which uses data provided by Natural England, from within an extended search area of 25km. The MAGIC database was also searched for the presence of Priority Habitats within or adjacent to the site. Relevant information is reproduced in Appendix 6322/1 and on Plan 6322/ECO2.

2.1.3 In addition, the Woodland Trust database[2] was searched for records of ancient, veteran or notable trees within or in proximity to the site.

2.2 Habitat Survey

2.2.1 The site was surveyed in August 2021 and April 2023 to assess the general ecological value of the land and to identify the main habitats and ecological features present. Vegetation clearance has taken place at the site since 2021. The habitats described in this report are those present during the most recent survey. Habitats present are shown on Plan 6322/ECO3.

2.2.2 The site was surveyed based on standard Phase 1 Habitat Survey methodology[3], whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal[4] to record details on the actual or potential presence of any notable or protected species or habitats.

2.2.3 The nomenclature used for plant species within this report is based on that of the Botanical Society for the British Isles (BSBI) Checklist and Stace (2019) [5].

2.3 Faunal Surveys

2.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded during all surveys. Attention was paid to the potential presence of protected, rare or notable species as described below.

[1] Multi-Agency Geographic Information for the Countryside (MAGIC), https://magic.defra.gov.uk/

[2] Woodland Trust Ancient Tree Inventory, https://ati.woodlandtrust.org.uk/, consulted March 2022.

[3] Joint Nature Conservation Committee (2010, as amended) 'Handbook for Phase 1 habitat survey: A technique for environmental audit.'

[4] Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) 'Guidelines for Preliminary Ecological Appraisal.'

[5] Stace, C (2019) *'New Flora of the British Isles (4th Edition)'* C & M Floristics

Bats[6]

Visual Inspection Surveys

2.3.2 **Trees**. Trees were assessed for their suitability to support roosting bats based on the presence of potential roosting features such as holes, cracks, splits or loose bark. Suitability for roosting bats was rated based on relevant guidance[7] as:

- Negligible;
- Low;
- Moderate; or
- High.

2.3.3 Where possible. potential roost features identified were inspected for signs indicating possible use by bats, including staining, scratch marks or bat droppings.

Badger (*Meles meles*)

2.3.4 A Badger survey was carried out in August 2021 and again in April 2023. The survey, undertaken in accordance with standard methods[8], comprised two main elements. The first element involved searching for evidence of Badger setts. For any setts that were encountered, each sett entrance was noted and mapped. The survey set out to record the following information, where present:

- Number and location of well used / active entrances; these are clear from any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently;
- Number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance; and
- Number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.

2.3.5 The second element involved searching for signs of Badger activity such as well-worn paths and push-throughs, snagged hair, footprints, latrines and foraging signs, so as to build up a picture of any use of the site by Badger.

Otter (*Lutra lutra)*

2.3.6 The boundary of the site beside the Dee Estuary and all parts of the site itself were searched for signs of Otter[9] in August 2021 and again in April 2023. Such signs include holts (underground chambers used for lying up), spraints, prints, paths and slides. The southern bank of the estuary was examined where possible, using binoculars where appropriate.

[6] English Nature (2004) *'Bat Mitigation Guidelines'*

[7] Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

[8] Mammal Society (1989) '*Occasional Publication No. 9 – Surveying Badgers*'

[9] Life in UK Rivers (2003) *'Monitoring the Otter - Conserving Natura 2000 Rivers*'. Monitoring Series No. 10

Water Vole (*Arvicola amphibius)*

2.3.7 The boundary of the site beside the Dee Estuary and all parts of the site itself were searched for signs of Water Vole[10] in August 2021 and again in April 2023. Such signs include latrines, tunnels, lawns (small areas of vegetation grazed by Water Vole) and footprints. The southern bank of the estuary was examined where possible, using binoculars where appropriate.

2.4 Survey Constraints and Limitations

2.4.1 All of the species that occur in each habitat are not necessarily detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. The Phase 1 habitat surveys were undertaken within the optimal season and during different months, thereby allowing a robust and thorough assessment of habitats and botanical interest across the site.

2.4.2 All parts of the site were accessed at the time of both surveys.

2.4.3 The presence of invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was noted. However, the detectability of such species varies according to time of year, management regime and other factors and this report should not be taken as definitive regarding the presence or absence of such species at the site.

2.4.4 Densely vegetated habitats and areas that have limited access such as steep river banks may reduce the detectability of field signs of species such as Badger, Otter and Water Vole. Whilst some areas of dense vegetation are present within the site, these were searched as thoroughly as practicable and hence it is considered that the survey results provide a sufficiently accurate baseline to assess the potential impacts of the proposals on all species assessed.

2.5 Ecological Evaluation Methodology

2.5.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)[11], which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). Further detail is provided in Appendix 6322/2.

2.6 National Policy Approach to Biodiversity in the Planning System

2.6.1 National Planning Policy in Wales is set out in Planning Policy Wales (PPW)[12]. This describes policies designed to maximise environmental protection and limit environmental impact including the promotion of resilient biodiversity and ecosystems, citing biodiversity as an element in the delivery of distinctive and natural places, and ensuring environmental sustainability through good design.

[10] Surveys based on: Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) '*Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.*

[11] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine'*, ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

[12] Llywodraeth Cymru/Welsh Government (2021). *'Planning Policy Wales'*, Edition 11, February 2021.

2.6.2 PPW sets out a framework for the sustainable management of natural resources, which within which the planning system contribute by:

'• improving the resilience of ecosystems and ecological networks;

• halting and reversing the loss of biodiversity;

• maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions;' amongst other measures.

2.6.3 PPW embeds the protection and enhancement of biodiversity within all components of the planning system in Wales, stating that:

'Biodiversity loss should be reversed, pollution reduced, environmental risks addressed and overall resilience of ecosystems improved.'

2.6.4 The approach to dealing with biodiversity in the context of planning applications is set out on Section 6.4, stating:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.'

and

'Development plan strategies, policies and development proposals must consider the need to:

• support the conservation of biodiversity, in particular the conservation of wildlife and habitats;

• ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;

• ensure statutorily and non-statutorily designated sites are properly protected and managed;

• safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and

• secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.'

'All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission.'

2.6.5 PPW does not currently mandate a target for Biodiversity Net Gain, but does set out that:

'…development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity;'

'…planning decisions should incorporate measures which seek the creation, restoration and appropriate management of green networks and linkages between habitats and maintaining and enhancing other green infrastructure features and networks'.

2.6.6 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019[13], which involves the following step-wise process:

- **Avoidance –** avoiding adverse effects through good design;
- **Mitigation –** where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation –** where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement –** planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.6.7 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

2.7 Local Policy

2.7.1 The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)'. Policies that relate specifically to ecology and biodiversity are set out below.

2.7.2 Policy EN2: Green Infrastructure

"Development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate:

a. Create new green infrastructure linkages from the proposed development to the existing local network;

b. Fill in gaps in the existing network to improve connectivity.

Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required."

2.7.3 Policy EN3: Undeveloped Coast and Dee Estuary Corridor states:

"Within the undeveloped coast development will only be permitted where:

a. It can be demonstrated a coastal location is essential;

[13] British Standards Institution (2013) '*Biodiversity – Code of practice for planning and development*', BS 42020:2019

b. *It conserves and enhances the open character of the coast;*

c. *It would not unacceptably harm areas of nature conservation, landscape or biodiversity;*

d. *It would not harm existing or proposed recreational or active travel routes;*

e. *Extensive coastal protection measures are not required; and*

f. *It would not be potentially at risk of flooding nor unacceptably increase erosion or flooding or interfere with natural coastal processes."*

2.7.4 Policy EN6: Sites of Biodiversity and Geodiversity Importance states:

"Development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance. Proposals where adverse effects on site integrity cannot be ruled out would not be supported.

Development likely to impact the special features of a Nationally Designated Site will only be granted in exceptional circumstances where appropriate compensation can be provided. Development proposals that would have a significant adverse effect on locally designated sites or site with other biodiversity and / or geological interest, including priority species, will only be permitted where:

a. *it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the site; and*

b. *it can be demonstrated that the development cannot reasonably be located elsewhere; and*

c. *any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided.*

Development that results in the restoration, enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems."

2.7.5 Policy EN7: Development Affecting Trees, Woodlands and Hedgerows states:

"Development proposals that will result in significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value will not be permitted.

Where the impact of development affecting trees, woodlands or hedgerows is considered acceptable, development will only be permitted where:

a. *the development maximises their retention through sensitive design*

b. *measures; and*

c. *where the removal of trees is considered necessary, suitable replacements*

d. *shall be provided elsewhere within the site; and*

e. *it results in a net benefit in biodiversity."*

2.7.6 Policy EN7: Development In or Adjacent to Conservation Areas states:

"Development within or adjacent to a conservation area will only be permitted if it would preserve or enhance the character and appearance of the conservation area or its setting. New development in such locations must also be of a high standard of design, respond to the area's special characteristics, and pay particular regard to:

a. important views, vistas, street scenes, roofscapes, trees, open spaces, gaps and other features that contribute to the character or appearance of the conservation area;

b. the retention of historically significant boundaries or other elements that contribute to the established form of development;

c. the relationship to existing buildings and spaces, and pattern of development;

d. scale, height and massing, architectural design and detailing, the use of materials, boundary treatment, and public realm materials."

3 Ecological Designations

3.1 Statutory Designations

Description

3.1.1 The statutory designations of ecological importance that occur within the local area are shown on Plan 6322/ECO2.

3.1.2 The Dee Estuary Special Protection Area (SPA), Ramsar site, Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI), all of which designations cover the same area, lie immediately adjacent to the site beyond its north-eastern boundary. The Dee Estuary is designated as a SPA and Ramsar site on the basis of its breeding and winter waterbird populations and assemblages. It is designated as a SAC on the basis of its mudflats and sandflats, annual colonising mud and sand and Atlantic salt meadow habitats (see Appendix 6322/1 for citation sheets).

3.1.3 The next closest statutory designation to the site is the River Dee and Bala Lake Special Area of Conservation (SAC) is located approximately 1.4km east of the site at its closest point. This is an extensive site covering over 1200ha extending through North Wales along the River Dee to Bala Lake. The SAC is designated for Atlantic Salmon *Salmo salar*, Floating Water-plantain *Luronium natans*, and for comprising a watercourse of plain to montane level with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation characterised by an abundance of Water-crowfoot *Ranunculus* spp.

3.1.4 Other statutory designations in the wider area include Deeside and Buckley Newt Sites SAC, the closest component part of which is Connah's Quay Ponds and Woodland SSSI approximately 2.0km south of the site, Mynydd y Fflint/Flint Mountain SSSI approximately 3.0km to the west and Halkyn Mountain SAC over 5km to the west.

Evaluation

3.1.5 No statutory designation is likely to be at risk of adverse effects as a result of works at the site.

3.2 Non-statutory Designations

Description

3.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 6322/ECO2. The nearest non-statutory designation is Top-y-fron Dingle and Kelserton Brook LWS approximately 380m south-west of the site, separated from it by industrial development, roads and the railway. This LWS is designated because it is an area of semi-natural broad-leaved woodland occupying a deeply wooded valley in which the Kelsterton Brook flows (see Appendix 6322/1 for citation).

3.2.2 The next nearest non-statutory designation is Cheshire Farm Wood (LWS), a small area of semi-natural broadleaved woodland following the course of a small stream 950m south-west of the site. Leadbrook Wood Local Wildlife Site (LWS), another wooded valley site, is located approximately 1.6km west of the site.

3.2.3 All non-statutory designations are separated from the site by intervening development and road and rail infrastructure and are not likely to be at risk of adverse effects resulting from works undertaken at the site.

Evaluation

3.2.4 The site itself is not subject to any non-statutory nature conservation designations. All non-statutory designations in the surrounding area are sufficiently distant from the site and separated by other land uses that they are unlikely to be affected by activities at the site.

3.3 Priority Habitats, Ancient Woodland and Notable Trees

Description

3.3.1 No Priority habitats are located within the site, however, the Priority Habitat Saltmarsh is present outside the site immediately adjacent to the northern and western site boundaries, within the River Dee Estuary.

3.3.2 There are no areas of ancient woodland within the site or its wider area.

3.3.3 There are no records of any notable or veteran trees within or adjacent to the site.

4 Habitats and Ecological Features

4.1 Background Records

4.1.1 Data supplied by Cofnod from the last 10 years within 2km of the site included records of the Flintshire Rare plant species (occurring in no more than three 2km tetrads within the vice-county) Rock Samphire *Crithmum maritimum*, Caper Spurge *Euphorbia lathyris*, Narrow-leaved Pepperwort *Lepidium ruderale*, Sweet Briar *Rosa rubiginosa*, Annual Pearlwort *Sagina apetala* subsp. *apetala*, Long-spiked Glasswort *Salicornia dolichostachya*, Wild Clary *Salvia verbenaca*, Knotted Hedge-parsley *Torilis nodosa* and Navelwort *Umbilicus rupestris.*

4.1.2 Records were also returned of the Flintshire Scarce species (occurring in 4-8 2km tetrads) Red Goosefoot *Chenopodium rubrum*, Perennial Wall-rocket *Diplotaxis tenuifolia*, Wood Spurge *Euphorbia amygdaloides*, Small-flowered Crane's-bill *Geranium pusillum*, Stinking Iris *Iris foetidissima*, Prickly Lettuce *Lactuca serriola*, Narrow-leaved Meadow-grass *Poa angustifolia* and Reflexed Saltmarsh-grass *Puccinellia distans.*

4.1.3 Records were also returned of numerous invasive species including Japanese Knotweed *Fallopia japonica*, Himalayan Balsam *Impatiens glandulifera,* Cherry Laurel *Prunus laurocerasus* and *Cotoneaster* sp.

4.1.4 No evidence of the presence of any of these species within the site was recorded during any of the surveys undertaken.

4.2 Overview

4.2.1 The habitats and ecological features present within the site are described below and evaluated in terms of whether they constitute an important ecological feature and their level of importance, taking into account the status of habitat types and the presence of rare plant communities or individual plant species of elevated interest. The likely effects of potential works on these habitats and ecological features are then assessed. The value of habitats for the fauna they may support is considered separately in Chapter 5 below.

4.2.2 The following habitats and ecological features were identified within the site:

- Rough Grassland;
- Scrub;
- Tall Ruderal Vegetation; and
- Cleared Ground and Hardstanding.

4.2.3 These habitats and features are shown on Plan 6322/ECO3 and described below.

4.3 Priority Habitats

4.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats which are of principal importance for conservation in England. This list is largely derived from the 'Priority Habitats' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.

4.3.2 Of the habitats within the site, none are likely to qualify as Priority Habitat.

4.4 Rough Grassland

Description

4.4.1 The eastern section of the site largely comprises open rough grassland, dominated by common and widespread species including Perennial Rye-grass *Lolium perenne*, Creeping Bent *Agrostis stolonifera*, Red Fescue *Festuca rubra,* Yorkshire-fog *Holcus lanatus* and Cock's-foot *Dactylis glomerata*. Herbs include Creeping Thistle *Cirsium arvense*, Ragwort *Senecio jacobaea*, Nettle *Urtica dioica,* Dock *Rumex* sp., Hogweed *Heracleum sphondylium* and Burdock *Arctium minus*. Areas of bare ground are present in patches where scrub had been cleared.

Evaluation

4.4.2 Overall, the grassland supports a low diversity of common and widespread species, and is considered to be of low ecological value. This grassland does not form an important ecological feature.

4.5 Scrub

Description and Evaluation

4.5.1 Areas of dense and scattered scrub are present around the boundaries of the site as shown on Plan 6322/ECO3.

4.5.2 Dense scrub is present beside the southern site boundary in a thin strip, becoming denser to the west. Scattered scrub is present in isolated locations distributed around the site. Previously, scrub was present in greater density but has been recently cleared across the majority of the site.

4.5.3 Scrub comprises common and widespread species of limited botanical interest including Silver Birch *Betula pendula,* Butterfly-bush *Buddleia davidii*, Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa*, Bramble *Rubus fruticosus* agg. and Elder *Sambucus nigra*.

4.5.4 The areas of scrub within the site comprise common and widespread species of low botanical interest. These habitats are not important ecological features and their loss would be of minor significance.

4.6 Tall Ruderal Vegetation

Description and Evaluation

4.6.1 Several small areas of tall ruderal vegetation were recorded in association with areas of scrub (see Plan 6322/ECO3).

4.6.2 Tall ruderal vegetation was dominated by Common Nettle, Hogweed, Mugwort *Artemisia vulgaris*, and Redshank *Persicaria maculosa*. These are common and widespread species of limited botanical interest which readily colonise field margins and disturbed ground. Tall ruderal vegetation does not constitute an important ecological feature and its loss would be of negligible ecological significance.

4.7 Cleared Ground and Hard Standing

Description and Evaluation

4.7.1 Tracks within the site, and areas of exposed clinker/gravel substrate are abundant throughout the site, particularly since scrub clearance has been undertaken. These areas are largely devoid of vegetation except for patches of naturally colonising species, notably ruderals, and are of negligible ecological value.

4.8 Habitat Evaluation Summary

4.8.1 On the basis of the above, none of the habitats within the site are considered to form important ecological features.

5 Faunal Use of the Site

5.1 Overview

5.1.1 During the survey work, general observations were made of faunal use of the site with particular attention paid to the potential presence of protected or notable species. Specific surveys and assessments were undertaken in respect of Badgers, bats, Otter and Water Vole as described below.

5.1.2 Surveys for birds and reptiles have also been undertaken at the site and these are documented in separate reports.

5.2 Priority Species

5.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of species which are of principal importance for conservation in England. This list is largely derived from the 'Priority Species' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority species under the subsequent country-level biodiversity strategies.

5.2.2 During the survey work undertaken, no Priority Species were recorded within the site. This is discussed further below.

5.3 Bats

5.3.1 **Legislation.** All British bats are listed as European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended) and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 6322/3 for detailed provisions). If works are likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. Given all bats are protected species, they are considered to represent important ecological features. A number of bat species are also S41 Priority Species.

5.3.2 **Background Records.** No records of bats from within or adjacent to the site were returned from the desk study. Data from within 2km of the site included records of Pipistrelle *Pipistrellus* sp., Daubenton's Bat *Myotis daubentonii*, and Whiskered Bat *Myotis mystacinus.*

5.3.3 **Survey Results and Evaluation**

Roosting

Trees

5.3.4 All trees within the site were assessed for their suitability to support roosting bats. The only trees with potential to support roosting bats were those within tree line **TL1**, assessed as of low potential on the basis of the trees being of a size and age suitable to contain potential roosting features.

5.3.5 Bats are dynamic animals that can readily colonise new sites where potential exists. Natural England guidance in respect of European Protected Species[14] such as bats advises that, even where proposals are reasonably unlikely to result in any offence, such that licensing is not required, reasonable precautions should be taken to minimise the risk to protected species in the unlikely event that they should be found during the course of activities that may disturb roosts.

Foraging / Commuting

5.3.6 The habitats present on site include a mixture of rough grassland, scrub, hedgerows, ponds and a tree line that may potentially be used by foraging bats, although connectivity with suitable areas of habitat off-site is limited. It is possible that the adjacent railway corridor may offer some connectivity and foraging potential for bats, as might the River Dee corridor, although as it comprises a large open estuarine area any bat activity is likely to be limited. Lighting from the power station and the town of Connah's Quay is anticipated to further limit the suitability of the area to provide important features used by bats.

5.4 Badger

5.4.1 **Legislation.** Badger receive legislative protection under the Protection of Badgers Act 1992 (see Appendix 6322/3 for detailed provisions), and as such should be assessed as an important ecological feature. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status; Badger is common throughout most of Britain. It is the duty of planning authorities to consider the conservation and welfare impacts of development upon Badger and issue permissions accordingly.

5.4.2 Licences can be obtained from Natural England for development activities that would otherwise be unlawful under the legislation. Guidance on the types of activity that should be licensed is laid out in the relevant best practice guidance. [15, 16]

5.4.3 **Background Records.** Records for Badger were returned from within 2km of the site, although precise locations are unspecified.

5.4.4 **Survey Results and Evaluation** [redacted]

5.4.5 [redacted]

5.5 Dormouse

5.5.1 **Legislation.** Dormouse is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals

[14] Natural England (2013) *'European Protected Species: Mitigation Licensing - How to get a licence (WML-G12)'*
[15] English Nature (2002) '*Badgers and Development*'
[16] Natural England (2011) '*Badgers and Development: A Guide to Best Practice and Licensing'*, Interim Guidance Document

of the species and their breeding sites and places of rest (see Appendix 6322/3 for detailed provisions). Dormouse is also a S41 Priority Species. On this basis, Dormouse is considered to form an important ecological feature.

5.5.2 **Background Records.** No records of Dormouse were returned from the local record centre from within 2km of the site.

5.5.3 **Survey Results and Evaluation.** The site is close to the limits of the known UK distribution of this species. Habitats present provide very limited opportunities for Dormouse, restricted to scrub but this habitat lacks the structure and preferred species such as Hazel *Corylus avellana* and Honeysuckle *Lonicera periclymenum*. The site also lacks connectivity with offsite habitats, being isolated by the River Dee to the north and east, and development to the west and south.

5.5.4 The lack of connectivity and limited suitability, combined with the lack of local records and the UK location of the site, indicates that Dormouse is likely to be absent from the site.

5.6 Otter and Water Vole

5.6.1 **Legislation.** Otter is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals of the species and their breeding sites and places of rest (see Appendix 6322/3 for detailed provisions). Otter is also a S41 Priority Species. On this basis, Otter is considered to represent an important ecological feature.

5.6.2 Water Vole is also fully protected under the Wildlife and Countryside Act 1981 (as amended). Water Vole is also a S41 Priority Species. As such, this species is considered to represent an important ecological feature. The legislation affords protection to individuals of the species and their breeding sites and places of shelter (see Appendix 6322/3 for detailed provisions).

5.6.3 If, despite all reasonable efforts, properly authorised development will adversely affect Water Vole and there are no alternative habitats nearby, Natural England may issue a licence to displace or trap and translocate Water Vole for the purpose of development. To issue such a licence, Natural England would need to be assured there is no reasonable alternative to the development and that there are no other practical solutions that would allow Water Vole to be retained at the same location. Natural England would also require no net loss of Water Vole habitat resulting from the works.

5.6.4 **Background Records.** Several records of Otter and Water Vole were returned from within 2km of the site. Two records of Water Vole originated from a site North of the River Dee and three records of Otter were associated with the River Dee itself.

5.6.5 **Survey Results and Evaluation.** The habitats within the site itself are generally unsuitable for Otter and Water Vole, however the offsite adjacent River Dee Estuary provides highly suitable foraging and commuting habitat for Otter with potential for resting sites, including along the sea wall adjacent to (outside) the northern boundary of the site.

5.6.6 The River Dee Estuary does not provide suitable habitat for Water Vole which favours smaller, more densely vegetated watercourses.

5.6.7 Targeted surveys for evidence of Otter and Water Vole were undertaken at the site in August 2021 and again in April 2023. No evidence of Otter or Water Vole was found during

any of the surveys undertaken and it is concluded that neither species currently makes use of habitats within the site. Nevertheless, it is highly likely that Otter make use of the corridor of the River Dee and its fringing habitats outside the site boundary, notably areas of saltmarsh in which dee channels have been cut within the mud. Otter may therefore be present within the site irregularly.

5.7 Other Mammals

5.7.1 **Legislation.** Other native UK mammals receive protection against acts of cruelty (e.g. under the Wild Mammals (Protection) Act 1996). Additionally, some are S41 Priority Species and should therefore be assessed as important ecological features.

5.7.2 **Background Records.** Records of Hedgehog *Erinaceus europaeus* (Priority Species), Stoat *Mustela erminea* and Brown Hare *Lepus europaeus* were returned from within 2km of the site.

5.7.3 **Survey Results and Evaluation.** No evidence of any other protected, rare or notable mammal species was recorded within the site. Other mammal species likely to make use of the site, such as Fox *Vulpes vulpes*, remain common in both a local and national context. As such, these species are not a material planning consideration and the loss of potential opportunities for these species would be of negligible significance.

5.7.4 The data search returned background records of Hedgehog within the surrounding area. Hedgehog is a Priority Species, albeit one that remains common and widespread in England. The site offers potential opportunities for this species, particularly in the form of areas of scrub, tall ruderal vegetation and grassland, and therefore it is likely that Hedgehog uses the site, and as such is assessed as of importance at the site level.

5.8 Amphibians

5.8.1 **Legislation.** All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt is protected under the Act and is also classed as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). As such, both Great Crested Newt and habitats utilised by this species are afforded protection (see Appendix 6322/3 for detailed provisions). Great Crested Newt is also a S41 Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita*, and Pool Frog *Pelophylax lessonae*. As such, these species should be assessed as important ecological features.

5.8.2 **Background Records.** No specific records of amphibians from within or adjacent to the site were returned by the data search. Three records of Smooth Newt *Lissotriton vulgaris* were returned from within 2km of the site.

5.8.3 **Survey Results and Evaluation.** No water bodies are present on site. Three ponds and a number of drainage ditches are present within 250m of the site boundary, although these are separated from site by the railway line, roads and developed land.

5.8.4 The Dee Estuary SAC/SPA/Ramsar site lists a breeding population of Natterjack Toad *Epidalea calamita* as a qualifying species. However, this is a reintroduced population that is restricted to the Gronant Dunes and Talacre Warren SSSI, located 19.5km north-west of the site. As such, given the distance from the known population and the lack of suitable Natterjack Toad habitat present within the site, Natterjack Toad is considered to be absent from the site.

5.9 Invertebrates

5.9.1 **Legislation.** Several invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ramshorn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended); see Appendix 6322/3 for detailed provisions. A number of invertebrates are also S41 Priority Species. Where such species are present, they should be assessed as important ecological features.

5.9.2 **Background Records.** No records of invertebrates were returned from within or adjacent to the site. A number of records of Wall *Lasiommata megera*, Small Heath *Coenonympha pamphilus*, Autumnal Rustic *Eugnorisma glareosa*, Garden Dart *Euxoa nigricans*, White-line Dart *Euxoa tritici*, Oak Hook-tip *Watsonalla binaria*, White Ermine *Spilosoma lubricipeda*, Buff Ermine *Spilosoma lutea*, Blood-vein *Timandra comae* and Cinnabar *Tyria jacobaeae* (Priority Species) were returned from Cofnod from within 2km of the site.

5.9.3 **Survey Results and Evaluation.** No evidence of the presence of any protected, rare or notable invertebrate species was recorded within the site. The site contains relatively few micro-habitats that would typically indicate elevated potential for invertebrates[17], such as a variable topography with areas of vertical exposed soil, areas of species-rich semi-natural vegetation; variable vegetation structure with frequent patches of tussocks combined with short turf; free-draining light soils; walls with friable mortar or fibrous dung. Accordingly, given the habitat composition of the site and lack of adjacent sites designated for significant invertebrate interest, it is considered unlikely that significant protected, rare or notable invertebrate populations are present, and the site is unlikely to support an important invertebrate assemblage.

5.10 Summary

5.10.1 On the basis of the above, a summary of the evaluation of fauna is provided below:

Table 5.1. Evaluation summary of fauna forming important ecological features.

Species / Group	Supported by or associated with the site	Level of Importance
Bats – Roosting	Potential habitat in the form of trees	Local
[redacted]		
Otter	Likely commuting habitat offsite; potential for occasional presence within the site	Negligible
Hedgehog	Local records of presence; suitable habitat on site	Site

[17] Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

6 Conclusions

6.1.1 Aspect Ecology has carried out baseline ecological surveys at the Connah's Quay Power Station Southern Land Parcel, based on the results of a desk study and ecological surveys of the site.

6.1.2 No statutory or non-statutory nature conservation designations are present within the site although the Dee Estuary SPA/Ramsar/SAC is present in close proximity.

6.1.3 The surveys undertaken have shown that the site is dominated by habitats of low ecological importance, none of which are likely to qualify as Priority Habitat.

6.1.4 [redacted]

6.1.5 Studies undertaken at the site in respect of reptiles and birds are reported separately.

Plan 6322/ECO1:

Site Location



Key:

Site Location

aspect ecology

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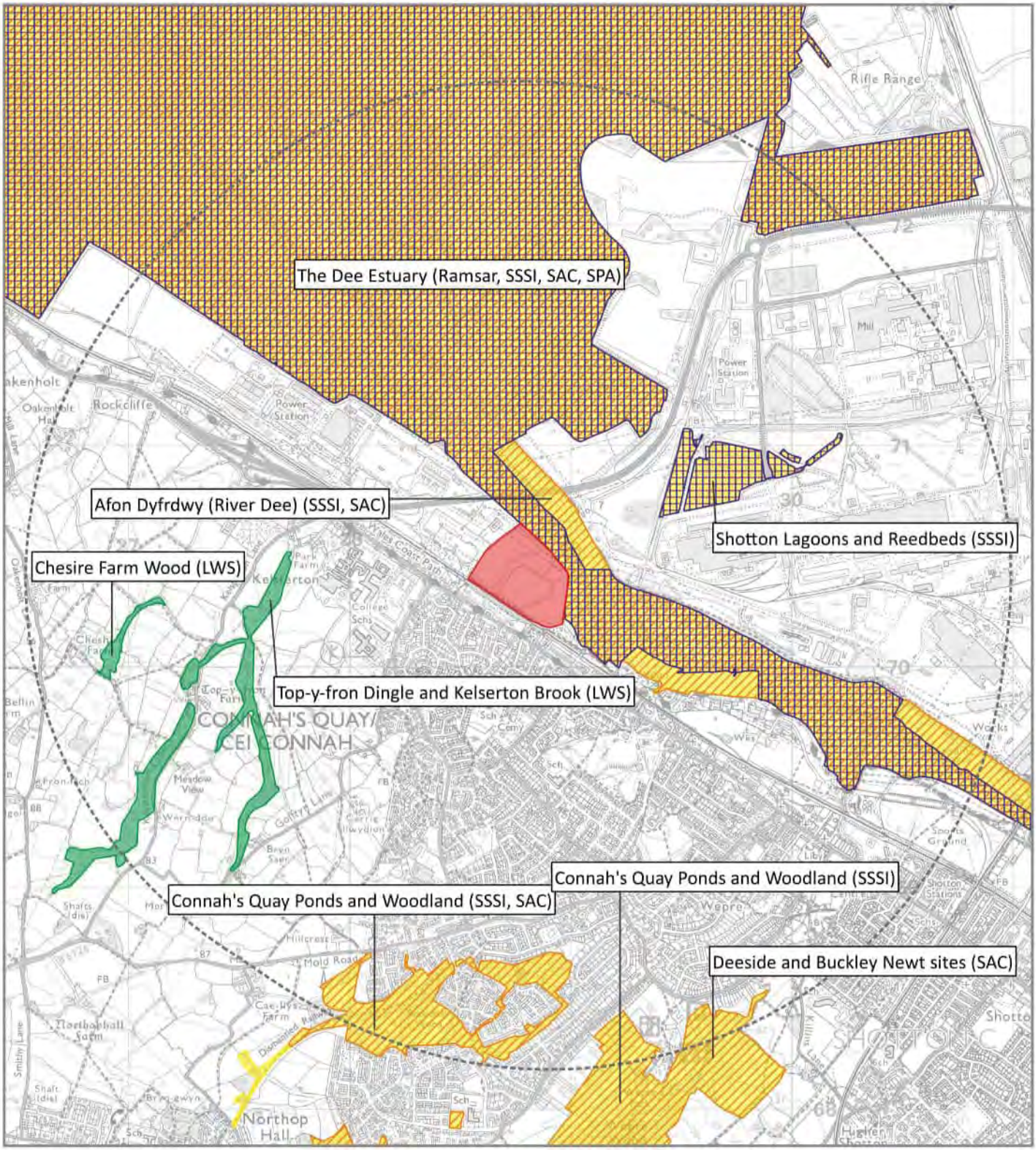
Connah's Quay (South)	PROJECT
Site Location	TITLE
6322/ECO1	DRAWING NO.
A/BG	REV.
April 2023	DATE

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Plan 6322/ECO2:

Ecological Designations



Key:

- Site Location
- 2km Study Area
- Ramsar Site
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)

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Connah's Quay (South)	PROJECT
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Plan 6322/ECO3:

Habitats and Ecological Features



Key:

- Site Boundary
- Bare Ground/Recolonising
- Bracken
- Building
- Dense Scrub
- Hardstanding
- Rough Grassland
- Tall Ruderal
- Scattered Scrub
- Tree

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Connah's Quay (South)	PROJECT
Habitats and Ecological Features	TITLE
6322/ECO3	DRAWING NO.
A/BG	REV
April 2023	DATE

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Appendix 6322/1:

Desk Study Data

EC Directive 79/409 on the Conservation of Wild Birds: Citation for Special Protection Area (SPA)

Name: The Dee Estuary

Unitary Authority/County: Cheshire West and Chester, Denbighshire, Flintshire, Wirral.

Boundary of the SPA: The Dee Estuary SPA encompasses the Dee Estuary/Aber Afon Dyfrdwy Site of Special Scientific Interest (SSSI); the dunes and intertidal foreshore at Gronant Dunes and Talacre Warren SSSI; the freshwater marsh at Inner Marsh Farm SSSI; and the lagoons and reedbeds at Shotton Lagoons and Reedbeds. The boundary of the SPA is shown on the map enclosed.

Site description: The Dee Estuary lies on the border between England and Wales on the north-west coast of Britain. It is a large, funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish and swamp vegetation on the upper shore. The site also includes the three sandstone islands of Hilbre, with their important cliff vegetation and maritime heathland and grassland. The two shorelines of the estuary show a marked contrast between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England. The site is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders; in summer the site supports nationally important breeding colonies of two species of tern. The site is also important during migration periods, particularly for wader populations moving along the west coast of Britain and for Sandwich terns post-breeding.

Size of SPA: 14,291.56 ha.

European ornithological interest of SPA:

Qualifying species:
The site qualifies under **Article 4.1** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season:

Annex I species	Count and Season	Period	% of GB population
Bar-tailed Godwit *Limosa lapponica*	1,150 individuals - wintering	5 year peak mean 1994/95 - 1998/99	2.2%
Common Tern *Sterna hirundo*	392 pairs - breeding	5 year mean 1995 – 1999	3.2%
Little Tern *Sterna albifrons*	69 pairs – breeding	5 year mean 1995 - 1999	2.9%
Sandwich Tern *Sterna sandvicensis*	957 individuals- autumn passage	5 year mean 1995 - 1999	2.3%

The site qualifies under **Article 4.2** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season:

Migratory species	**Count and Season**	**Period**	**% of population**
Redshank *Tringa totanus*	8,795 individuals - passage	5 year mean 1994/95 – 1998/99	5.9% Eastern Atlantic (wintering)
Shelduck *Tadorna tadorna*	7,725 individuals - wintering	5 year mean 1994/95 - 1998/99	2.6% Northwestern Europe
Teal *Anas crecca*	5,251 individuals - wintering	5 year mean 1994/95 - 1998/99	1.3% Northwestern Europe
Pintail *Anas acuta*	5,407 individuals - wintering	5 year mean 1994/95 - 1998/99	9.0% Northwestern Europe
Oystercatcher *Haematopus ostralegus*	22,677 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Europe & N/W Africa (wintering)
Grey Plover *Pluvialis squatarola*	1,643 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Eastern Atlantic (wintering)
Knot *Calidris canutus islandica*	12,394 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% NE Can/Grl/ Iceland/NW Eur
Dunlin *Calidris alpina*	27,769 individuals - wintering	5 year mean 1994/95 - 1998/99	2.0% N Siberia/Europe/ W Africa
Black-tailed Godwit *Limosa limosa islandica*	1,747 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Iceland (breeding)
Curlew *Numenius arquata*	3,899 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Europe (breeding)
Redshank *Tringa totanus*	5,293 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% Eastern Atlantic (wintering)

Assemblage qualification
The site qualifies under **article 4.2** of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:

In the non-breeding season, the area regularly supports 120,726 individual waterbirds (5 year peak mean 1994/95 - 1998/99), including: Great Crested Grebe *Podiceps cristatus*, Cormorant *Phalacrocorax carbo*, Shelduck *Tadorna tadorna*, Wigeon *Anas penelope*, Teal *Anas crecca*, Pintail *Anas acuta*, Oystercatcher *Haematopus ostralegus*, Grey Plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Knot *Calidris canutus*, Sanderling *Calidris alba*, Dunlin *Calidris alpina*, Black-tailed Godwit *Limosa limosa islandica*, Bar-tailed Godwit *Limosa lapponica*, Curlew *Numenius arquata* and Redshank *Tringa totanus*.

Non-qualifying species of interest: Leach's Petrel *Oceanodroma leucorhoa*, Little Egret *Egretta garzetta*, Bewick's Swan *Cygnus columbianus bewickii*, Whooper Swan *Cygnus cygnus*, Smew *Mergellus albellus*, Hen Harrier *Circus cyaneus*, Merlin *Falco columbarius*, Peregrine *Falco peregrinus*, Golden Plover *Pluvialis apricaria*, Ruff *Philomachus pugnax*, Wood Sandpiper *Tringa glareola*, Short-eared Owl *Asio flammeus* and Kingfisher *Alcedo atthis* (all Annex 1 species) occur in non-breeding numbers of less than European importance (less than 1% of the GB population).

Status of SPA:
The Dee Estuary was first classified as a Special Protection Area on 17 July 1985. The boundaries and site features were revised on 10 December 2009.

European Site Conservation Objectives for The Dee Estuary Special Protection Area Site Code: UK9013011

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying Conservation Advice document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

A048 *Tadorna tadorna*; Common shelduck (Non-breeding)
A052 *Anas crecca*; Eurasian teal (Non-breeding)
A054 *Anas acuta*; Northern pintail (Non-breeding)
A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)
A141 *Pluvialis squatarola*; Grey plover (Non-breeding)
A143 *Calidris canutus*; Red knot (Non-breeding)
A149 *Calidris alpina alpina*; Dunlin (Non-breeding)
A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)
A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
A160 *Numenius arquata*; Eurasian curlew (Non-breeding)
A162 *Tringa totanus*; Common redshank (Non-breeding)
A191 *Sterna sandvicensis*; Sandwich tern (Non-breeding)
A193 *Sterna hirundo*; Common tern (Breeding)
A195 *Sterna albifrons*; Little tern (Breeding)
Waterbird assemblage

This is a cross border site

This site crosses the border between England and Wales. Some features may only occur in one Country. The advice of Natural Resources Wales should therefore be sought separately.

This is a European Marine Site

This SPA is a part of the Dee Estuary European Marine Site (EMS). These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS.

Natural England's formal Conservation Advice for European Marine Sites can be found via GOV.UK.

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a Special Protection Area (SPA).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 21 February 2019 (version 4). This document updates and replaces an earlier version dated 5 February 2016 to reflect the consolidation of the Habitats Regulations in 2017.

Special Areas of Conservation

Dee Estuary/ Aber Dyfrdwy

Designated Special Area of Conservation (SAC)

Country	England/Wales
Unitary Authority	Cheshire, East Wales, Extra-Regio, Merseyside, West Wales and The Valleys
Centroid*	SJ191819
Latitude	53.32833333
Longitude	-3.216111111
SAC EU Code	UK0030131
Status	Designated Special Area of Conservation (SAC)
Area (ha)	15805.27

* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.



Location of Dee Estuary/ Aber Dyfrdwy SAC

General site character

- Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (81.8%)
- Salt marshes, Salt pastures, Salt steppes (16.1%)
- Coastal sand dunes, Sand beaches, Machair (0.7%)
- Shingle, Sea cliffs, Islets (0.5%)
- Bogs, Marshes, Water fringed vegetation, Fens (0.4%)
- Humid grassland, Mesophile grassland (0.2%)
- Improved grassland (0.1%)
- Broad-leaved deciduous woodland (0.1%)
- Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites) (0.1%)

Download the Standard Data Form for this site as submitted to Europe (PDF <100kb)

Note When undertaking an appropriate assessment of impacts at a site, all features of European importance (both primary and non-primary) need to be considered.

Annex I habitats that are a primary reason for selection of this site

- **1140 Mudflats and sandflats not covered by seawater at low tide**
  Species occurrence description not yet available.

- **1310 Salicornia and other annuals colonizing mud and sand**

  The Dee Estuary is representative of pioneer glasswort *Salicornia* spp. saltmarsh in the north-west of the UK. *Salicornia* spp. saltmarsh forms extensive stands in the Dee, especially on the more sandy muds where there is reduced tidal scour. It mainly occurs on the seaward fringes as a pioneer community, and moving landwards usually forms a transition to common saltmarsh-grass *Puccinellia maritima* saltmarsh (SM10). There is also a low frequency of *Salicornia* spp. extending well inland. Associated species often include annual sea-blite *Suaeda maritima* and hybrid scurvy grass *Cochlearia x hollandica*.

- **1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)**
  The Dee Estuary is representative of **H1330 Atlantic salt meadows** in the north-west of the UK. It forms the most extensive type of saltmarsh in the Dee, and since the 1980s it has probably displaced very large quantities of the non-native common cord-grass *Spartina anglica*. The high accretion rates found in the estuary are likely to favour further development of this type of vegetation. The saltmarsh is regularly inundated by the sea; characteristic salt-tolerant perennial flowering plant species include common saltmarsh-grass *Puccinellia maritima*, sea aster *Aster tripolium*, and sea arrowgrass *Triglochin maritima*. In a few areas there are unusual transitions to wet woodland habitats.

Annex I habitats present as a qualifying feature, but not a primary reason for

selection of this site

- **1130 Estuaries**
- **1210 Annual vegetation of drift lines**
- **1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts**
- **2110 Embryonic shifting dunes**
- **2120 "Shifting dunes along the shoreline with Ammophila arenaria (""white dunes"")"**
- **2130 "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")" * Priority feature**
- **2190 Humid dune slacks**

Annex II species that are a primary reason for selection of this site

- Not Applicable

Annex II species present as a qualifying feature, but not a primary reason for site selection

- **1095 Sea lamprey** *Petromyzon marinus*
- **1099 River lamprey** *Lampetra fluviatilis*
- **1395 Petalwort** *Petalophyllum ralfsii*

Many designated sites are on private land: the listing of a site in these pages does not imply any right of public access.

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EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora

Citation for Special Area of Conservation (SAC)

Name:	River Dee and Bala Lake
Unitary Authority/County:	Cheshire, Denbighshire, Flintshire, Gwynedd, Shropshire, Wrexham
SAC status:	English part designated on 1 April 2005 Welsh part designated on 13 December 2004
Grid reference:	SJ422503
SAC EU code:	UK0030252
Area (ha):	1308.93
Component SSSI:	Afon Dyfrdwy (River Dee) SSSI, Llyn Tegid SSSI, River Dee (England) SSSI

Site description:

The River Dee has its source in Snowdonia at the outflow of Llyn Tegid and it includes the Ceiriog, Meloch, Tryweryn and Mynach tributaries. Its catchment contains a wide spectrum of landscape from high mountains around Bala, rugged peaks near Llangollen, steep sided wooded valleys, and the plains of Cheshire, Flintshire, north Shropshire and Wrexham. There is a tidal influence as far upstream as Farndon and high tides regularly exceed the Chester weir crest level.

The aquatic plant community includes Wirtgen's water-crowfoot *Ranunculus x bachii* and pond water-crowfoot *R. peltatus*, and also floating water-plantain *Luronium natans*. Water-crowfoot forms extensive beds along the whole length of the Dee where flow conditions are suitable. Other aquatic plants which occur within the site include intermediate water-starwort *Callitriche hamulata*, alternate-flowered water-milfoil *Myriophyllum alterniflorum* and bryophytes including *Rhynchostegium riparoides* and *Fontinalis antipyretica.* Marginal vegetation consists mainly of reed canary-grass *Phalaris arundinacea* with occasional branched bur-reed *Sparganium erectum*.

There is good tree cover along the banks of the River Dee and the tributaries, with the Ceiriog being tree lined on both banks along much of its length. The dominant species are alder *Alnus glutinosa* and willow *Salix* spp., with occasional ash *Fraxinus excelsior* and oak *Quercus* spp. Where sections of the riverbank have been fenced off the vegetation tends to be dominated by bramble *Rubus fruticosus* agg., nettles *Urtica dioica* and other tall ruderals.

The River Dee is recognised as one of North Wales' premier rivers for Atlantic salmon *Salmo salar*. The Mynach, Meloch and Ceiriog tributaries are the most important salmon spawning tributaries in the Dee catchment. Other migratory fish utilising the river system include river lamprey *Lampetra fluviatilus* and sea lamprey *Petromyzon marinus*. The Dee also supports important populations of non-migratory fish including bullhead *Cottus gobio* and brook lamprey *Lampetra planeri*. The otter *Lutra lutra* is well established throughout the river system, especially where appropriate bank side cover exists.

Qualifying habitats: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. (Rivers with floating vegetation often dominated by water-crowfoot)

Qualifying species: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:

- Atlantic salmon *Salmo salar*
- Brook lamprey *Lampetra planeri*
- Bullhead *Cottus gobio*
- Floating water-plantain *Luronium natans*
- Otter *Lutra lutra*
- River lamprey *Lampetra fluviatilis*
- Sea lamprey *Petromyzon marinus*

This citation relates to a site entered in the Register of European Sites for Great Britain.
Register reference number: UK0030252
Date of registration: 14 June 2005

Signed: [redacted]

On behalf of the Secretary of State for Environment, Food and Rural Affairs

The site is also entered in the Register of European sites for Wales, maintained by the National Assembly for Wales.

European Site Conservation Objectives for River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid Special Area of Conservation Site code: UK0030252

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- **The extent and distribution of qualifying natural habitats and habitats of qualifying species**
- **The structure and function (including typical species) of qualifying natural habitats**
- **The structure and function of the habitats of qualifying species**
- **The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely**
- **The populations of qualifying species, and,**
- **The distribution of qualifying species within the site.**

This document should be read in conjunction with the accompanying Supplementary Advice document (where available), which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

H3260. Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation; Rivers with floating vegetation often dominated by water-crowfoot

S1095. *Petromyzon marinus*; Sea lamprey

S1096. *Lampetra planeri*; Brook lamprey

S1099. *Lampetra fluviatilis*; River lamprey

S1106. *Salmo salar*; Atlantic salmon

S1163. *Cottus gobio*; Bullhead

S1355. *Lutra lutra*; Otter

S1831. *Luronium natans*; Floating water-plantain

This is a cross border site

This site crosses the border between England and Wales. Some features may only occur in one Country. The advice of Natural Resources Wales should therefore be sought separately.

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 as amended from time to time (the "Habitats Regulations"). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment', including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives and the accompanying Supplementary Advice (where available) will also provide a framework to inform the measures needed to conserve or restore the European Site and the prevention of deterioration or significant disturbance of its qualifying features.

These Conservation Objectives are set for each habitat or species of a Special Area of Conservation (SAC). Where the objectives are met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving Favourable Conservation Status for that species or habitat type at a UK level. The term 'favourable conservation status' is defined in regulation 3 of the Habitats Regulations.

Publication date: 27 November 2018 (version 4). This document updates and replaces an earlier version dated 5 February June 2016 to reflect the consolidation of the Habitats Regulations in 2017.

CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

FLINTSHIRE **MYNYDD Y FFLINT/FLINT MOUNTAIN**

Date of Notification: 19 May 2011

National Grid Reference: SJ 243709

OS Maps: 1:50,000 Sheet number: 116
1:10,000 Sheet number: SJ27SW

Site Area: 25.79ha

Description

The site is of special interest for its stands of unimproved neutral grassland and semi-natural broadleaved woodland, which occur in association with scrub, fen-meadow and swamp vegetation. Mynydd y Fflint/Flint Mountain SSSI is located 1km to the south of Flint, north of the village of Flint Mountain, at an altitude ranging from 35 - 70m.

The site follows the course of a brook within a valley with gentle slopes extending on either side. The slopes are free draining, with the underlying geology consisting of mudstones of the Upper Carboniferous Period, which are overlain by mostly till with some glacial sands and gravels.

The neutral grassland areas on the drier slopes are of high floristic quality and hold a range of grasses, including red fescue *Festuca rubra*, sweet vernal-grass *Anthoxanthum odoratum*, common bent *Agrostis capillaris*, Yorkshire fog *Holcus lanatus*, and crested dog's-tail *Cynosurus cristatus*. Herbs are prominent, with frequent to abundant common knapweed *Centaurea nigra*, common bird's-foot-trefoil *Lotus corniculatus*, ribwort plantain *Plantago lanceolata* and red clover *Trifolium pratense*, and frequent field woodrush *Luzula campestris* and bulbous buttercup *Ranunculus bulbosus*. Some notable plants include pale flax *Linum bienne* and an inland population of rest harrow *Ononis repens*.

Alder *Alnus glutinosa* with grey willow *Salix cinerea* dominates the large areas of semi-natural broadleaved woodland found mainly along the valley bottom. The ground flora varies greatly with areas dominated by great horsetail *Equisetum telmateia* with extensive beds of lesser pond sedge *Carex acutiformis* with scattered marsh willowherb *Epilobium palustre*; whilst other areas have frequent ivy *Hedera helix* with bramble *Rubus fruticosus* and yellow archangel *Lamiastrum galeobdolon*.

In places the vegetation grades into swamp dominated by lesser pond sedge *Carex acutiformis*, with scattering of associates such as water mint *Mentha aquatica*, great willowherb *Epilobium hirsutum*, marsh horsetail *Equisetum palustre*, and marsh marigold *Caltha palustris*. This in turn gives way to areas of rich mixed fen with the addition of the locally uncommon greater tussock sedge *Carex paniculata* and sneezwort *Achillea ptarmica*. Some notable associated species in this vegetation included figwort *Scrophularia nodosa*, and hemp agrimony *Eupatorium*

cannabinum.

The transition between the vegetation communities is well developed with small areas of fen-meadow dominated by the locally uncommon blunt flowered rush *Juncus subnodulosus* accompanied by fen bedstraw *Galium uliginosum*, angelica *Angelica sylvestris*, meadowsweet *Filipendula ulmaria*, marsh valerian *Valeriana dioica* and marsh thistle *Cirsium palustr*e. Mynydd y Fflint/Flint Mountain is only the second known site for this fen-meadow community in the North East Wales.

The site also supports a variety of other semi-natural vegetation types including areas bracken, scrub and other broadleaved woodland communities.

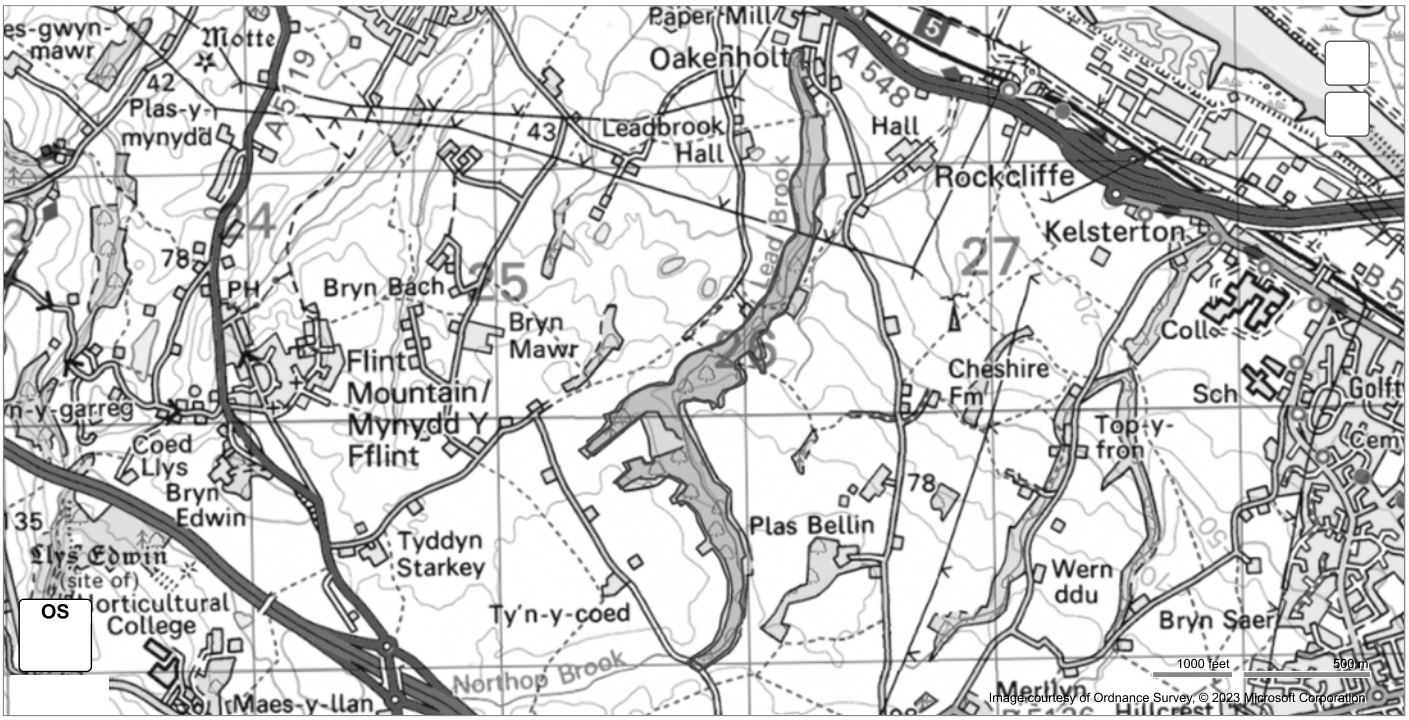
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Safleol

A Local Sites System for Wales

26NE10: Leadbrook Wood

Location:	Flintshire
Centroid Grid Reference:	SJ259701
Area:	35.1 ha
Site Description:	Semi-natural broad-leaved woodland occupying the dingles in which the Lead Brook and its tributaries flow. In several areas drainage is impeded. The woodland canopy is mainly dominated by ash and sycamore with some oak alder, beech, common lime and silver birch. The shrub layer has abundant holly, hazel and wych elm. Also present are hawthorn and grey willow. The ground flora has frequent dog's mercury, bramble, wood anemone, enchanter's nightshade, bluebell, opposite-leaved golden saxifrage and wood speedwell. In wet areas of the southern part of the wood, marsh marigold, giant horsetail and meadowsweet are prominent. The northern tip of the woodland is mixed. In the north, the woodland surrounds a reservoir and alder and oak are dominant with hemlock water-dropwort, yellow flag and figwort. Near Ty'n-y-coed there is a semi-improved and a species-rich marshy grassland, with oval sedge, ragged robin, common spotted orchid, sharp-flowered rush, cuckoo flower, carnation sedge and meadowsweet. On the slope above this is a herb-rich meadow with pignut, black knapweed, cat's-ear, crested dog's tail and sweet vernal grass.
Habitats:	Broad-leaved semi-natural woodland (30.241 ha), Mixed plantation (1.57 ha), Semi-improved neutral grassland (0.721 ha), Marsh/marshy grassland (0.438 ha), Swamp (0.278 ha), Standing water (1.945 ha)
Designation Reason:	Broad-leaved woodland and scrub, Pasture/meadow and scrub

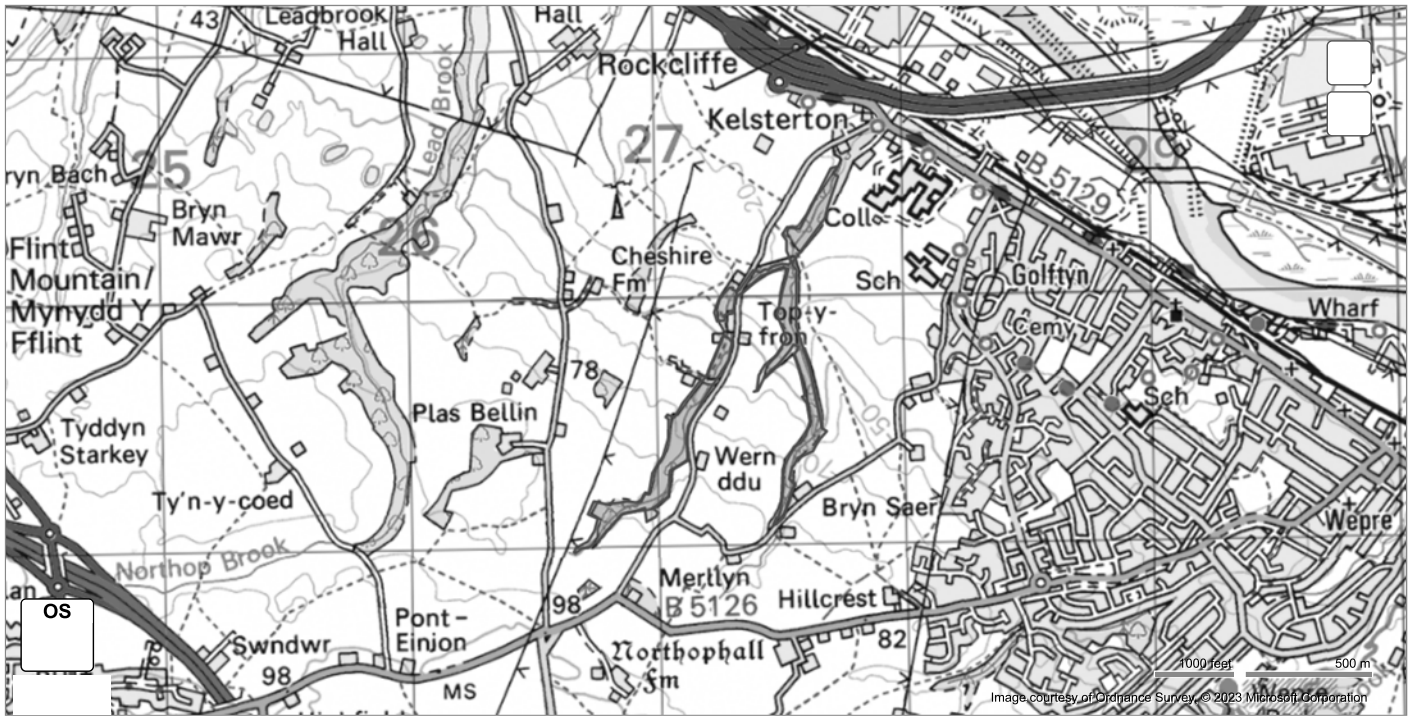


Safleol

A Local Sites System for Wales

26NE09: Top-y-fron Dingle and Kelserton Brook

Location:	Flintshire
Centroid Grid Reference:	SJ273696
Area:	16.4 ha
Site Description:	Semi-natural broad-leaved woodland occupying two narrow steep-sided steam valleys that join into one south of Kelsterton. The dominant woodland canopy species is sycamore, but sessile oak, alder, ash and birch are all locally dominant. The Kelsterton Brook section also has common lime and yew. The shrub layer is variable. Top-y-Fron Dingle has a shrub layer of holly, hazel, elder and canopy saplings. The northern section of Kelsterton Brook lacks a shrub layer and the southern section has abundant elder but rhododendron and other introduced species are locally dominant. There is a rich herb flora. In Top-y-Fron Dingle bramble, ramsons, opposite-leaved golden saxifrage, dog's mercury, wood sorrel and bryophytes are all frequent. The herb layer in the Kelsterton Dingle has frequent wood speedwell, dog's mercury, red campion with some nettle, bramble, bluebell, ramsons and rough meadow-grass. The northern part is dominated by rough meadow-grass.
Habitats:	Broad-leaved semi-natural woodland (16.335 ha)
Designation Reason:	Broad-leaved woodland and scrub

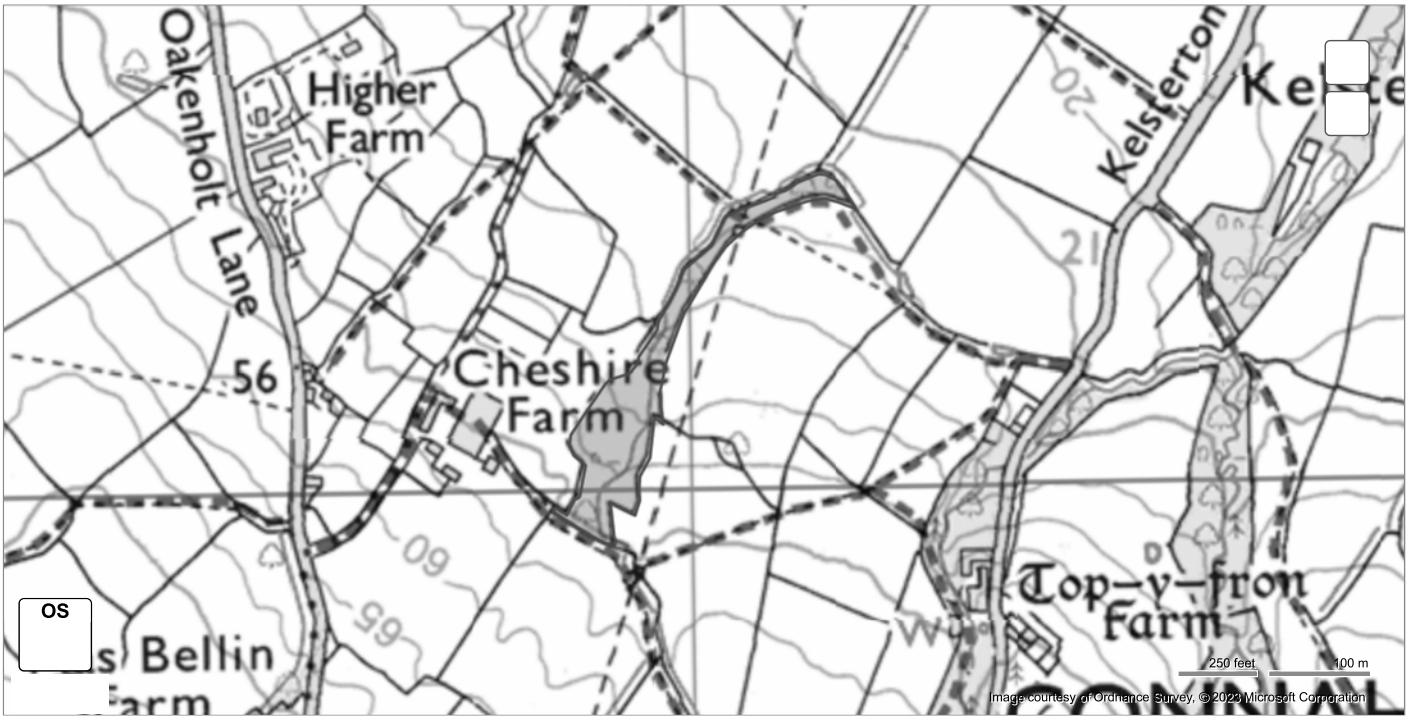


Safleol

A Local Sites System for Wales

27SE01: Cheshire Farm Wood

Location:	Flintshire
Centroid Grid Reference:	SJ269701
Area:	1.6 ha
Site Description:	Semi-natural broad-leaved woodland following the course of a small stream. The woodland canopy is dominated by sessile oak with some beech, sycamore and ash. The shrub layer contains wych elm, hawthorn, hazel and beech. The ground flora has abundant wood melick, soft grass and bluebell with pignut, wood anemone, wood speedwell, bramble and greater stitchwort.
Habitats:	Broad-leaved semi-natural woodland (1.617 ha)
Designation Reason:	Broad-leaved woodland and scrub



Appendix 6322/2:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)[1].

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable".*

3. Various characteristics contribute to the importance of ecological features, including:

- Naturalness;
- Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
- Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
- Endemic species or locally distinct sub-populations of a species;
- Habitat diversity;
- Habitat connectivity and/or synergistic associations;
- Habitats and species in decline;
- Rich assemblages of plants and animals;
- Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
- Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
- Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.

4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

[1] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

<u>Assigning Level of Importance</u>

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:

- International (European);
- National;
- Regional;
- County;
- District;
- Local (e.g. Parish or Neighbourhood);
- Site (not of importance beyond the immediate context of the site).

7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.

8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.

9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.

12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.

13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.

15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.

16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.

17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6322/3:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).

2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself[1]. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.

3. In summary, the key pieces of legislation relating to nature conservation in the UK are:

    - Wildlife and Countryside Act 1981 (as amended)
    - Protection of Badgers Act 1992
    - Hedgerows Regulations 1997
    - Countryside and Rights of Way (CRoW) Act for England and Wales 2000
    - Natural Environment and Rural Communities Act 2006
    - Conservation of Habitats and Species Regulations 2017

4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.

5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.

6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).

7. Under Section 1(1) of the Act, all wild birds are protected such that is an offence to intentionally:

    - Kill, injure or take any wild bird;
    - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
    - Take or destroy an egg of any wild bird.

    * The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.

8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:

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

[1] http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/

9. Under Section 9(1) of the Act, it is an offence to:

- Intentionally kill, injure or take any wild animal included in Schedule 5.

10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:

- Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
- Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.

11. Under Section 13(1) it is an offence:

- To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
- Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.

12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.

13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
- To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

\# A sett is defined as "*any structure or place which displays signs indicating current use by a Badger*". Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way

14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.

15. **Hedgerows Regulations 1997**. 'Important' hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify 'important' hedgerows for wildlife, landscape or historical reasons.

16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).

18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.

19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)[2] classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.

20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:

- Deliberately capture, injure or kill any wild animal of a European Protected Species;
- Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
- Deliberately take or destroy the eggs of such an animal;
- Damage or destroy a breeding site or resting place of such an animal.

21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.

22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

[2] Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

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Connah's Quay Power Station:
Northern Land Parcel

Breeding, Passage and Wintering Bird Surveys

July 2023

Quality Management	
Client:	Uniper UK Ltd
Project:	Connah's Quay Power Station: Northern Land Parcel
Report Title:	Breeding, Passage and Wintering Bird Surveys
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Legal Guidance

The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

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Executive Summary

i) **Introduction.** Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, Flintshire.

ii) **Survey.** Breeding, wintering and passage bird surveys were undertaken at the site from April 2022 to February 2023.

iii) **Ecological Designations.** The site lies adjacent to the statutory designation River Dee Estuary (SPA, Ramsar and SAC). This is a vast site designated for its wintering and passage birds which extends substantially from the site's northern and western boundaries. Outside the site boundary, field F1 which falls within the SAC is described as a "nature reserve". This area contains several ponds that support wetland birds.

iv) **Habitats.** The site comprises areas of rough pasture and improved grassland, scrub, ponds, tall ruderal vegetation, hardstanding, hedgerows and tree lines.

v) **Survey Findings.** Two of the four Annex 1 species relevant to the SPA/Ramsar site were recorded in significant numbers in the estuary adjacent to the site. Of the qualifying migratory species, seven were recorded in the estuary in significant numbers: Redshank, Shelduck, Teal, Pintail, Oystercatcher, Dunlin and Black-tailed Godwit. Curlew, Knot and Grey Plover were present in relatively low numbers. All of these species were typically observed widespread within the estuary and none were recorded within the site. Teal, Pintail and Black-tailed Godwit were recorded within the nature reserve outside the site in significant numbers, all during the autumn.

[redacted] Other

Species breeding in terrestrial habitats within the site and adjacent areas all remain common and widespread in both a local and national context.

1 Introduction

1.1 Background and Proposals

1.1.1 Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake a desk study and baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, approximately centred at grid reference SJ 270 716 (see Plan 6322/ECO1), hereafter referred to as 'the site'.

1.1.2 Breeding, Wintering and Passage bird surveys were undertaken at the site from April 2022 to February 2023.

1.2 Site Overview

1.2.1 The site is located in north-east Flintshire in North Wales (see Plan 6322/ECO1). The site is bounded to the north-east by the River Dee, beyond which extend large areas of open wetland associated with the River Dee Estuary. Connah's Quay Power Station is located immediately adjacent to the site's south-eastern boundary and a railway line and industrial development, with associated planting, forms the site's southern boundary.

1.2.2 The site itself comprises grassland fields with roads, treelines, hedgerows, along with areas of scrub and tall ruderal vegetation. Beyond the site, an adjacent field (**F1**) contains three ponds.

1.2.3 The site is located immediately south of the River Dee estuary where saltmarsh and grazing marsh extends to the north and east within the River Dee Special Protection Area (SPA) and Ramsar site.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the desk study and surveys of breeding, passage and wintering birds undertaken. The importance of the habitats and bird species present is evaluated.

2 Methodology

2.1 Data Search

2.1.1 Background information relevant to the site and its immediate surroundings to a distance of 2km was sourced from the North Wales Environmental Information Service (Cofnod) in August 2021. The data obtained comprised information on designated sites and species records.

2.1.2 Information on statutory designations was obtained from the MAGIC database[1], which uses data provided by Natural England, from within an extended search area of 25km. The MAGIC database was also searched for the presence of Priority Habitats within or adjacent to the site. Relevant information is reproduced in Appendix 6322/1 and on Plan 6322/ECO2.

2.2 Bird Surveys

2.2.1 Monthly surveys were carried out from April 2022 until February 2023 in order to assess breeding bird activity (April to July), passage activity (April, May and July to November) and winter activity (November to February) at the site and adjacent areas. The times, tide state and weather conditions during all surveys are shown in Table 2.1 below.

Table 2.1. Tide and weather conditions during the bird surveys.

Survey Date	Time of Survey	Tide and Weather Conditions					
		High Tide (time, ht)	Tide State	Wind (direction, speed BF)	Temp (°C)	Cloud Cover (/8)	Rain
25/04/2022	05:00-09:00	07:28 (3.1m)	High	NE, 1	4	1/8	Dry
20/05/2022	09:30-15:20	15:16 (4.1m)	Rising/high	S, 2	15	7-8/8	Dry
12/06/2022	10:20-14:50	10:04 (4.1m)	High/Falling	SW, 3	16	6/8	Dry
25/07/2022	08:45-13:10	10:03 (3.1m)	High/Falling	SW, 3	16	8/8	Drizzle
15/08/2022	10:15-15:40	14:32 (4.5m)	Rising/high	SW, 1	18	8/8	Showers
06/09/2022	12:20-16:50	08:08 (3.0m)	Low	S, 3	21	3/8	Showers
10/10/2022	09:15-15:30	12:22 (4.7m)	High/Falling	NW, 4	13	4/8	Dry
07/11/2022	08:00-12:50	10:23 (4.4m)	High	SW, 3	12	8/8	Dry
15/12/2022	10:35-15:35	15:37 (3.2m)	Rising/high	N, 1	-2	0/8	Dry
24/01/2023	11:00-15:25	13:01 (5.1m)	High	No wind	2	8/8	Dry
21/02/2023	13:45-18:00	11:57 (5.2m)	Low	W, 3	10	6/8	Dry

BF = Beaufort Force: BF0 = calm, BF12 = hurricane force

2.2.2 On each survey an experienced ornithologist walked a circuitous route around the site boundary recording the locations, numbers and activity of all birds present in (and around) the areas during this time.

[1] Multi-Agency Geographic Information for the Countryside (MAGIC), https://magic.defra.gov.uk/

2.2.3 Surveys revealed large numbers of birds using the River Dee estuary, with thousands of birds visible as far as the eye could see, as well as on saltmarsh on the far (north) side. Therefore, in order to make the surveys manageable and relevant to the sites, counts were limited to an area extending into this area to approximately 400-800m from the site boundary as shown on Plan 6322/ECO5. This area extended up to approximately 800m from the site boundary, but did not include the far bank of the River Dee. Counts of birds on the estuary and River Dee were primarily made from the hide at the north end of the site.

2.2.4 This methodology ensures that the vast majority of species that use the site would have been recorded over the course of the surveys, although some species that may use the site as part of a larger territory may potentially be overlooked, particularly nocturnal species such as owls.

2.2.5 To determine the breeding status of birds using the site, the following criteria were applied following the methodology used in the 'Atlas' surveys of 1988-1991 (Gibbons et al, 1993). This method accepts the following activities as denoting breeding (including those probably breeding although definite proof was lacking):

- Bird apparently holding territory, including courtship and display;
- Nest-building (including excavating nest-hole);
- Distraction display or feigning injury;
- Adult carrying faecal sac or food;
- Adult entering or leaving apparently occupied nest site;
- Nest with eggs or eggshells found, or bird sitting but not disturbed; and
- Nest with young; or downy/recently fledged young.

2.2.6 In order to ensure that robust data relating to the site and the River Dee estuary was obtained, most surveys were timed to coincide with high tide (to enable observation of high tide roosts of species using the SPA/Ramsar site when feeding areas are covered by water). During the course of all surveys, all states of tide were surveyed.

2.3 Ecological Evaluation Methodology

2.3.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)[2], which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). Further detail is provided in Appendix 6322/2.

[2] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*', ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

2.4 National Policy Approach to Biodiversity in the Planning System

2.4.1 National Planning Policy in Wales is set out in Planning Policy Wales (PPW)[3]. This describes policies designed to maximise environmental protection and limit environmental impact including the promotion of resilient biodiversity and ecosystems, citing biodiversity as an element in the delivery of distinctive and natural places, and ensuring environmental sustainability through good design.

2.4.2 PPW sets out a framework for the sustainable management of natural resources, which within which the planning system contribute by:

'• improving the resilience of ecosystems and ecological networks;

• halting and reversing the loss of biodiversity;

• maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions;' amongst other measures.

2.4.3 PPW embeds the protection and enhancement of biodiversity within all components of the planning system in Wales, stating that:

'Biodiversity loss should be reversed, pollution reduced, environmental risks addressed and overall resilience of ecosystems improved.'

2.4.4 The approach to dealing with biodiversity in the context of planning applications is set out on Section 6.4, stating:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.'

and

'Development plan strategies, policies and development proposals must consider the need to:

• support the conservation of biodiversity, in particular the conservation of wildlife and habitats;

• ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;

• ensure statutorily and non-statutorily designated sites are properly protected and managed;

• safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and

[3] Llywodraeth Cymru/Welsh Government (2021). *'Planning Policy Wales'*, Edition 11, February 2021.

• secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.'

'All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission.'

2.4.5 PPW does not currently mandate a target for Biodiversity Net Gain, but does set out that:

'…development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity;'

'…planning decisions should incorporate measures which seek the creation, restoration and appropriate management of green networks and linkages between habitats and maintaining and enhancing other green infrastructure features and networks'.

2.4.6 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019[4], which involves the following step-wise process:

- **Avoidance –** avoiding adverse effects through good design;
- **Mitigation –** where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation –** where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement –** planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.4.7 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

2.5 Local Policy

2.5.1 The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)'. Policies that relate specifically to ecology and biodiversity are set out below.

2.5.2 Policy EN2: Green Infrastructure

"Development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate:

a. Create new green infrastructure linkages from the proposed development to the existing local network;

[4] British Standards Institution (2013) '*Biodiversity – Code of practice for planning and development*', BS 42020:2019

b. Fill in gaps in the existing network to improve connectivity.

Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required."

2.5.3 Policy EN3: Undeveloped Coast and Dee Estuary Corridor states:

"Within the undeveloped coast development will only be permitted where:

a. It can be demonstrated a coastal location is essential;

b. It conserves and enhances the open character of the coast;

c. It would not unacceptably harm areas of nature conservation, landscape or biodiversity;

d. It would not harm existing or proposed recreational or active travel routes;

e. Extensive coastal protection measures are not required; and

f. It would not be potentially at risk of flooding nor unacceptably increase erosion or flooding or interfere with natural coastal processes."

2.5.4 Policy EN6: Sites of Biodiversity and Geodiversity Importance states:

"Development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance. Proposals where adverse effects on site integrity cannot be ruled out would not be supported.

Development likely to impact the special features of a Nationally Designated Site will only be granted in exceptional circumstances where appropriate compensation can be provided. Development proposals that would have a significant adverse effect on locally designated sites or site with other biodiversity and / or geological interest, including priority species, will only be permitted where:

a. it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the site; and

b. it can be demonstrated that the development cannot reasonably be located elsewhere; and

c. any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided.

Development that results in the restoration, enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems."

2.5.5 Policy EN7: Development Affecting Trees, Woodlands and Hedgerows states:

"Development proposals that will result in significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value will not be permitted.

Where the impact of development affecting trees, woodlands or hedgerows is considered acceptable, development will only be permitted where:

a. *the development maximises their retention through sensitive design*

b. *measures; and*

c. *where the removal of trees is considered necessary, suitable replacements*

d. *shall be provided elsewhere within the site; and*

e. *it results in a net benefit in biodiversity."*

2.5.6 Policy EN7: Development In or Adjacent to Conservation Areas states:

"Development within or adjacent to a conservation area will only be permitted if it would preserve or enhance the character and appearance of the conservation area or its setting. New development in such locations must also be of a high standard of design, respond to the area's special characteristics, and pay particular regard to:

a. *important views, vistas, street scenes, roofscapes, trees, open spaces, gaps and other features that contribute to the character or appearance of the conservation area;*

b. *the retention of historically significant boundaries or other elements that contribute to the established form of development;*

c. *the relationship to existing buildings and spaces, and pattern of development;*

d. *scale, height and massing, architectural design and detailing, the use of materials, boundary treatment, and public realm materials."*

3 The River Dee Estuary SPA/Ramsar Site

3.1.1 The Dee Estuary is "a large funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish swamp vegetation on the upper shore."

3.1.2 The estuary "is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats, including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders" and in summer it "supports nationally important breeding colonies of two species of tern" and "is also important during migration periods, particularly for wader populations moving along the west coast of Britain and for Sandwich terns post-breeding."

3.1.3 The SPA qualifies under article 4.1 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the GB populations of the species listed in Annex 1 (see Table 3.1):

Table 3.1. SPA qualifying bird species (Article 4.1).

Annex 1 Species	Count and Season	% of GB Population
Bar-tailed godwit *Limosa lapponica*	1,150 individuals – wintering	2.2%
Common tern *Sterna hirundo*	392 pairs – breeding	3.2%
Little tern *Sternula albifrons*	69 pairs – breeding	2.9%
Sandwich tern *Thalassia sandvicensis*	957 individuals – autumn passage	2.3%

3.1.4 The SPA qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex 1) (see Table 3.2):

Table 3.2. SPA qualifying migratory bird species (Article 4.2).

Migratory Species	Count and Season	% of Population
Redshank *Tringa totanus*	8,795 individuals – passage	5.9% Eastern Atlantic (wintering)
Shelduck *Tadorna tadorna*	7,725 individuals – wintering	2.6% Northwestern Europe
Teal *Anas crecca*	5,251 individuals – wintering	1.3% Northwestern Europe
Pintail *Anas acuta*	5,407 individuals – wintering	9.0% Northwestern Europe
Oystercatcher *Haematopus ostralegus*	22,677 individuals – wintering	2.5% Europe & N/W Africa (wintering)
Grey plover *Pluvialis squatarola*	1,643 individuals – wintering	1.1% Eastern Atlantic (wintering)
Knot *Calidris canutus*	12,394 individuals – wintering	3.5% NE Can/Grl/Iceland/NW Eur
Dunlin *Calidris alpina*	27,769 individuals – wintering	2.0% N Siberia/Europe/W Africa
Black-tailed godwit *Limosa limosa islandica*	1,747 individuals – wintering	2.5% Iceland (breeding)
Curlew *Numenius arquata*	3,899 individuals – wintering	1.1% Europe (breeding)
Redshank *Tringa totanus*	5,293 individuals – wintering	3.5% Eastern Atlantic (wintering)

Assemblage Qualification

3.1.5 In addition, The Dee Estuary Ramsar site qualifies under article 4.2 of the Directive (79/409/EEC) as it is "used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season."

4 Results

4.1 Legislation

4.1.1 All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and are subject to special penalties (see Appendix 6322/3 for detailed provisions).

4.2 Conservation Status

4.2.1 The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status[5]. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern being either globally threatened and or experiencing a high/rapid level of population decline (>50% over the past 25 years). A number of birds are also S41 Priority Species. Red and Amber listed species and priority species should be assessed as important ecological features.

4.3 Survey Results

4.3.1 A total of 111 bird species were recorded during the surveys. The results are divided into "waterbirds" (54) and "landbirds" (57) in the tables that follow. "Waterbirds" include all species that are specifically associated with the estuary habitats, including all waterfowl, waders, gulls and terns. "Landbirds" include all species that are associated with terrestrial habitats.

4.3.2 The numbers of waterbirds recorded during each survey are shown in Table 4.1 below. These are subdivided into those present within the nature reserve and adjacent fields and those observed within the River Dee estuary. Habitats within the site itself are not suitable to support wetland birds.

Table 4.1: Numbers of each species of waterbird recorded during each survey. SPA/Ramsar qualifying species are shown in bold.

Species (and BTO species code)	RSPB listed	Nature Reserve											Dee Estuary SPA/Ramsar										
		A	M	J	J	A	S	O	N	D	J	F	A	M	J	J	A	S	O	N	D	J	F
Canada goose (CG) *Branta canadensis*	Feral	17	62	60	20	100	62					318		90	270	26	300	68	210	1	2000	18	46
Greylag goose (GJ) *Anser anser*	Feral			2								5							3		6		1
Pink-footed goose (PG) *Anser brachyrhynchus*	Amber											1							102		600	150	
Mute swan (MS) *Cygnus olor*		3													1								13
Egyptian goose (EG) *Anser aegyptiaca*	Feral																		1		1		
Shelduck (SU) *Tadorna tadorna*	Amber	9	28	9									15	26	220	20	200	16	53	5	11	20	38

[5] Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) *'Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man'* British Birds *108*, pp.708-746

Species (and BTO species code)	RSPB listed	Nature Reserve											Dee Estuary SPA/Ramsar										
		A	M	J	J	A	S	O	N	D	J	F	A	M	J	J	A	S	O	N	D	J	F
Ruddy shelduck (UD) *Tadorna ferruginea*	Feral																				5		
Shoveler (SV) *Spatula clypeata*	Amber							1	3	200	15	4											
Gadwall (GA) *Mareca strepera*	Amber	14	2	3							2	7											
Wigeon (WN) *Mareca penelope*	Amber		2								7	4							7	13	1000	110	141
Mallard (MA) *Anas platyrhynchos*	Amber	33	200	500	320	300	200	13	4		10	7		2	28	194	2	150		23	10	6	6
Pintail (PT) *Anas acuta*	Amber						300														2		43
Teal (T.) *Anas crecca*	Amber	3			6	100	100	2000	16	2	30	10	7				16	200	4000	900	1750	800	500
Tufted duck (TU) *Aythya fuligula*		4	4	4	6		1		2		4	4											
Goosander (GD) *Mergus merganser*																						1	5
Water rail (WA) *Rallus aquaticus*							1																
Moorhen (MH) *Gallinula chloropus*	Amber	5	1	3	5	4	5	3	6	3	7	4											
Coot (CO) *Fulica atra*		8	11	16	50	10	3		2	13	12	7											
Little grebe (LG) *Tachybaptus ruficollis*		4	1	2	1	3	2			2	1	3											
Great crested grebe (GG) *Podiceps cristatus*													2						1	6	2	1	1
Oystercatcher (OC) *Haematopus ostralegus*	Amber	2	2									1	5	80		14	500	13	350	170	4	500	10
[redacted]																							
Lapwing (L.) *Vanellus vanellus*	Red			1	26	15	170				2					42	25	33	40	1050	154	500	
Golden plover (GP) *Pluvialis apricaria*																				4			
Grey plover (GV) *Pluvialis squatarola*	Amber																			3	1		
Ringed plover (RP) *Charadrius hiaticula*	Red																		2				
Little ringed plover (LP) *Charadrius dubius*	Sch.1	2		1																			
Whimbrel (WM) *Numenius phaeopus*	Sch.1	1											1				1						
Curlew (CU) *Numenius arquata*	Red				17	2	15	18	13	4	42	24	4			17	5	100	26	9	10	20	12
Bar-tailed godwit (BA) *Limosa lapponica*	Amber		1		1																		2
Black-tailed godwit (BW) *Limosa limosa*	Sch.1		52	35	1000	500	400	4		2	15		110		172		200	500	213	2000	30	600	183

Species (and BTO species code)	RSPB listed	Nature Reserve											Dee Estuary SPA/Ramsar										
		A	M	J	J	A	S	O	N	D	J	F	A	M	J	J	A	S	O	N	D	J	F
Ruff (RU) *Calidris pugnax*	Sch.1						4																
Knot (KN) *Calidris canututs*	Amber				2														12	18		50	51
Dunlin (DN) *Calidris alpina*	Red				3					2						3	6		1050	2500	250	2000	800
Curlew sandpiper (CV) *Calidris ferruginea*	Amber																		3				
Snipe (SN) *Gallinago gallinago*	Amber					2	2			1	2									4			
Common sandpiper (CS) *Actitis hypoleucos*	Amber	2																					
Redshank (RK) *Tringa totanus*	Amber									1	1		4			700	600	76	2500	33	10	10	58
Spotted redshank (DR) *Tringa erythropus*	Amber						1												1	4	1		
Greenshank (GK) *Tringa nebularia*	Amber															1	2	3	1				1
Black-headed gull (BH) *Chroicocephalus ridibundus*	Amber	150	150	140	20					120	30		200	50	100	200	300	125	17	27	100	100	105
Little gull (LU) *Hydrocoleus minutus*	Sch.1	1																					
Common gull (CM) *Larus canus*	Amber									1	1									6	6	1	15
Herring gull (HG) *Larus argentatus*	Red												1	6		6	100		67	12	100	2	
Great black-backed gull (GB) *Larus marinus*	Amber															2	7	3			3	2	
Lesser black-backed gull (LB) *Larus fuscus*	Amber												2	10	5	6	6	32	66	65	40	1	2
Common tern (CN) *Sterna hirundo*	Amber													2	16	5	1						
Cormorant (CA) *Phalacrocorax carbo*															1	5	6	5	21	36	6	9	10
Spoonbill (NB) *Platalea leucorodia*	Sch.1																4						
Grey heron (H.) *Ardea cinerea*										6					2	5	3	2	4	2		3	1
Little egret (ET) *Egretta garzetta*															1	26	18	1	11	6		1	5
Great egret (HW) *Egretta alba*	Amber													1		2							1
Kingfisher (KF) *Alcedo atthis*	Sch.1	1																		1	1		
Rock pipit (RC) *Anthus petrosus*																				1		2	

4.3.3 The survey results for landbirds are shown in Table 4.2 below. These include the estimated numbers of territories within the site, and the maxima for passage and winter periods. The distribution of breeding birds is shown in Plan 6322/ECO6.

Table 4.2: Systematic list of 'landbird' species recorded.

Species (and BTO species code)	RSPB listed	North site			Notes
		Est. no. pairs	Passage max.	Winter max.	
Pheasant (PH) *Phasianus colchicus*	Feral	1		2	
Red-legged partridge (RL) *Alectopris rufa*	Feral		2		
Grey partridge (P.) *Perdix perdix*	Red		1		One in April.
Swift (SI) *Apus apus*	Red		20		Flying over.
Stock dove (SD) *Columba oenas*	Amber		8	2	
Wood Pigeon (WP) *Columba palumbus*	Amber	4	7	22	
Sparrowhawk (SH) *Accipiter nisus*	Amber		1	1	Flying over.
Marsh harrier (MR) *Circus aeruginosus*	Sch.1		1	2	
Buzzard (BZ) *Buteo buteo*			1	1	
Kestrel (K.) *Falco tinnunculus*	Amber		1		
Merlin (ML) *Falco columbarius*	Sch.1			1	One in December.
Peregrine (PE) *Falco peregrinus*	Sch.1			1	
Jay (J.) *Garrulus glandarius*			1		
Magpie (MG) *Pica pica*		2		30	
Jackdaw (JD) *Corvus monedula*			50	70	Foraging in fields.
Rook (RO) *Corvus frugilegus*	Amber		40	10	Foraging in fields.
Carrion crow (C.) *Corvus corone*		1		40	
Raven (RN) *Corvus corax*			2	2	
Coal tit (CT) *Periparus ater*		1			
Blue tit (BT) *Cyanistes caeruleus*		2		7	
Great tit (GT) *Parus major*		1		6	
Skylark (S.) *Alauda arvensis*	Red		1	8	Flying over.
Swallow (SL) *Hirundo rustica*	Amber		20		Flying over.
House martin (HM) *Delichon urbicum*	Amber		20		Flying over.
Cetti's warbler (CW) *Cettia cetti*	Sch.1	3		2	
Long-tailed tit (LT) *Aegithalos caudatus*			2	4	
Chiffchaff (CC) *Phylloscopus collybita*		5	4		
Willow warbler (WW) *Phylloscopus trochilus*	Amber	1			
Blackcap (BC) *Sylvia atricapilla*		2			

Species (and BTO species code)	RSPB listed	North site			Notes
		Est. no. pairs	Passage max.	Winter max.	
Whitethroat (WH) *Curruca communis*	Amber	1			
Reed warbler (RW) *Acrocephalus scirpeus*		1+			In reedbeds.
Goldcrest (GC) *Regulus regulus*				1	
Wren (WR) *Troglodytes troglodytes*	Amber	4		3	
Starling (SG) *Sturnus vulgaris*	Red		150	1000	
Blackbird (B.) *Turdus merula*		5		13	
Song thrush (ST) *Turdus philomelos*	Amber	1		15	
Redwing (RE) *Turdus iliacus*	Sch.1			24	
Fieldfare (FF) *Turdus pilaris*	Sch.1			6	
Mistle thrush (M.) *Turdus viscivorus*	Red			1	
Robin (R.) *Erithacus rubecula*		6		11	
Stonechat (SC) *Saxicola rubicola*				1	
Whinchat (WC) *Saxicola rubetra*	Red		1		
Wheatear (W.) *Oenanthe oenanthe*	Amber		1		
Dunnock (D.) *Prunella modularis*	Amber	3		5	
Pied wagtail (PW) *Motacilla alba*			8	1	
Meadow pipit (MP) *Anthus pratensis*	Amber	1	6	1	
Chaffinch (CH) *Fringilla coelebs*				29	
Bullfinch (BF) *Pyrrhula pyrrhula*	Amber	1		3	
Greenfinch (GR) *Chloris chloris*	Red	2	6	2	
Linnet (LI) *Linaria cannabina*	Red	1	36	70	
Lesser redpoll (LR) *Acanthis cabaret*	Red		1		
Goldfinch (GO) *Carduelis carduelis*		3	43	2	
Siskin (SK) *Spinus spinus*			2		
Corn bunting (CB) *Emberiza calandra*	Red		1		One in May.
Reed bunting (RB) *E. schoeniclus*	Amber	1	4	2	

4.4 Evaluation

4.4.1 The surveys revealed very large numbers of birds using the Dee Estuary, with hundreds or indeed thousands of Canada Goose, Pink-footed Goose, Shelduck, Wigeon, Mallard, Teal, Oystercatcher, Lapwing, Black-tailed Godwit, Dunlin, Redshank and Black-headed Gull

recorded (and much greater numbers of many of these species beyond the limit of the survey area).

4.4.2 At low tide birds are spread out throughout all areas of intertidal mud, saltmarsh and grazing marsh. As the tide rises, it pushes the birds from the lower reaches towards the higher areas, where they can rest at sites known as 'high tide roosts'. This means large numbers of birds were observed moving downriver (east to west) past the site on the rising tide to roost in the grazing marsh further north-west or even further afield, notably on the highest tides.

4.4.3 Good numbers of birds also use the large pond within the nature reserve (including its island and shores), including hundreds (or thousands) of Canada Goose, Mallard, Teal, Pintail and Black-tailed Godwit, with numbers augmented at high tide by birds arriving from the estuary. Being freshwater, the lake attracts a variety of species that do not frequent the estuary, including Shoveler, Gadwall, Tufted Duck, Moorhen, Coot, Little Grebe and a range of migrant wader species.

4.4.4 Only relatively small numbers of birds from the estuary were recorded within grassland areas, with up to 170 Lapwing, 42 Curlew, 15 Black-tailed Godwit and a single Whimbrel.

Annex 1 Species

4.4.5 With no records of Little Tern or Sandwich Tern, only two of the four species listed in the SPA citation were recorded during the surveys. Single Bar-tailed Godwits were recorded amongst Black-tailed Godwits on the larger water body within the nature reserve in May and July, and two were recorded on the adjacent grazing marsh in February. Low numbers of Common Terns were observed flying up and downriver during the spring and summer. None of these Annex 1 species make use of the site itself.

Qualifying Migrant species

4.4.6 Of the ten species listed, seven were recorded in the estuary in significant numbers: Redshank, Shelduck, Teal, Pintail, Oystercatcher, Dunlin and Black-tailed Godwit. The remaining three species were recorded only in relatively small numbers: Curlew, Knot and Grey Plover. All of these species were typically spread throughout the estuary, and only three were recorded within the nature reserve in significant numbers, all during the autumn: Teal, Pintail and Black-tailed Godwit. None of these species make use of the site itself.

Nature Reserve

4.4.7 The largest pond within the nature reserve was found to support significant numbers of birds, including Teal, Black-tailed Godwit and, less regularly, Pintail (all recorded in the autumn), all of which are SPA/Ramsar qualifying species.

4.4.8 Low numbers of Curlew (up to 42) and Black-tailed Godwit (15) were present in the nature reserve and adjacent fields along with up to 170 Lapwing and a single Whimbrel.

Breeding Birds

4.4.9 [redacted]

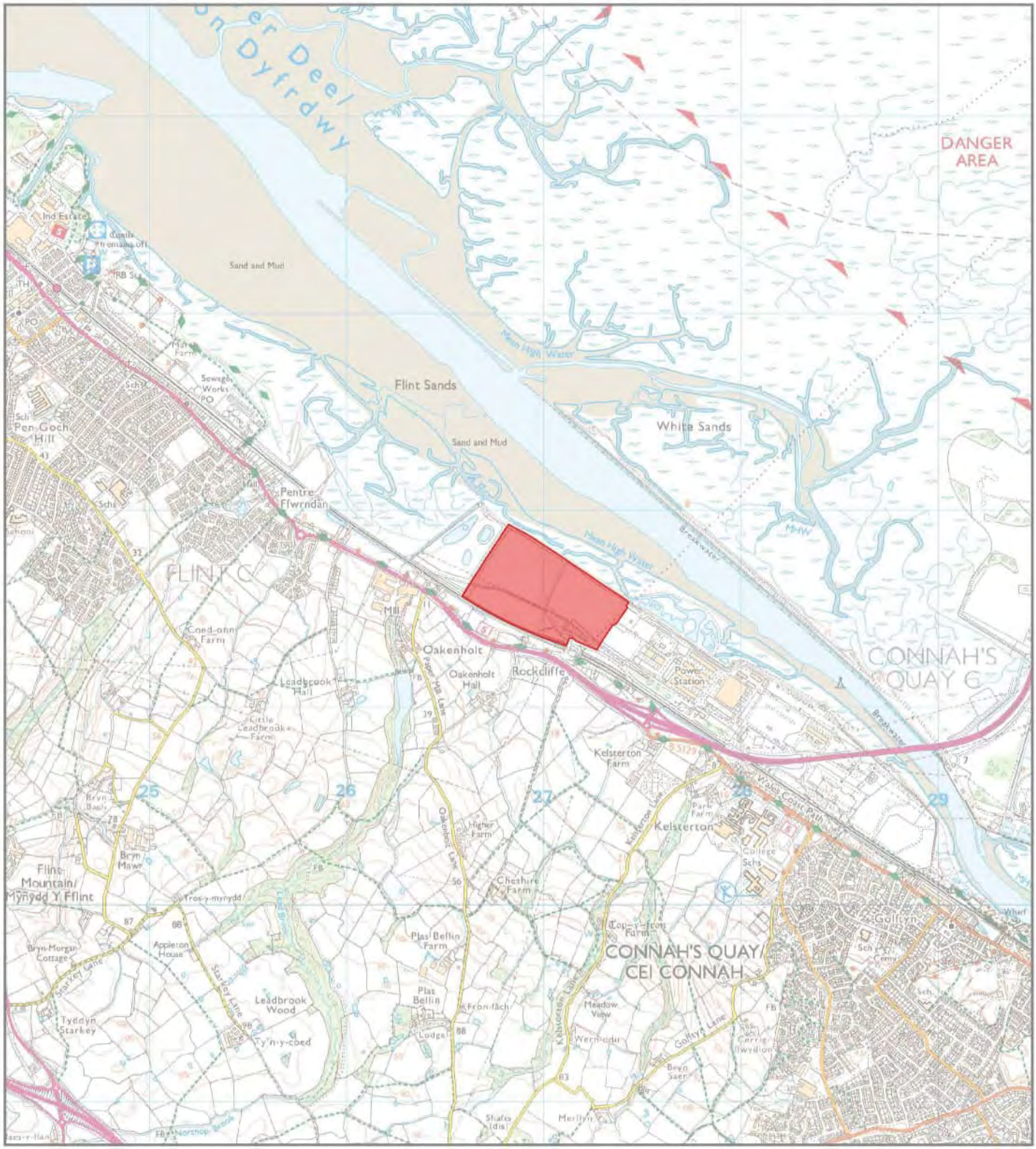
4.4.10 Cetti's Warbler was also recorded breeding within in the nature reserve. This is a Schedule 1 species, but is much more common and widespread.

4.4.11 Other wetland breeding species were generally more common in the nature reserve, including Tufted Duck, Moorhen, Coot, Reed Warbler, Reed Bunting and possibly Little Grebe.

4.4.12 Species breeding in terrestrial habitats within the site included Wood Pigeon, Willow Warbler, Whitethroat, Wren, Song Thrush, Dunnock, Meadow Pipit, Bullfinch, Greenfinch and Linnet. All these species are included in the RSPB Red or Amber List having undergone major or moderate declines in their UK populations over 25 years. Nevertheless, they all remain common and widespread in both a local and national context, as are all remaining species breeding within the site.

Plan 6322/ECO1:

Site Location



Key:

Site Location

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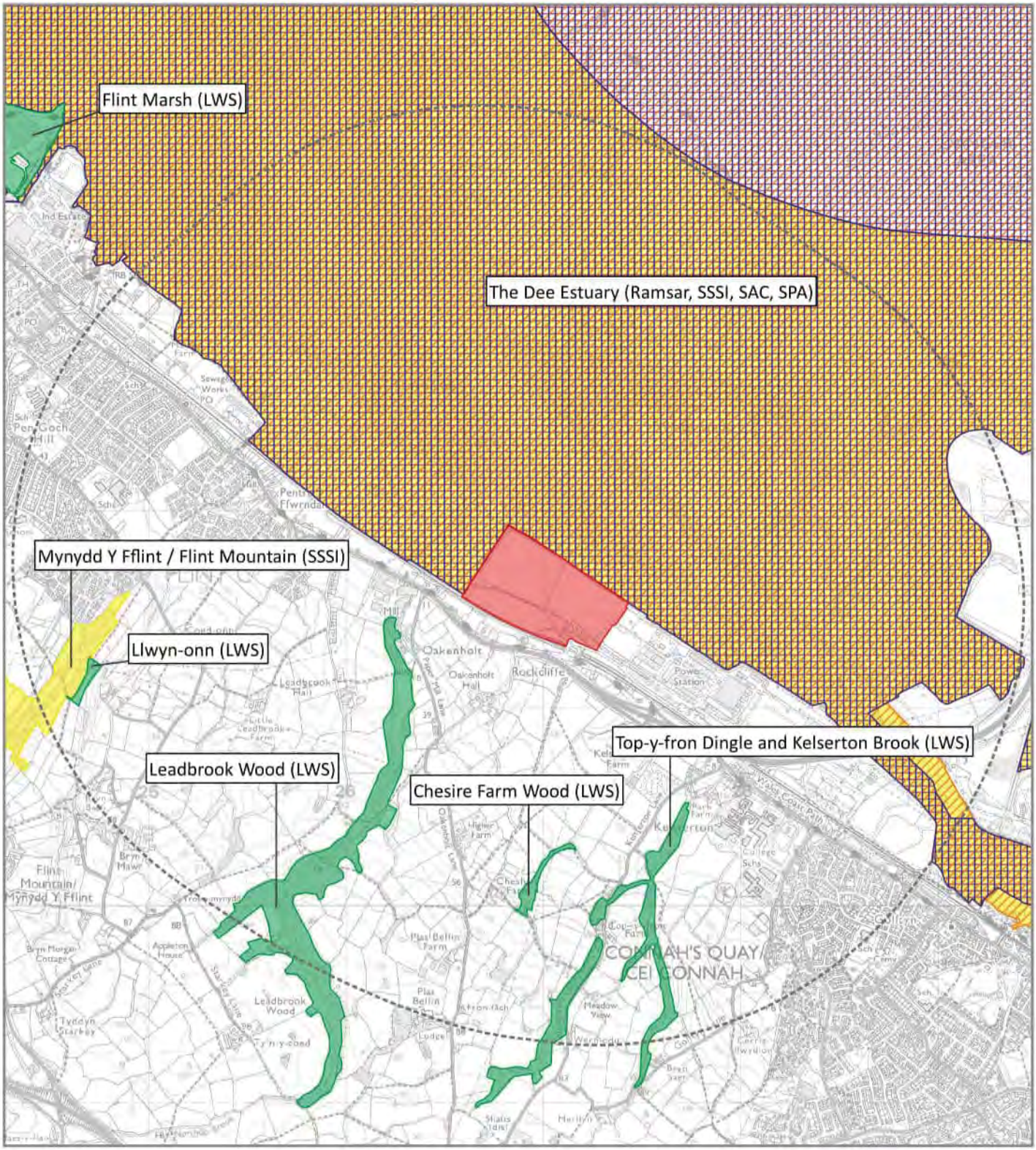
Connah's Quay (North)	PROJECT
Site Location	TITLE
6322/ECO1	DRAWING NO.
B/JP	REV.
September 2023	DATE

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Plan 6322/ECO2:

Ecological Designations



Key:

- Site Location
- 2km Study Area
- Ramsar Site
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Local Wildlife Site (LWS)

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Connah's Quay (North)	PROJECT
Ecological Designations	TITLE
6322/ECO2	DRAWING NO
B/JP	REV
September 2023	DATE

N

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Plan 6322/ECO5:

Wintering and Passage Bird Surveys



Key:

Site Boundary

Survey Area

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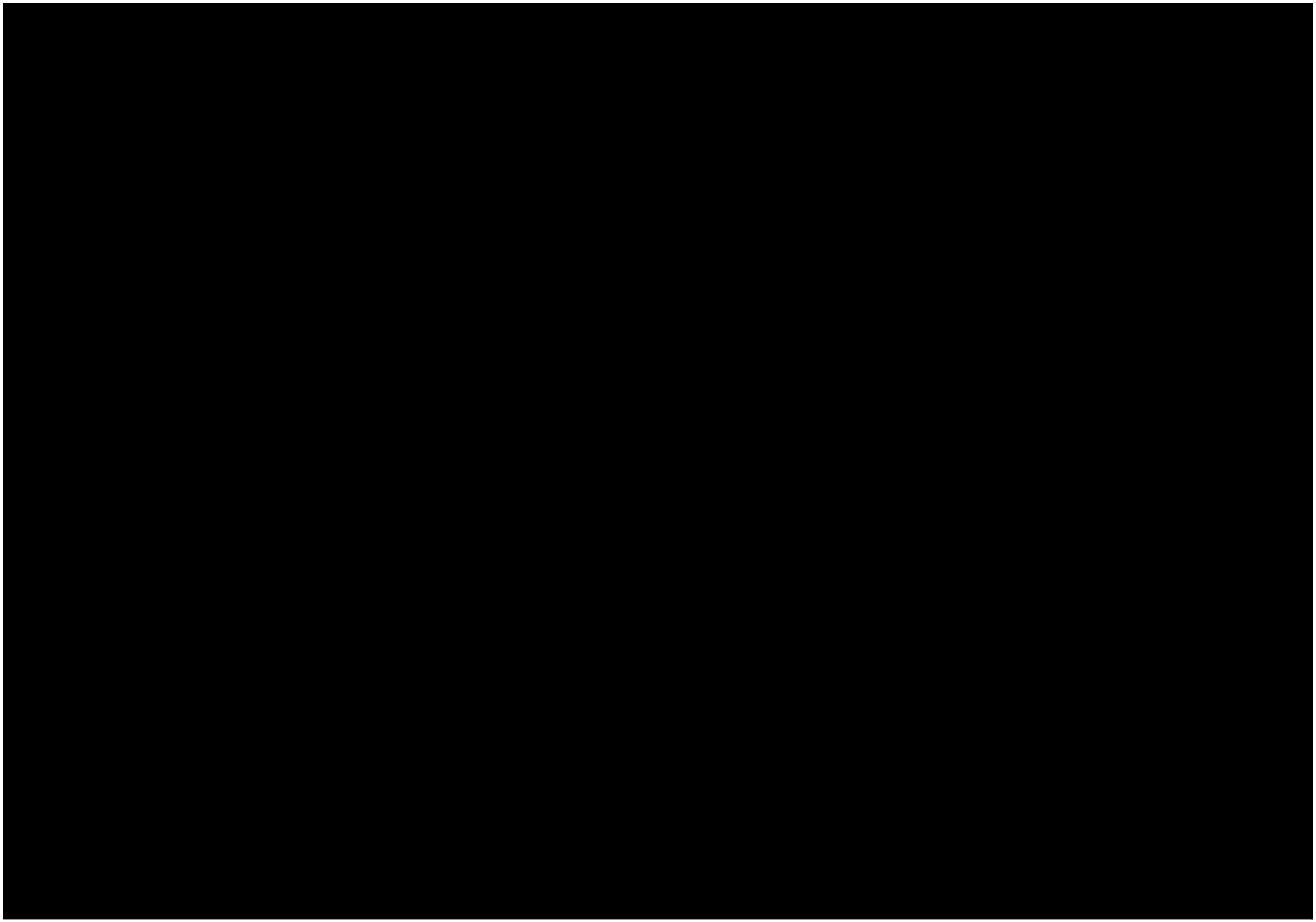
Connah's Quay (North)	PROJECT
Extent of Wintering and Passage Bird Surveys	TITLE
6322/ECO5	DRAWING NO.
B/JP	REV
September 2023	DATE

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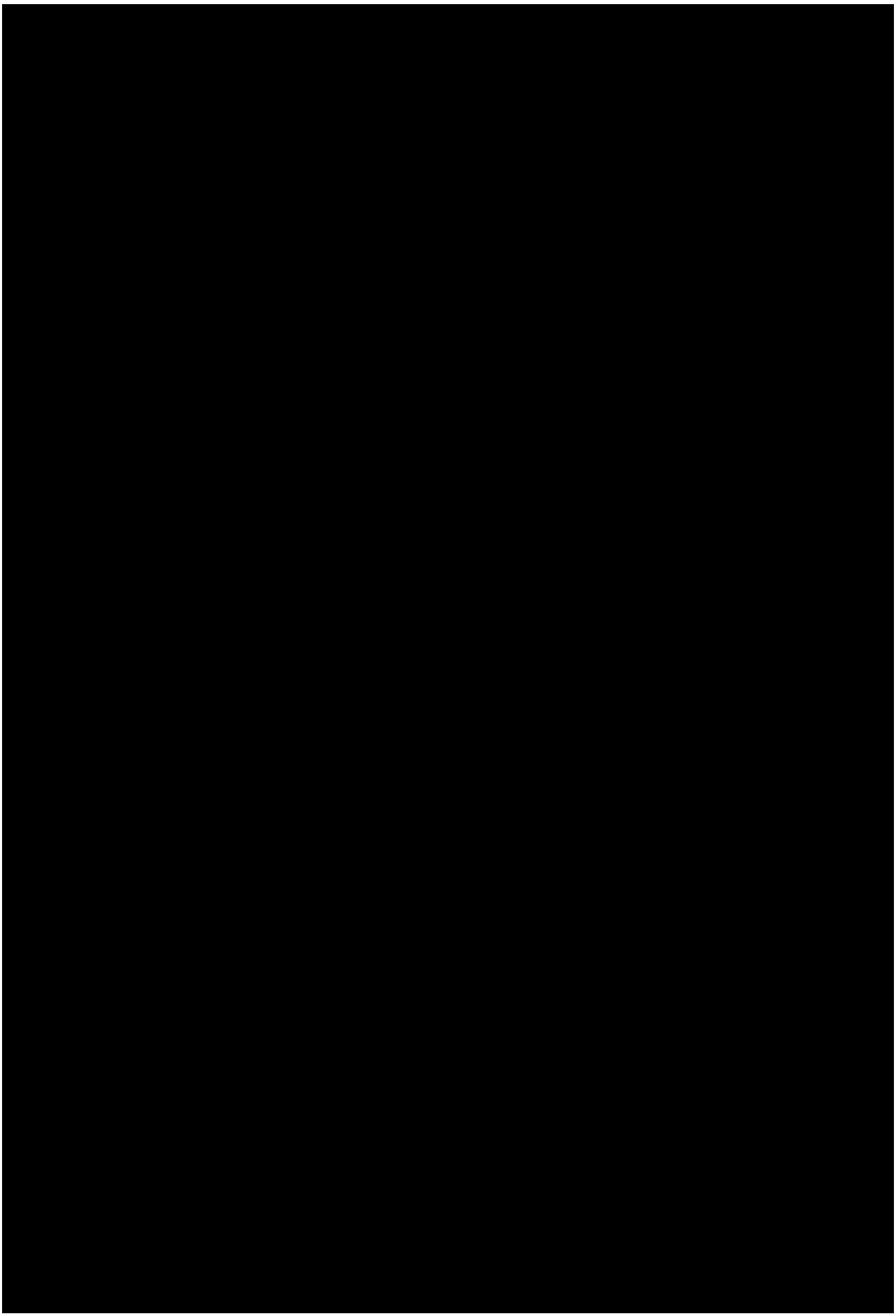
Map data ©2023 Google. Aspect Ecology Ltd, West Court, Hardwick Business Park, Noral Way, Banbury, Oxfordshire, OX16 2AF.

Plan 6322/ECO6:

Breeding Bird Surveys



Photographs



Appendix 6322/1:

Desk Study Data

EC Directive 79/409 on the Conservation of Wild Birds: Citation for Special Protection Area (SPA)

Name: The Dee Estuary

Unitary Authority/County: Cheshire West and Chester, Denbighshire, Flintshire, Wirral.

Boundary of the SPA: The Dee Estuary SPA encompasses the Dee Estuary/Aber Afon Dyfrdwy Site of Special Scientific Interest (SSSI); the dunes and intertidal foreshore at Gronant Dunes and Talacre Warren SSSI; the freshwater marsh at Inner Marsh Farm SSSI; and the lagoons and reedbeds at Shotton Lagoons and Reedbeds. The boundary of the SPA is shown on the map enclosed.

Site description: The Dee Estuary lies on the border between England and Wales on the north-west coast of Britain. It is a large, funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish and swamp vegetation on the upper shore. The site also includes the three sandstone islands of Hilbre, with their important cliff vegetation and maritime heathland and grassland. The two shorelines of the estuary show a marked contrast between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England. The site is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders; in summer the site supports nationally important breeding colonies of two species of tern. The site is also important during migration periods, particularly for wader populations moving along the west coast of Britain and for Sandwich terns post-breeding.

Size of SPA: 14,291.56 ha.

European ornithological interest of SPA:

Qualifying species:
The site qualifies under **Article 4.1** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season:

Annex I species	Count and Season	Period	% of GB population
Bar-tailed Godwit *Limosa lapponica*	1,150 individuals - wintering	5 year peak mean 1994/95 - 1998/99	2.2%
Common Tern *Sterna hirundo*	392 pairs - breeding	5 year mean 1995 – 1999	3.2%
Little Tern *Sterna albifrons*	69 pairs – breeding	5 year mean 1995 - 1999	2.9%
Sandwich Tern *Sterna sandvicensis*	957 individuals- autumn passage	5 year mean 1995 - 1999	2.3%

The site qualifies under **Article 4.2** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season:

Migratory species	**Count and Season**	**Period**	**% of population**
Redshank *Tringa totanus*	8,795 individuals - passage	5 year mean 1994/95 – 1998/99	5.9% Eastern Atlantic (wintering)
Shelduck *Tadorna tadorna*	7,725 individuals - wintering	5 year mean 1994/95 - 1998/99	2.6% Northwestern Europe
Teal *Anas crecca*	5,251 individuals - wintering	5 year mean 1994/95 - 1998/99	1.3% Northwestern Europe
Pintail *Anas acuta*	5,407 individuals - wintering	5 year mean 1994/95 - 1998/99	9.0% Northwestern Europe
Oystercatcher *Haematopus ostralegus*	22,677 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Europe & N/W Africa (wintering)
Grey Plover *Pluvialis squatarola*	1,643 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Eastern Atlantic (wintering)
Knot *Calidris canutus islandica*	12,394 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% NE Can/Grl/ Iceland/NW Eur
Dunlin *Calidris alpina*	27,769 individuals - wintering	5 year mean 1994/95 - 1998/99	2.0% N Siberia/Europe/ W Africa
Black-tailed Godwit *Limosa limosa islandica*	1,747 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Iceland (breeding)
Curlew *Numenius arquata*	3,899 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Europe (breeding)
Redshank *Tringa totanus*	5,293 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% Eastern Atlantic (wintering)

Assemblage qualification
The site qualifies under **article 4.2** of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:

In the non-breeding season, the area regularly supports 120,726 individual waterbirds (5 year peak mean 1994/95 - 1998/99), including: Great Crested Grebe *Podiceps cristatus*, Cormorant *Phalacrocorax carbo*, Shelduck *Tadorna tadorna*, Wigeon *Anas penelope*, Teal *Anas crecca*, Pintail *Anas acuta*, Oystercatcher *Haematopus ostralegus*, Grey Plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Knot *Calidris canutus*, Sanderling *Calidris alba*, Dunlin *Calidris alpina*, Black-tailed Godwit *Limosa limosa islandica*, Bar-tailed Godwit *Limosa lapponica*, Curlew *Numenius arquata* and Redshank *Tringa totanus*.

Non-qualifying species of interest: Leach's Petrel *Oceanodroma leucorhoa*, Little Egret *Egretta garzetta*, Bewick's Swan *Cygnus columbianus bewickii*, Whooper Swan *Cygnus cygnus*, Smew *Mergellus albellus*, Hen Harrier *Circus cyaneus*, Merlin *Falco columbarius*, Peregrine *Falco peregrinus*, Golden Plover *Pluvialis apricaria*, Ruff *Philomachus pugnax*, Wood Sandpiper *Tringa glareola*, Short-eared Owl *Asio flammeus* and Kingfisher *Alcedo atthis* (all Annex 1 species) occur in non-breeding numbers of less than European importance (less than 1% of the GB population).

Status of SPA:
The Dee Estuary was first classified as a Special Protection Area on 17 July 1985. The boundaries and site features were revised on 10 December 2009.

European Site Conservation Objectives for The Dee Estuary Special Protection Area Site Code: UK9013011

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying Conservation Advice document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

A048 *Tadorna tadorna*; Common shelduck (Non-breeding)
A052 *Anas crecca*; Eurasian teal (Non-breeding)
A054 *Anas acuta*; Northern pintail (Non-breeding)
A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)
A141 *Pluvialis squatarola*; Grey plover (Non-breeding)
A143 *Calidris canutus*; Red knot (Non-breeding)
A149 *Calidris alpina alpina*; Dunlin (Non-breeding)
A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)
A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
A160 *Numenius arquata*; Eurasian curlew (Non-breeding)
A162 *Tringa totanus*; Common redshank (Non-breeding)
A191 *Sterna sandvicensis*; Sandwich tern (Non-breeding)
A193 *Sterna hirundo*; Common tern (Breeding)
A195 *Sterna albifrons*; Little tern (Breeding)
Waterbird assemblage

This is a cross border site

This site crosses the border between England and Wales. Some features may only occur in one Country. The advice of Natural Resources Wales should therefore be sought separately.

This is a European Marine Site

This SPA is a part of the Dee Estuary European Marine Site (EMS). These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS.

Natural England's formal Conservation Advice for European Marine Sites can be found via GOV.UK.

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a Special Protection Area (SPA).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 21 February 2019 (version 4). This document updates and replaces an earlier version dated 5 February 2016 to reflect the consolidation of the Habitats Regulations in 2017.

Special Areas of Conservation

Dee Estuary/ Aber Dyfrdwy

Designated Special Area of Conservation (SAC)

Country	England/Wales
Unitary Authority	Cheshire, East Wales, Extra-Regio, Merseyside, West Wales and The Valleys
Centroid*	SJ191819
Latitude	53.32833333
Longitude	-3.216111111
SAC EU Code	UK0030131
Status	Designated Special Area of Conservation (SAC)
Area (ha)	15805.27

* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.



Location of Dee Estuary/ Aber Dyfrdwy SAC

General site character

- Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (81.8%)
- Salt marshes, Salt pastures, Salt steppes (16.1%)
- Coastal sand dunes, Sand beaches, Machair (0.7%)
- Shingle, Sea cliffs, Islets (0.5%)
- Bogs, Marshes, Water fringed vegetation, Fens (0.4%)
- Humid grassland, Mesophile grassland (0.2%)
- Improved grassland (0.1%)
- Broad-leaved deciduous woodland (0.1%)
- Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites) (0.1%)

Download the Standard Data Form for this site as submitted to Europe (PDF <100kb)

Note When undertaking an appropriate assessment of impacts at a site, all features of European importance (both primary and non-primary) need to be considered.

Annex I habitats that are a primary reason for selection of this site

- **1140 Mudflats and sandflats not covered by seawater at low tide**
  Species occurrence description not yet available.

- **1310 Salicornia and other annuals colonizing mud and sand**

  The Dee Estuary is representative of pioneer glasswort *Salicornia* spp. saltmarsh in the north-west of the UK. *Salicornia* spp. saltmarsh forms extensive stands in the Dee, especially on the more sandy muds where there is reduced tidal scour. It mainly occurs on the seaward fringes as a pioneer community, and moving landwards usually forms a transition to common saltmarsh-grass *Puccinellia maritima* saltmarsh (SM10). There is also a low frequency of *Salicornia* spp. extending well inland. Associated species often include annual sea-blite *Suaeda maritima* and hybrid scurvy grass *Cochlearia x hollandica*.

- **1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)**
  The Dee Estuary is representative of **H1330 Atlantic salt meadows** in the north-west of the UK. It forms the most extensive type of saltmarsh in the Dee, and since the 1980s it has probably displaced very large quantities of the non-native common cord-grass *Spartina anglica*. The high accretion rates found in the estuary are likely to favour further development of this type of vegetation. The saltmarsh is regularly inundated by the sea; characteristic salt-tolerant perennial flowering plant species include common saltmarsh-grass *Puccinellia maritima*, sea aster *Aster tripolium*, and sea arrowgrass *Triglochin maritima*. In a few areas there are unusual transitions to wet woodland habitats.

Annex I habitats present as a qualifying feature, but not a primary reason for

selection of this site

- **1130 Estuaries**
- **1210 Annual vegetation of drift lines**
- **1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts**
- **2110 Embryonic shifting dunes**
- **2120 "Shifting dunes along the shoreline with Ammophila arenaria (""white dunes"")"**
- **2130 "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")" * Priority feature**
- **2190 Humid dune slacks**

Annex II species that are a primary reason for selection of this site

- Not Applicable

Annex II species present as a qualifying feature, but not a primary reason for site selection

- **1095 Sea lamprey** *Petromyzon marinus*
- **1099 River lamprey** *Lampetra fluviatilis*
- **1395 Petalwort** *Petalophyllum ralfsii*

Many designated sites are on private land: the listing of a site in these pages does not imply any right of public access.

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CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

FLINTSHIRE **MYNYDD Y FFLINT/FLINT MOUNTAIN**

Date of Notification: 19 May 2011

National Grid Reference: SJ 243709

OS Maps: 1:50,000 Sheet number: 116
1:10,000 Sheet number: SJ27SW

Site Area: 25.79ha

Description

The site is of special interest for its stands of unimproved neutral grassland and semi-natural broadleaved woodland, which occur in association with scrub, fen-meadow and swamp vegetation. Mynydd y Fflint/Flint Mountain SSSI is located 1km to the south of Flint, north of the village of Flint Mountain, at an altitude ranging from 35 - 70m.

The site follows the course of a brook within a valley with gentle slopes extending on either side. The slopes are free draining, with the underlying geology consisting of mudstones of the Upper Carboniferous Period, which are overlain by mostly till with some glacial sands and gravels.

The neutral grassland areas on the drier slopes are of high floristic quality and hold a range of grasses, including red fescue *Festuca rubra*, sweet vernal-grass *Anthoxanthum odoratum*, common bent *Agrostis capillaris*, Yorkshire fog *Holcus lanatus*, and crested dog's-tail *Cynosurus cristatus*. Herbs are prominent, with frequent to abundant common knapweed *Centaurea nigra*, common bird's-foot-trefoil *Lotus corniculatus*, ribwort plantain *Plantago lanceolata* and red clover *Trifolium pratense*, and frequent field woodrush *Luzula campestris* and bulbous buttercup *Ranunculus bulbosus*. Some notable plants include pale flax *Linum bienne* and an inland population of rest harrow *Ononis repens*.

Alder *Alnus glutinosa* with grey willow *Salix cinerea* dominates the large areas of semi-natural broadleaved woodland found mainly along the valley bottom. The ground flora varies greatly with areas dominated by great horsetail *Equisetum telmateia* with extensive beds of lesser pond sedge *Carex acutiformis* with scattered marsh willowherb *Epilobium palustre*; whilst other areas have frequent ivy *Hedera helix* with bramble *Rubus fruticosus* and yellow archangel *Lamiastrum galeobdolon*.

In places the vegetation grades into swamp dominated by lesser pond sedge *Carex acutiformis*, with scattering of associates such as water mint *Mentha aquatica*, great willowherb *Epilobium hirsutum*, marsh horsetail *Equisetum palustre*, and marsh marigold *Caltha palustris*. This in turn gives way to areas of rich mixed fen with the addition of the locally uncommon greater tussock sedge *Carex paniculata* and sneezwort *Achillea ptarmica*. Some notable associated species in this vegetation included figwort *Scrophularia nodosa*, and hemp agrimony *Eupatorium*

cannabinum.

The transition between the vegetation communities is well developed with small areas of fen-meadow dominated by the locally uncommon blunt flowered rush *Juncus subnodulosus* accompanied by fen bedstraw *Galium uliginosum*, angelica *Angelica sylvestris*, meadowsweet *Filipendula ulmaria*, marsh valerian *Valeriana dioica* and marsh thistle *Cirsium palustr*e. Mynydd y Fflint/Flint Mountain is only the second known site for this fen-meadow community in the North East Wales.

The site also supports a variety of other semi-natural vegetation types including areas bracken, scrub and other broadleaved woodland communities.

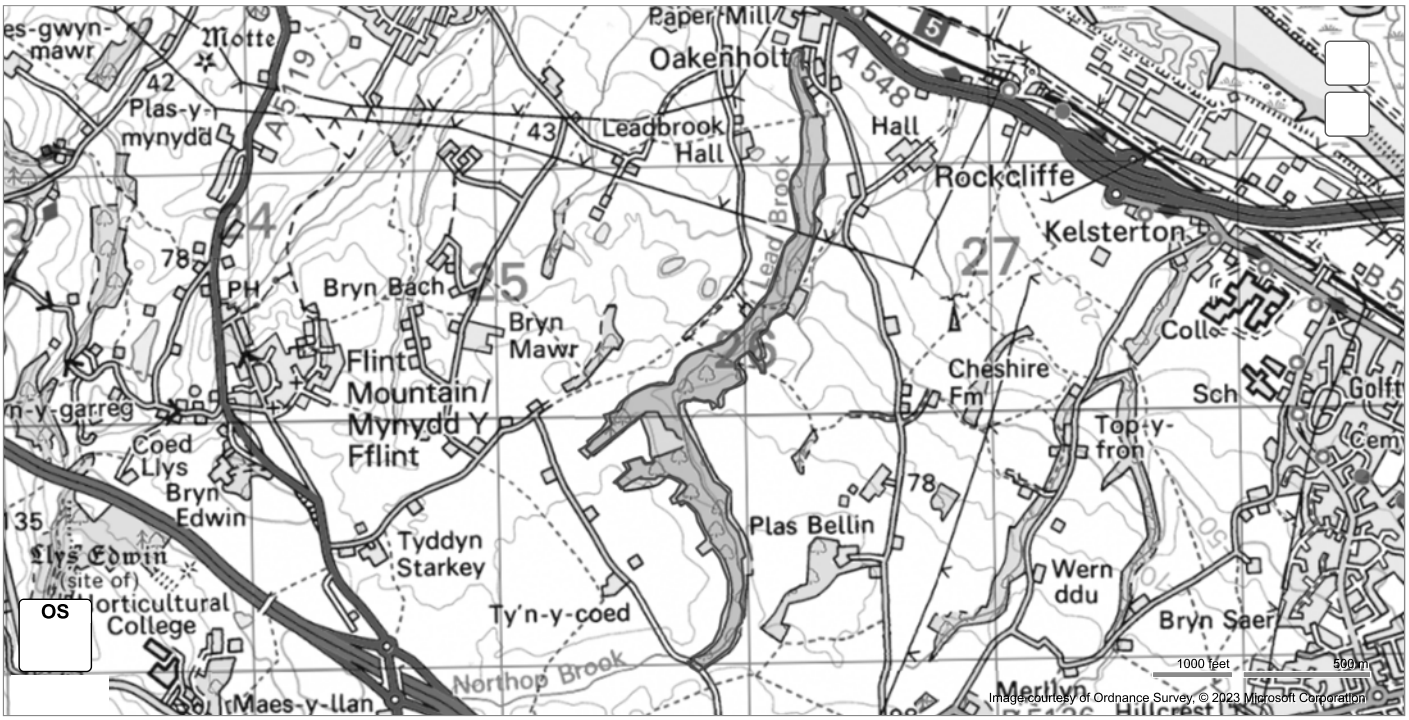
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Safleol

A Local Sites System for Wales

26NE10: Leadbrook Wood

Location:	Flintshire
Centroid Grid Reference:	SJ259701
Area:	35.1 ha
Site Description:	Semi-natural broad-leaved woodland occupying the dingles in which the Lead Brook and its tributaries flow. In several areas drainage is impeded. The woodland canopy is mainly dominated by ash and sycamore with some oak alder, beech, common lime and silver birch. The shrub layer has abundant holly, hazel and wych elm. Also present are hawthorn and grey willow. The ground flora has frequent dog's mercury, bramble, wood anemone, enchanter's nightshade, bluebell, opposite-leaved golden saxifrage and wood speedwell. In wet areas of the southern part of the wood, marsh marigold, giant horsetail and meadowsweet are prominent. The northern tip of the woodland is mixed. In the north, the woodland surrounds a reservoir and alder and oak are dominant with hemlock water-dropwort, yellow flag and figwort. Near Ty'n-y-coed there is a semi-improved and a species-rich marshy grassland, with oval sedge, ragged robin, common spotted orchid, sharp-flowered rush, cuckoo flower, carnation sedge and meadowsweet. On the slope above this is a herb-rich meadow with pignut, black knapweed, cat's-ear, crested dog's tail and sweet vernal grass.
Habitats:	Broad-leaved semi-natural woodland (30.241 ha), Mixed plantation (1.57 ha), Semi-improved neutral grassland (0.721 ha), Marsh/marshy grassland (0.438 ha), Swamp (0.278 ha), Standing water (1.945 ha)
Designation Reason:	Broad-leaved woodland and scrub, Pasture/meadow and scrub

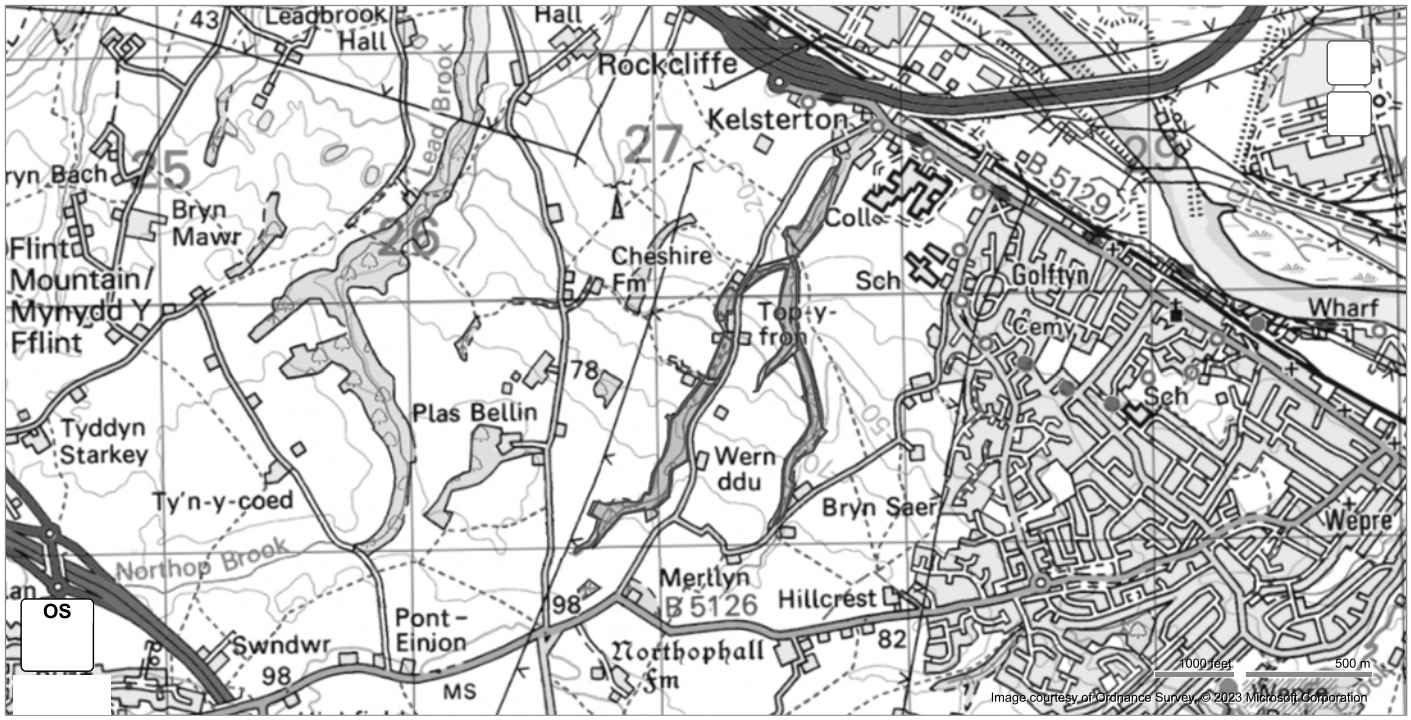


Safleol

A Local Sites System for Wales

26NE09: Top-y-fron Dingle and Kelserton Brook

Location:	Flintshire
Centroid Grid Reference:	SJ273696
Area:	16.4 ha
Site Description:	Semi-natural broad-leaved woodland occupying two narrow steep-sided steam valleys that join into one south of Kelsterton. The dominant woodland canopy species is sycamore, but sessile oak, alder, ash and birch are all locally dominant. The Kelsterton Brook section also has common lime and yew. The shrub layer is variable. Top-y-Fron Dingle has a shrub layer of holly, hazel, elder and canopy saplings. The northern section of Kelsterton Brook lacks a shrub layer and the southern section has abundant elder but rhododendron and other introduced species are locally dominant. There is a rich herb flora. In Top-y-Fron Dingle bramble, ramsons, opposite-leaved golden saxifrage, dog's mercury, wood sorrel and bryophytes are all frequent. The herb layer in the Kelsterton Dingle has frequent wood speedwell, dog's mercury, red campion with some nettle, bramble, bluebell, ramsons and rough meadow-grass. The northern part is dominated by rough meadow-grass.
Habitats:	Broad-leaved semi-natural woodland (16.335 ha)
Designation Reason:	Broad-leaved woodland and scrub

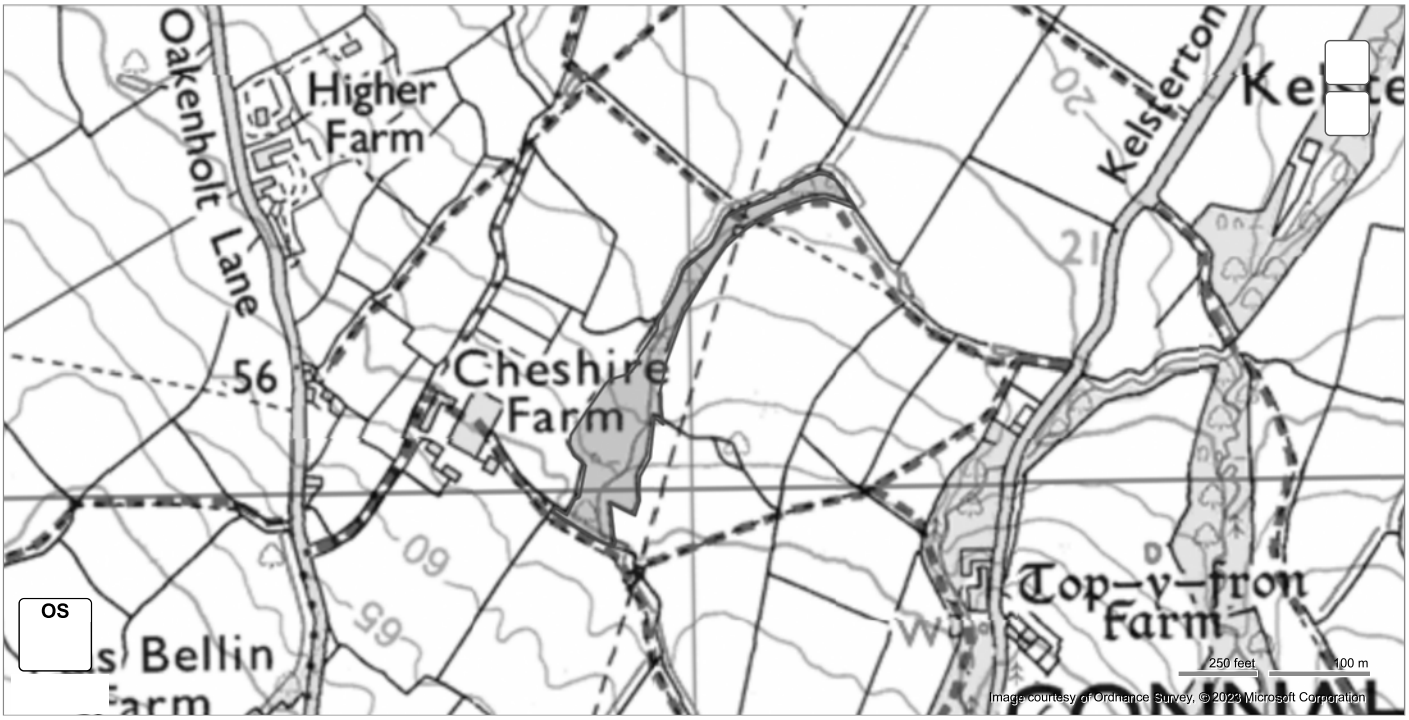


Safleol

A Local Sites System for Wales

27SE01: Cheshire Farm Wood

Location:	Flintshire
Centroid Grid Reference:	SJ269701
Area:	1.6 ha
Site Description:	Semi-natural broad-leaved woodland following the course of a small stream. The woodland canopy is dominated by sessile oak with some beech, sycamore and ash. The shrub layer contains wych elm, hawthorn, hazel and beech. The ground flora has abundant wood melick, soft grass and bluebell with pignut, wood anemone, wood speedwell, bramble and greater stitchwort.
Habitats:	Broad-leaved semi-natural woodland (1.617 ha)
Designation Reason:	Broad-leaved woodland and scrub



Appendix 6322/2:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)[1].

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable".*

3. Various characteristics contribute to the importance of ecological features, including:

- Naturalness;
- Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
- Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
- Endemic species or locally distinct sub-populations of a species;
- Habitat diversity;
- Habitat connectivity and/or synergistic associations;
- Habitats and species in decline;
- Rich assemblages of plants and animals;
- Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
- Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
- Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.

4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

[1] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

<u>Assigning Level of Importance</u>

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:

- International (European);
- National;
- Regional;
- County;
- District;
- Local (e.g. Parish or Neighbourhood);
- Site (not of importance beyond the immediate context of the site).

7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.

8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.

9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.

12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.

13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.

15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.

16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.

17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6322/3:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).

2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself[1]. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.

3. In summary, the key pieces of legislation relating to nature conservation in the UK are:

    - Wildlife and Countryside Act 1981 (as amended)
    - Protection of Badgers Act 1992
    - Hedgerows Regulations 1997
    - Countryside and Rights of Way (CRoW) Act for England and Wales 2000
    - Natural Environment and Rural Communities Act 2006
    - Conservation of Habitats and Species Regulations 2017

4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.

5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.

6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).

7. Under Section 1(1) of the Act, all wild birds are protected such that is an offence to intentionally:

    - Kill, injure or take any wild bird;
    - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
    - Take or destroy an egg of any wild bird.

    * The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.

8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:

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

[1] http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/

9. Under Section 9(1) of the Act, it is an offence to:

- Intentionally kill, injure or take any wild animal included in Schedule 5.

10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:

- Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
- Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.

11. Under Section 13(1) it is an offence:

- To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
- Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.

12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.

13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
- To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

\# A sett is defined as "*any structure or place which displays signs indicating current use by a Badger*". Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way

14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.

15. **Hedgerows Regulations 1997**. 'Important' hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify 'important' hedgerows for wildlife, landscape or historical reasons.

16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).

18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.

19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)[2] classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.

20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:

- Deliberately capture, injure or kill any wild animal of a European Protected Species;
- Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
- Deliberately take or destroy the eggs of such an animal;
- Damage or destroy a breeding site or resting place of such an animal.

21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.

22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

[2] Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

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Connah's Quay Power Station:
Southern Land Parcel

Breeding, Passage and Wintering Bird Surveys

July 2023

Quality Management	
Client:	Uniper UK Ltd
Project:	Connah's Quay Power Station: Southern Land Parcel
Report Title:	Breeding, Passage and Wintering Bird Surveys
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Executive Summary

i) **Introduction**. Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake ecological surveys of the Southern Land Parcel at Connah's Quay Power Station, Connah's Quay, Flintshire.

ii) **Survey.** Breeding, wintering and passage bird surveys were undertaken at the site from April 2022 to February 2023.

iii) **Ecological Designations.** The site lies immediately adjacent to the statutory designation Dee Estuary (SPA, Ramsar and SAC). This is a vast site designated for its wintering and passage birds which extends substantially from the site's northern and eastern boundaries.

iv) **Habitats.** The site comprises areas of rough pasture, bare ground and scrub which provide suitable habitat for a range of breeding bird species. There are no habitats within the site that are suitable to support wetland bird species.

v) **Survey Findings.** None of the Annex 1 species relevant to the SPA/Ramsar site were recorded during surveys of the estuary adjacent to the site. Of the qualifying migratory species, Redshank was the only one recorded in the estuary in significant numbers. Shelduck, Teal, Oystercatcher, Curlew and Dunlin were present in relatively low numbers. All of these species were typically observed widespread within the estuary and none were recorded within the site, which is unsuitable to support wetland bird species.

The site itself supports no habitats suitable for wetland species. Even habitat for terrestrial species is limited, with breeding species including very low numbers of Woodpigeon, Wren, Dunnock, Greenfinch and possibly Willow Warbler, all Red or Amber List species that remain very common and widespread both locally and nationally.

In early 2023 the site was largely cleared of scrub and trees. As a result, very little suitable breeding bird habitat remains present within this area.

1 Introduction

1.1 Background and Proposals

1.1.1 Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake a desk study and baseline ecological surveys of the Southern Land Parcel at Connah's Quay Power Station, Connah's Quay, approximately centred at grid reference SJ 288 703 (see Plan 6322/ECO1), hereafter referred to as 'the site'.

1.1.2 Breeding, Wintering and Passage bird surveys were undertaken at the site from April 2022 to February 2023.

1.2 Site Overview

1.2.1 The site is located in north-east Flintshire in North Wales (see Plan 6322/ECO1). The site is bounded to the north and east by the River Dee. Connah's Quay Power Station is located immediately adjacent to the site's western boundary and a railway line defines the site's southern site boundary. The town of Connah's Quay extends to the south. The Deeside Industrial Park is present to the north and east across the River Dee.

1.2.2 The site itself comprises hard standing and disturbed land which has been recently cleared of scrub, grassland, and small patches of scrub and tall ruderal vegetation.

1.2.3 The site is located immediately south and east of the River Dee estuary where saltmarsh and grazing marsh extends to the north and west around industrial development within the River Dee Special Protection Area (SPA) and Ramsar site.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the desk study and surveys of breeding, passage and wintering birds undertaken. The importance of the habitats and bird species present is evaluated.

2 Methodology

2.1 Data Search

2.1.1 Background information relevant to the site and its immediate surroundings to a distance of 2km was sourced from the North Wales Environmental Information Service (Cofnod) in August 2021. The data obtained comprised information on designated sites and species records.

2.1.2 Information on statutory designations was obtained from the MAGIC database[1], which uses data provided by Natural England, from within an extended search area of 25km. The MAGIC database was also searched for the presence of Priority Habitats within or adjacent to the site. Relevant information is reproduced in Appendix 6322/1 and on Plan 6322/ECO2.

2.2 Bird Surveys

2.2.1 Monthly surveys were carried out from April 2022 until February 2023 in order to assess breeding bird activity (April to July), passage activity (April, May and July to November) and winter activity (November to February) at the site and adjacent areas. The times, tide state and weather conditions during all surveys are shown in Table 2.1 below.

Table 2.1. Tide and weather conditions during the bird surveys.

Survey Date	Time of Survey	Tide and Weather Conditions					
		High Tide (time, ht)	Tide State	Wind (direction, speed BF)	Temp (°C)	Cloud Cover (/8)	Rain
25/04/2022	05:00-09:00	07:28 (3.1m)	High	NE, 1	4	1/8	Dry
20/05/2022	09:30-15:20	15:16 (4.1m)	Rising/high	S, 2	15	7-8/8	Dry
12/06/2022	10:20-14:50	10:04 (4.1m)	High/Falling	SW, 3	16	6/8	Dry
25/07/2022	08:45-13:10	10:03 (3.1m)	High/Falling	SW, 3	16	8/8	Drizzle
15/08/2022	10:15-15:40	14:32 (4.5m)	Rising/high	SW, 1	18	8/8	Showers
06/09/2022	12:20-16:50	08:08 (3.0m)	Low	S, 3	21	3/8	Showers
10/10/2022	09:15-15:30	12:22 (4.7m)	High/Falling	NW, 4	13	4/8	Dry
07/11/2022	08:00-12:50	10:23 (4.4m)	High	SW, 3	12	8/8	Dry
15/12/2022	10:35-15:35	15:37 (3.2m)	Rising/high	N, 1	-2	0/8	Dry
24/01/2023	11:00-15:25	13:01 (5.1m)	High	No wind	2	8/8	Dry
21/02/2023	13:45-18:00	11:57 (5.2m)	Low	W, 3	10	6/8	Dry

BF = Beaufort Force: BF0 = calm, BF12 = hurricane force

2.2.2 On each survey an experienced ornithologist walked a circuitous route around the site boundary recording the locations, numbers and activity of all birds present in (and around) the areas during this time.

[1] Multi-Agency Geographic Information for the Countryside (MAGIC), https://magic.defra.gov.uk/

2.2.3 Surveys revealed large numbers of birds using the River Dee estuary, predominately at distance from the site. Therefore, in order to make the surveys manageable and relevant to the sites, counts were limited to an area extending into this area to approximately 500m from the site boundary as shown on Plan 6322/ECO5. This area did not include the far bank of the River Dee. Counts of birds on the estuary and River Dee were primarily made from a viewpoint south of the site.

2.2.4 This methodology ensures that the vast majority of species that use the site would have been recorded over the course of the surveys, although some species that may use the site as part of a larger territory may potentially be overlooked, particularly nocturnal species such as owls.

2.2.5 To determine the breeding status of birds using the site, the following criteria were applied following the methodology used in the 'Atlas' surveys of 1988-1991 (Gibbons et al, 1993). This method accepts the following activities as denoting breeding (including those probably breeding although definite proof was lacking):

- Bird apparently holding territory, including courtship and display;
- Nest-building (including excavating nest-hole);
- Distraction display or feigning injury;
- Adult carrying faecal sac or food;
- Adult entering or leaving apparently occupied nest site;
- Nest with eggs or eggshells found, or bird sitting but not disturbed; and
- Nest with young; or downy/recently fledged young.

2.2.6 In order to ensure that robust data relating to the site and the River Dee estuary was obtained, most surveys were timed to coincide with high tide (to enable observation of high tide roosts of species using the SPA/Ramsar site when feeding areas are covered by water). During the course of all surveys, all states of tide were surveyed.

2.3 Ecological Evaluation Methodology

2.3.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)[2], which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). Further detail is provided in Appendix 6322/2.

2.4 National Policy Approach to Biodiversity in the Planning System

2.4.1 National Planning Policy in Wales is set out in Planning Policy Wales (PPW)[3]. This describes policies designed to maximise environmental protection and limit environmental impact

[2] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine'*, ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

[3] Llywodraeth Cymru/Welsh Government (2021). *'Planning Policy Wales'*, Edition 11, February 2021.

including the promotion of resilient biodiversity and ecosystems, citing biodiversity as an element in the delivery of distinctive and natural places, and ensuring environmental sustainability through good design.

2.4.2 PPW sets out a framework for the sustainable management of natural resources, which within which the planning system contribute by:

'• improving the resilience of ecosystems and ecological networks;

• halting and reversing the loss of biodiversity;

• maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions;' amongst other measures.

2.4.3 PPW embeds the protection and enhancement of biodiversity within all components of the planning system in Wales, stating that:

'Biodiversity loss should be reversed, pollution reduced, environmental risks addressed and overall resilience of ecosystems improved.'

2.4.4 The approach to dealing with biodiversity in the context of planning applications is set out on Section 6.4, stating:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.'

and

'Development plan strategies, policies and development proposals must consider the need to:

• support the conservation of biodiversity, in particular the conservation of wildlife and habitats;

• ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;

• ensure statutorily and non-statutorily designated sites are properly protected and managed;

• safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and

• secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.'

'All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission.'

2.4.5 PPW does not currently mandate a target for Biodiversity Net Gain, but does set out that:

'…development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity;'

'…planning decisions should incorporate measures which seek the creation, restoration and appropriate management of green networks and linkages between habitats and maintaining and enhancing other green infrastructure features and networks'.

2.4.6 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019[4], which involves the following step-wise process:

- **Avoidance –** avoiding adverse effects through good design;
- **Mitigation –** where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation –** where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement –** planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.4.7 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

2.5 Local Policy

2.5.1 The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)'. Policies that relate specifically to ecology and biodiversity are set out below.

2.5.2 Policy EN2: Green Infrastructure

"Development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate:

a. Create new green infrastructure linkages from the proposed development to the existing local network;

b. Fill in gaps in the existing network to improve connectivity.

Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required."

2.5.3 Policy EN3: Undeveloped Coast and Dee Estuary Corridor states:

"Within the undeveloped coast development will only be permitted where:

[4] British Standards Institution (2013) '*Biodiversity – Code of practice for planning and development*', BS 42020:2019

a. *It can be demonstrated a coastal location is essential;*

b. *It conserves and enhances the open character of the coast;*

c. *It would not unacceptably harm areas of nature conservation, landscape or biodiversity;*

d. *It would not harm existing or proposed recreational or active travel routes;*

e. *Extensive coastal protection measures are not required; and*

f. *It would not be potentially at risk of flooding nor unacceptably increase erosion or flooding or interfere with natural coastal processes."*

2.5.4 Policy EN6: Sites of Biodiversity and Geodiversity Importance states:

"Development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance. Proposals where adverse effects on site integrity cannot be ruled out would not be supported.

Development likely to impact the special features of a Nationally Designated Site will only be granted in exceptional circumstances where appropriate compensation can be provided. Development proposals that would have a significant adverse effect on locally designated sites or site with other biodiversity and / or geological interest, including priority species, will only be permitted where:

a. *it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the site; and*

b. *it can be demonstrated that the development cannot reasonably be located elsewhere; and*

c. *any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided.*

Development that results in the restoration, enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems."

2.5.5 Policy EN7: Development Affecting Trees, Woodlands and Hedgerows states:

"Development proposals that will result in significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value will not be permitted.

Where the impact of development affecting trees, woodlands or hedgerows is considered acceptable, development will only be permitted where:

a. *the development maximises their retention through sensitive design*

b. *measures; and*

c. *where the removal of trees is considered necessary, suitable replacements*

d. *shall be provided elsewhere within the site; and*

e. *it results in a net benefit in biodiversity."*

2.5.6 Policy EN7: Development In or Adjacent to Conservation Areas states:

"Development within or adjacent to a conservation area will only be permitted if it would preserve or enhance the character and appearance of the conservation area or its setting. New development in such locations must also be of a high standard of design, respond to the area's special characteristics, and pay particular regard to:

a. important views, vistas, street scenes, roofscapes, trees, open spaces, gaps and other features that contribute to the character or appearance of the conservation area;

b. the retention of historically significant boundaries or other elements that contribute to the established form of development;

c. the relationship to existing buildings and spaces, and pattern of development;

d. scale, height and massing, architectural design and detailing, the use of materials, boundary treatment, and public realm materials."

3 The River Dee Estuary SPA/Ramsar Site

3.1.1 The Dee Estuary is "a large funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish swamp vegetation on the upper shore."

3.1.2 The estuary "is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats, including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders" and in summer it "supports nationally important breeding colonies of two species of tern" and "is also important during migration periods, particularly for wader populations moving along the west coast of Britain and for Sandwich terns post-breeding."

3.1.3 The SPA qualifies under article 4.1 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the GB populations of the species listed in Annex 1 (see Table 3.1):

Table 3.1. SPA qualifying bird species (Article 4.1).

Annex 1 Species	Count and Season	% of GB Population
Bar-tailed godwit *Limosa lapponica*	1,150 individuals – wintering	2.2%
Common tern *Sterna hirundo*	392 pairs – breeding	3.2%
Little tern *Sternula albifrons*	69 pairs – breeding	2.9%
Sandwich tern *Thalassia sandvicensis*	957 individuals – autumn passage	2.3%

3.1.4 The SPA qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex 1) (see Table 3.2):

Table 3.2. SPA qualifying migratory bird species (Article 4.2).

Migratory Species	Count and Season	% of Population
Redshank *Tringa totanus*	8,795 individuals – passage	5.9% Eastern Atlantic (wintering)
Shelduck *Tadorna tadorna*	7,725 individuals – wintering	2.6% Northwestern Europe
Teal *Anas crecca*	5,251 individuals – wintering	1.3% Northwestern Europe
Pintail *Anas acuta*	5,407 individuals – wintering	9.0% Northwestern Europe
Oystercatcher *Haematopus ostralegus*	22,677 individuals – wintering	2.5% Europe & N/W Africa (wintering)
Grey plover *Pluvialis squatarola*	1,643 individuals – wintering	1.1% Eastern Atlantic (wintering)
Knot *Calidris canutus*	12,394 individuals – wintering	3.5% NE Can/Grl/Iceland/NW Eur
Dunlin *Calidris alpina*	27,769 individuals – wintering	2.0% N Siberia/Europe/W Africa
Black-tailed godwit *Limosa limosa islandica*	1,747 individuals – wintering	2.5% Iceland (breeding)
Curlew *Numenius arquata*	3,899 individuals – wintering	1.1% Europe (breeding)
Redshank *Tringa totanus*	5,293 individuals – wintering	3.5% Eastern Atlantic (wintering)

Assemblage Qualification

3.1.5 In addition, The Dee Estuary Ramsar site qualifies under article 4.2 of the Directive (79/409/EEC) as it is "used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season."

4 Results

4.1 Legislation

4.1.1 All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and are subject to special penalties (see Appendix 6322/3 for detailed provisions).

4.2 Conservation Status

4.2.1 The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status[5]. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern being either globally threatened and or experiencing a high/rapid level of population decline (>50% over the past 25 years). A number of birds are also S41 Priority Species. Red and Amber listed species and priority species should be assessed as important ecological features.

4.3 Survey Results

4.3.1 A total of 56 bird species were recorded during the surveys. The results are divided into "waterbirds" (27) and "landbirds" (29) in the tables that follow. "Waterbirds" include all species that are specifically associated with the estuary habitats, including all waterfowl, waders, gulls and terns. "Landbirds" include all species that are associated with terrestrial habitats.

4.3.2 The numbers of waterbirds recorded during each survey are shown in Table 4.1 below. These are limited to those observed within the River Dee estuary. The site itself contains no habitat to support any waterbird species.

Table 4.1: Numbers of each species of waterbird recorded during each survey. SPA/Ramsar qualifying species are shown in bold.

Species (and BTO species code)	RSPB listed	River Dee adjacent to the site										
		A	M	J	J	A	S	O	N	D	J	F
Canada goose (CG) *Branta canadensis*	Feral		2	30		6	1	89		46		9
Greylag goose (GJ) *Anser anser*	Feral							1				
Shelduck (SU) ***Tadorna tadorna***	Amber	3	2									
Gadwall (GA) *Mareca strepera*	Amber	2										
Wigeon (WN) *Mareca penelope*	Amber	1										
Mallard (MA) *Anas platyrhynchos*	Amber	4	1			3	2	23	43	45	10	11
Teal (T.) ***Anas crecca***	Amber					3		8		27	5	4
Goosander (GD) # *Mergus merganser*										2		1

[5] Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) *'Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man'* British Birds *108*, pp.708-746

Species (and BTO species code)	RSPB listed	River Dee adjacent to the site										
		A	M	J	J	A	S	O	N	D	J	F
Little grebe (LG) *Tachybaptus ruficollis*								2		4	2	
Oystercatcher (OC) ***Haematopus ostralegus***	Amber	2	10	1	1							1
Lapwing (L.) *Vanellus vanellus*	Red			2	11	2	25			15		
Curlew (CU) ***Numenius arquata***	Red							1				
Dunlin (DN) ***Calidris alpina***	Red					4	2			4		
Common sandpiper (CS) *Actitis hypoleucos*	Amber					2		1	4			1
Redshank (RK) ***Tringa totanus***	Amber				26	700	18	5	1	12	5	10
Greenshank (GK) *Tringa nebularia*	Amber					1		1	1	1		1
Black-headed gull (BH) *Chroicocephalus ridibundus*	Amber	42	15		30	50	26	13	42	80	54	67
Mediterranean gull (MU) *Larus melanocephalus*	Amber	2										
Common gull (CM) *Larus canus*	Amber									10	2	3
Herring gull (HG) *Larus argentatus*	Red	10	40	10	35	10	26		13	75	14	9
Great black-backed gull (GB) *Larus marinus*	Amber					1	1	1	2	2		2
Lesser black-backed gull (LB) *Larus fuscus*	Amber	4	2	6	6	2	10		4	15	1	
Common tern (CN) ***Sterna hirundo***	Amber	1		1	1							
Cormorant (CA) *Phalacrocorax carbo*		1		2	4	3	1	4	32	16	1	
Grey heron (H.) *Ardea cinerea*						1		2	1	1	3	
Little egret (ET) *Egretta garzetta*			1		12	11	7	3	3	1	2	1
Great egret (HW) *Egretta alba*	Amber										1	

4.3.3 The survey results for landbirds are shown in Table 4.2 below. These include the estimated numbers of territories within the site, and the maxima for passage and winter periods. The distribution of breeding birds is shown in Plan 6322/ECO6.

Table 4.2: Systematic list of 'landbird' species recorded.

Species (and BTO species code)	RSPB listed	South site			Notes
		Est. no. pairs	Passage max.	Winter max.	
Woodpigeon (WP) *Columba palumbus*	Amber	1		2	
Collared dove (CD) *Streptopelia decaocto*			2	2	
Sparrowhawk (SH) *Accipiter nisus*	Amber		1		Flying over.
Magpie (MG) *Pica pica*		1		6	
Carrion crow (C.) *Corvus corone*		1		4	

Species (and BTO species code)	RSPB listed	South site			Notes
		Est. no. pairs	Passage max.	Winter max.	
Blue tit (BT) *Cyanistes caeruleus*				8	
Great tit (GT) *Parus major*				5	
House martin (HM) *Delichon urbicum*	Amber		1		Flying over.
Long-tailed tit (LT) *Aegithalos caudatus*				7	
Chiffchaff (CC) *Phylloscopus collybita*		1			
Willow warbler (WW) *Phylloscopus trochilus*	Amber	0-1			
Blackcap (BC) *Sylvia atricapilla*		1			
Goldcrest (GC) *Regulus regulus*				1	
Wren (WR) *Troglodytes troglodytes*	Amber	2		2	
Starling (SG) *Sturnus vulgaris*	Red		40	40	
Blackbird (B.) *Turdus merula*		2		5	
Song thrush (ST) *Turdus philomelos*	Amber			8	
Redwing (RE) *Turdus iliacus*	Sch.1			7	
Fieldfare (FF) *Turdus pilaris*	Sch.1			4	
Mistle thrush (M.) *Turdus viscivorus*	Red		3	1	
Robin (R.) *Erithacus rubecula*		3		5	
House sparrow (HS) *Passer domesticus*	Red			20	From housing.
Dunnock (D.) *Prunella modularis*	Amber	3		1	
Pied wagtail (PW) *Motacilla alba*			1	1	
Meadow pipit (MP) *Anthus pratensis*	Amber			11	
Chaffinch (CH) *Fringilla coelebs*				100	
Greenfinch (GR) *Chloris chloris*	Red	1		1	
Goldfinch (GO) *Carduelis carduelis*		4		4	
Reed bunting (RB) *Emberiza schoeniclus*	Amber			1	

4.4 Evaluation

4.4.1 The surveys revealed relatively few numbers of birds using the Dee Estuary adjacent to the site, although there is a regular gathering of ducks, waders and gulls on the far bank, which occasionally holds higher numbers at high tide (for example, 700 Redshank in August). Significantly larger numbers of bird occur beyond the limit of the survey area.

4.4.2 At low tide birds are widely spread out throughout all areas of intertidal mud, saltmarsh and grazing marsh. As the tide rises, it pushes the birds from the lower reaches towards the higher areas, where they can rest at sites known as 'high tide roosts'. This means that birds were observed moving downriver (east to west) past the site on the rising tide to roost in the grazing marsh further north-west or even further afield, notably on the highest tides.

4.4.3 There are no habitats suitable for any of these wetland species within the site itself.

Annex 1 Species

4.4.4 None of the four species listed in the SPA citation were recorded during the surveys. Low numbers of Common Terns were observed flying up and downriver during the spring and summer. In summary, no Annex 1 species make significant use of the site.

Qualifying Migrant species

4.4.5 Of the ten species listed, Redshank was the only one recorded in the estuary in significant numbers. Shelduck, Teal, Oystercatcher, Curlew and Dunlin were recorded only in relatively small numbers. All of these species were typically observed widespread within the estuary and none were recorded within the sit, which is unsuitable to support wetland bird species.

The Site

4.4.6 The site itself supports no habitats suitable for wetland species. Even habitat for terrestrial species is limited, with breeding species including very low numbers of Woodpigeon, Wren, Dunnock, Greenfinch and possibly Willow Warbler, all Red or Amber List species that remain very common and widespread both locally and nationally.

4.4.7 In early 2023 the site was largely cleared of scrub and trees. As a result, very little suitable breeding bird habitat remains present within this area.

Plan 6322/ECO1:

Site Location



Key:

Site Location

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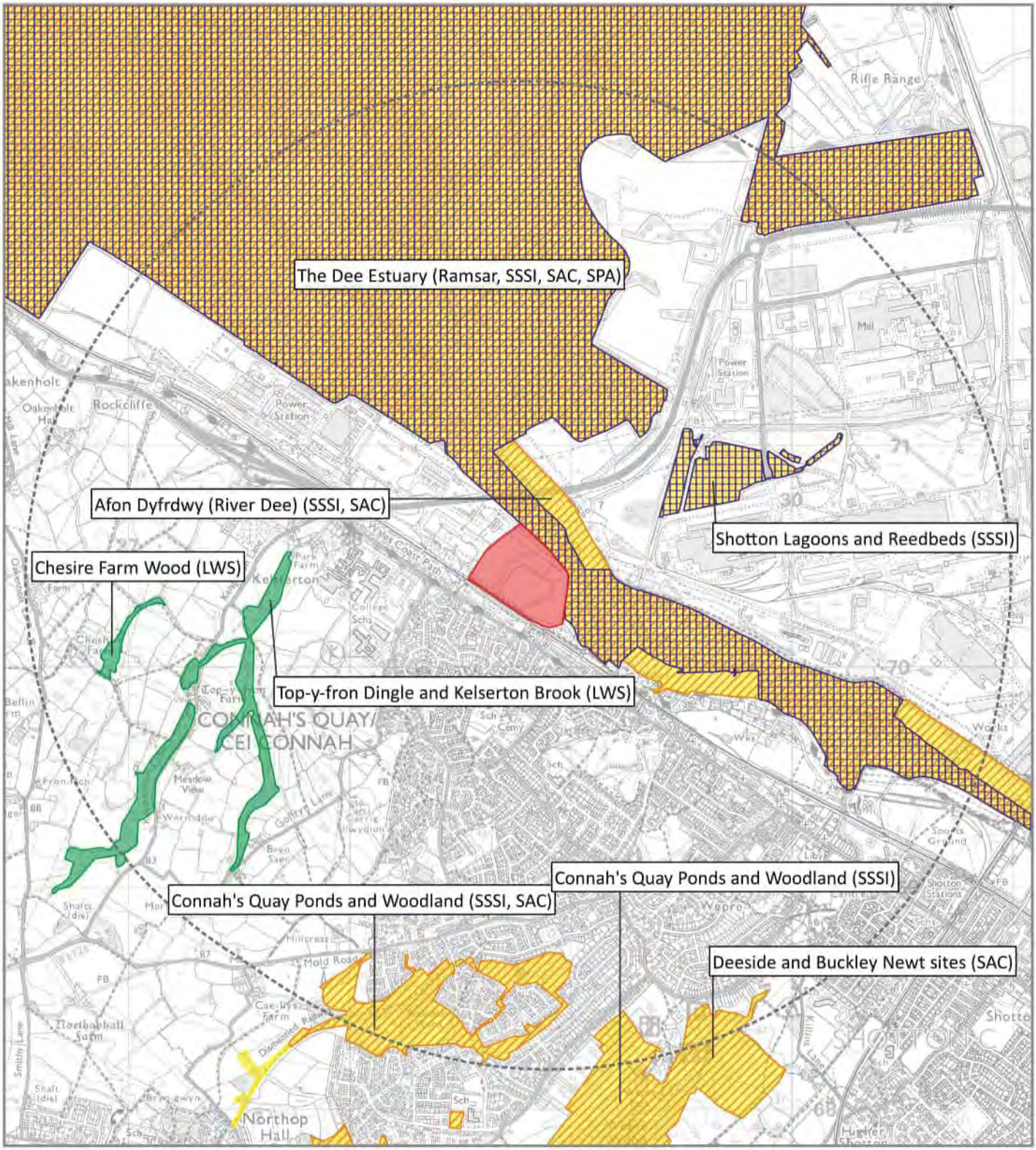
Connah's Quay (South)	PROJECT
Site Location	TITLE
6322/ECO1	DRAWING NO.
A/BG	REV.
April 2023	DATE

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Plan 6322/ECO2:

Ecological Designations



Key:

- Site Location
- 2km Study Area
- Ramsar Site
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)

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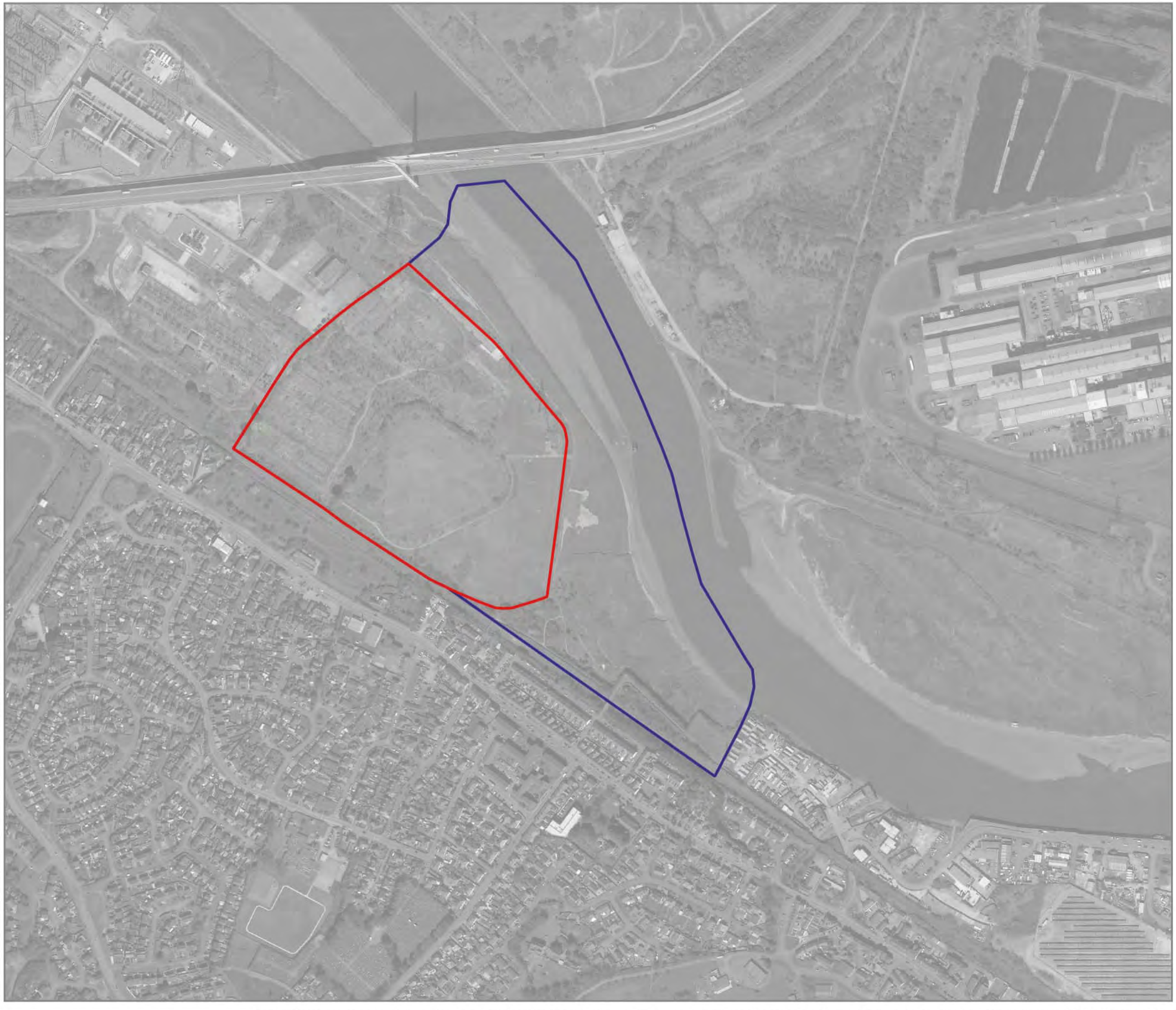
Connah's Quay (South)	PROJECT
Ecological Designations	TITLE
6322/ECO2	DRAWING NO
A/BG	REV
April 2023	DATE

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Plan 6322/ECO5:

Wintering and Passage Bird Surveys



Key:

- Site Boundary
- Survey Area

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Connah's Quay (South)	PROJECT
Extent of Wintering and Passage Bird Surveys	TITLE
6322/ECO5	DRAWING NO.
A/BG	REV
April 2023	DATE

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Plan 6322/ECO6:

Breeding Bird Surveys



Bird Species:

- B. Blackbird
- BC Blackcap
- C. Carrion Crow
- CC Chiffchaff
- GO Goldfinch
- R. Robin
- D. Dunnock
- GA Gadwall
- WN Whitethroat
- WP Woodpigeon
- WR Wren
- WW Willow Warbler
- GR Greenfinch

Key:

- Site Boundary
- Breeding / Probable Breeding (BOCC Red List)
- Possible Breeding (BOCC Red List)
- Breeding / Probable Breeding (BOCC Amber List Species)
- Possible Breeding (BOCC Amber List Species)
- Breeding / Probable Breeding (BOCC Green List - Not Threatened)
- Possible Breeding (BOCC Green List - Not Threatened)

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Connah's Quay (South)	PROJECT
Breeding Bird Survey	TITLE
6322/ECO6	DRAWING NO.
A/BG	REV
April 2023	DATE

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Appendix 6322/1:

Desk Study Data

EC Directive 79/409 on the Conservation of Wild Birds: Citation for Special Protection Area (SPA)

Name: The Dee Estuary

Unitary Authority/County: Cheshire West and Chester, Denbighshire, Flintshire, Wirral.

Boundary of the SPA: The Dee Estuary SPA encompasses the Dee Estuary/Aber Afon Dyfrdwy Site of Special Scientific Interest (SSSI); the dunes and intertidal foreshore at Gronant Dunes and Talacre Warren SSSI; the freshwater marsh at Inner Marsh Farm SSSI; and the lagoons and reedbeds at Shotton Lagoons and Reedbeds. The boundary of the SPA is shown on the map enclosed.

Site description: The Dee Estuary lies on the border between England and Wales on the north-west coast of Britain. It is a large, funnel-shaped, sheltered estuary, which supports extensive areas of intertidal sand and mudflats and saltmarsh. Where agricultural reclamation has not occurred, the saltmarshes grade into transitional brackish and swamp vegetation on the upper shore. The site also includes the three sandstone islands of Hilbre, with their important cliff vegetation and maritime heathland and grassland. The two shorelines of the estuary show a marked contrast between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England. The site is of major importance for waterbirds; during the winter the intertidal flats, saltmarshes and fringing habitats including coastal grazing marsh/fields, provide feeding and roosting sites for internationally important numbers of ducks and waders; in summer the site supports nationally important breeding colonies of two species of tern. The site is also important during migration periods, particularly for wader populations moving along the west coast of Britain and for Sandwich terns post-breeding.

Size of SPA: 14,291.56 ha.

European ornithological interest of SPA:

Qualifying species:
The site qualifies under **Article 4.1** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season:

Annex I species	Count and Season	Period	% of GB population
Bar-tailed Godwit *Limosa lapponica*	1,150 individuals - wintering	5 year peak mean 1994/95 - 1998/99	2.2%
Common Tern *Sterna hirundo*	392 pairs - breeding	5 year mean 1995 – 1999	3.2%
Little Tern *Sterna albifrons*	69 pairs – breeding	5 year mean 1995 - 1999	2.9%
Sandwich Tern *Sterna sandvicensis*	957 individuals- autumn passage	5 year mean 1995 - 1999	2.3%

The site qualifies under **Article 4.2** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season:

Migratory species	**Count and Season**	**Period**	**% of population**
Redshank *Tringa totanus*	8,795 individuals - passage	5 year mean 1994/95 – 1998/99	5.9% Eastern Atlantic (wintering)
Shelduck *Tadorna tadorna*	7,725 individuals - wintering	5 year mean 1994/95 - 1998/99	2.6% Northwestern Europe
Teal *Anas crecca*	5,251 individuals - wintering	5 year mean 1994/95 - 1998/99	1.3% Northwestern Europe
Pintail *Anas acuta*	5,407 individuals - wintering	5 year mean 1994/95 - 1998/99	9.0% Northwestern Europe
Oystercatcher *Haematopus ostralegus*	22,677 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Europe & N/W Africa (wintering)
Grey Plover *Pluvialis squatarola*	1,643 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Eastern Atlantic (wintering)
Knot *Calidris canutus islandica*	12,394 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% NE Can/Grl/ Iceland/NW Eur
Dunlin *Calidris alpina*	27,769 individuals - wintering	5 year mean 1994/95 - 1998/99	2.0% N Siberia/Europe/ W Africa
Black-tailed Godwit *Limosa limosa islandica*	1,747 individuals - wintering	5 year mean 1994/95 - 1998/99	2.5% Iceland (breeding)
Curlew *Numenius arquata*	3,899 individuals - wintering	5 year mean 1994/95 - 1998/99	1.1% Europe (breeding)
Redshank *Tringa totanus*	5,293 individuals - wintering	5 year mean 1994/95 - 1998/99	3.5% Eastern Atlantic (wintering)

Assemblage qualification
The site qualifies under **article 4.2** of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:

In the non-breeding season, the area regularly supports 120,726 individual waterbirds (5 year peak mean 1994/95 - 1998/99), including: Great Crested Grebe *Podiceps cristatus*, Cormorant *Phalacrocorax carbo*, Shelduck *Tadorna tadorna*, Wigeon *Anas penelope*, Teal *Anas crecca*, Pintail *Anas acuta*, Oystercatcher *Haematopus ostralegus*, Grey Plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Knot *Calidris canutus*, Sanderling *Calidris alba*, Dunlin *Calidris alpina*, Black-tailed Godwit *Limosa limosa islandica*, Bar-tailed Godwit *Limosa lapponica*, Curlew *Numenius arquata* and Redshank *Tringa totanus*.

Non-qualifying species of interest: Leach's Petrel *Oceanodroma leucorhoa*, Little Egret *Egretta garzetta*, Bewick's Swan *Cygnus columbianus bewickii*, Whooper Swan *Cygnus cygnus*, Smew *Mergellus albellus*, Hen Harrier *Circus cyaneus*, Merlin *Falco columbarius*, Peregrine *Falco peregrinus*, Golden Plover *Pluvialis apricaria*, Ruff *Philomachus pugnax*, Wood Sandpiper *Tringa glareola*, Short-eared Owl *Asio flammeus* and Kingfisher *Alcedo atthis* (all Annex 1 species) occur in non-breeding numbers of less than European importance (less than 1% of the GB population).

Status of SPA:
The Dee Estuary was first classified as a Special Protection Area on 17 July 1985. The boundaries and site features were revised on 10 December 2009.

European Site Conservation Objectives for The Dee Estuary Special Protection Area Site Code: UK9013011

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying Conservation Advice document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

A048 *Tadorna tadorna*; Common shelduck (Non-breeding)
A052 *Anas crecca*; Eurasian teal (Non-breeding)
A054 *Anas acuta*; Northern pintail (Non-breeding)
A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)
A141 *Pluvialis squatarola*; Grey plover (Non-breeding)
A143 *Calidris canutus*; Red knot (Non-breeding)
A149 *Calidris alpina alpina*; Dunlin (Non-breeding)
A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)
A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
A160 *Numenius arquata*; Eurasian curlew (Non-breeding)
A162 *Tringa totanus*; Common redshank (Non-breeding)
A191 *Sterna sandvicensis*; Sandwich tern (Non-breeding)
A193 *Sterna hirundo*; Common tern (Breeding)
A195 *Sterna albifrons*; Little tern (Breeding)
Waterbird assemblage

This is a cross border site

This site crosses the border between England and Wales. Some features may only occur in one Country. The advice of Natural Resources Wales should therefore be sought separately.

This is a European Marine Site

This SPA is a part of the Dee Estuary European Marine Site (EMS). These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS.

Natural England's formal Conservation Advice for European Marine Sites can be found via GOV.UK.

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a Special Protection Area (SPA).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 21 February 2019 (version 4). This document updates and replaces an earlier version dated 5 February 2016 to reflect the consolidation of the Habitats Regulations in 2017.

Special Areas of Conservation

Dee Estuary/ Aber Dyfrdwy

Designated Special Area of Conservation (SAC)

Country	England/Wales
Unitary Authority	Cheshire, East Wales, Extra-Regio, Merseyside, West Wales and The Valleys
Centroid*	SJ191819
Latitude	53.32833333
Longitude	-3.216111111
SAC EU Code	UK0030131
Status	Designated Special Area of Conservation (SAC)
Area (ha)	15805.27

* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.



Location of Dee Estuary/ Aber Dyfrdwy SAC

General site character

- Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (81.8%)
- Salt marshes, Salt pastures, Salt steppes (16.1%)
- Coastal sand dunes, Sand beaches, Machair (0.7%)
- Shingle, Sea cliffs, Islets (0.5%)
- Bogs, Marshes, Water fringed vegetation, Fens (0.4%)
- Humid grassland, Mesophile grassland (0.2%)
- Improved grassland (0.1%)
- Broad-leaved deciduous woodland (0.1%)
- Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites) (0.1%)

Download the Standard Data Form for this site as submitted to Europe (PDF <100kb)

Note When undertaking an appropriate assessment of impacts at a site, all features of European importance (both primary and non-primary) need to be considered.

Annex I habitats that are a primary reason for selection of this site

- **1140 Mudflats and sandflats not covered by seawater at low tide**
  Species occurrence description not yet available.

- **1310 Salicornia and other annuals colonizing mud and sand**

  The Dee Estuary is representative of pioneer glasswort *Salicornia* spp. saltmarsh in the north-west of the UK. *Salicornia* spp. saltmarsh forms extensive stands in the Dee, especially on the more sandy muds where there is reduced tidal scour. It mainly occurs on the seaward fringes as a pioneer community, and moving landwards usually forms a transition to common saltmarsh-grass *Puccinellia maritima* saltmarsh (SM10). There is also a low frequency of *Salicornia* spp. extending well inland. Associated species often include annual sea-blite *Suaeda maritima* and hybrid scurvy grass *Cochlearia x hollandica*.

- **1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)**
  The Dee Estuary is representative of **H1330 Atlantic salt meadows** in the north-west of the UK. It forms the most extensive type of saltmarsh in the Dee, and since the 1980s it has probably displaced very large quantities of the non-native common cord-grass *Spartina anglica*. The high accretion rates found in the estuary are likely to favour further development of this type of vegetation. The saltmarsh is regularly inundated by the sea; characteristic salt-tolerant perennial flowering plant species include common saltmarsh-grass *Puccinellia maritima*, sea aster *Aster tripolium*, and sea arrowgrass *Triglochin maritima*. In a few areas there are unusual transitions to wet woodland habitats.

Annex I habitats present as a qualifying feature, but not a primary reason for

selection of this site

- **1130 Estuaries**
- **1210 Annual vegetation of drift lines**
- **1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts**
- **2110 Embryonic shifting dunes**
- **2120 "Shifting dunes along the shoreline with Ammophila arenaria (""white dunes"")"**
- **2130 "Fixed coastal dunes with herbaceous vegetation (""grey dunes"")" * Priority feature**
- **2190 Humid dune slacks**

Annex II species that are a primary reason for selection of this site

- Not Applicable

Annex II species present as a qualifying feature, but not a primary reason for site selection

- **1095 Sea lamprey** *Petromyzon marinus*
- **1099 River lamprey** *Lampetra fluviatilis*
- **1395 Petalwort** *Petalophyllum ralfsii*

Many designated sites are on private land: the listing of a site in these pages does not imply any right of public access.

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CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

FLINTSHIRE **MYNYDD Y FFLINT/FLINT MOUNTAIN**

Date of Notification: 19 May 2011

National Grid Reference: SJ 243709

OS Maps: 1:50,000 Sheet number: 116
1:10,000 Sheet number: SJ27SW

Site Area: 25.79ha

Description

The site is of special interest for its stands of unimproved neutral grassland and semi-natural broadleaved woodland, which occur in association with scrub, fen-meadow and swamp vegetation. Mynydd y Fflint/Flint Mountain SSSI is located 1km to the south of Flint, north of the village of Flint Mountain, at an altitude ranging from 35 - 70m.

The site follows the course of a brook within a valley with gentle slopes extending on either side. The slopes are free draining, with the underlying geology consisting of mudstones of the Upper Carboniferous Period, which are overlain by mostly till with some glacial sands and gravels.

The neutral grassland areas on the drier slopes are of high floristic quality and hold a range of grasses, including red fescue *Festuca rubra*, sweet vernal-grass *Anthoxanthum odoratum*, common bent *Agrostis capillaris*, Yorkshire fog *Holcus lanatus*, and crested dog's-tail *Cynosurus cristatus*. Herbs are prominent, with frequent to abundant common knapweed *Centaurea nigra*, common bird's-foot-trefoil *Lotus corniculatus*, ribwort plantain *Plantago lanceolata* and red clover *Trifolium pratense*, and frequent field woodrush *Luzula campestris* and bulbous buttercup *Ranunculus bulbosus*. Some notable plants include pale flax *Linum bienne* and an inland population of rest harrow *Ononis repens*.

Alder *Alnus glutinosa* with grey willow *Salix cinerea* dominates the large areas of semi-natural broadleaved woodland found mainly along the valley bottom. The ground flora varies greatly with areas dominated by great horsetail *Equisetum telmateia* with extensive beds of lesser pond sedge *Carex acutiformis* with scattered marsh willowherb *Epilobium palustre*; whilst other areas have frequent ivy *Hedera helix* with bramble *Rubus fruticosus* and yellow archangel *Lamiastrum galeobdolon*.

In places the vegetation grades into swamp dominated by lesser pond sedge *Carex acutiformis*, with scattering of associates such as water mint *Mentha aquatica*, great willowherb *Epilobium hirsutum*, marsh horsetail *Equisetum palustre*, and marsh marigold *Caltha palustris*. This in turn gives way to areas of rich mixed fen with the addition of the locally uncommon greater tussock sedge *Carex paniculata* and sneezwort *Achillea ptarmica*. Some notable associated species in this vegetation included figwort *Scrophularia nodosa*, and hemp agrimony *Eupatorium*

cannabinum.

The transition between the vegetation communities is well developed with small areas of fen-meadow dominated by the locally uncommon blunt flowered rush *Juncus subnodulosus* accompanied by fen bedstraw *Galium uliginosum*, angelica *Angelica sylvestris*, meadowsweet *Filipendula ulmaria*, marsh valerian *Valeriana dioica* and marsh thistle *Cirsium palustr*e. Mynydd y Fflint/Flint Mountain is only the second known site for this fen-meadow community in the North East Wales.

The site also supports a variety of other semi-natural vegetation types including areas bracken, scrub and other broadleaved woodland communities.

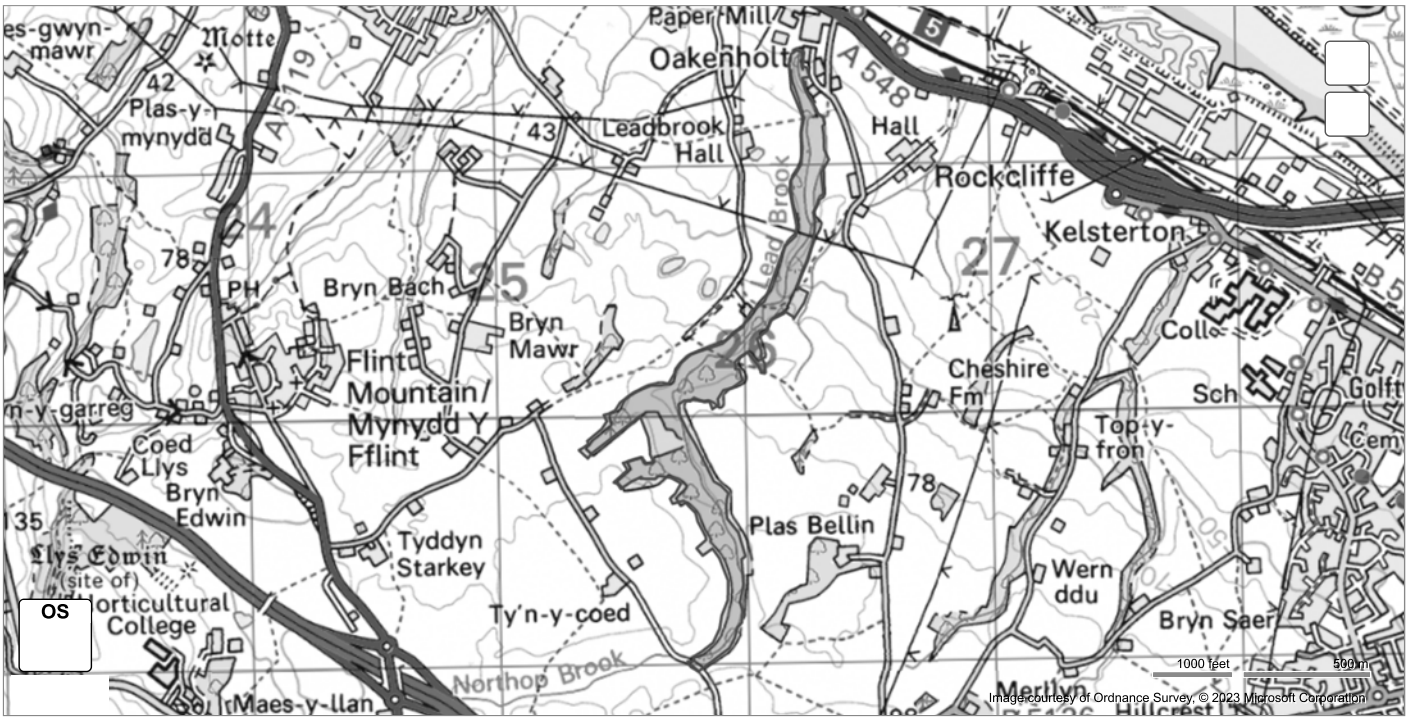
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Safleol

A Local Sites System for Wales

26NE10: Leadbrook Wood

Location:	Flintshire
Centroid Grid Reference:	SJ259701
Area:	35.1 ha
Site Description:	Semi-natural broad-leaved woodland occupying the dingles in which the Lead Brook and its tributaries flow. In several areas drainage is impeded. The woodland canopy is mainly dominated by ash and sycamore with some oak alder, beech, common lime and silver birch. The shrub layer has abundant holly, hazel and wych elm. Also present are hawthorn and grey willow. The ground flora has frequent dog's mercury, bramble, wood anemone, enchanter's nightshade, bluebell, opposite-leaved golden saxifrage and wood speedwell. In wet areas of the southern part of the wood, marsh marigold, giant horsetail and meadowsweet are prominent. The northern tip of the woodland is mixed. In the north, the woodland surrounds a reservoir and alder and oak are dominant with hemlock water-dropwort, yellow flag and figwort. Near Ty'n-y-coed there is a semi-improved and a species-rich marshy grassland, with oval sedge, ragged robin, common spotted orchid, sharp-flowered rush, cuckoo flower, carnation sedge and meadowsweet. On the slope above this is a herb-rich meadow with pignut, black knapweed, cat's-ear, crested dog's tail and sweet vernal grass.
Habitats:	Broad-leaved semi-natural woodland (30.241 ha), Mixed plantation (1.57 ha), Semi-improved neutral grassland (0.721 ha), Marsh/marshy grassland (0.438 ha), Swamp (0.278 ha), Standing water (1.945 ha)
Designation Reason:	Broad-leaved woodland and scrub, Pasture/meadow and scrub

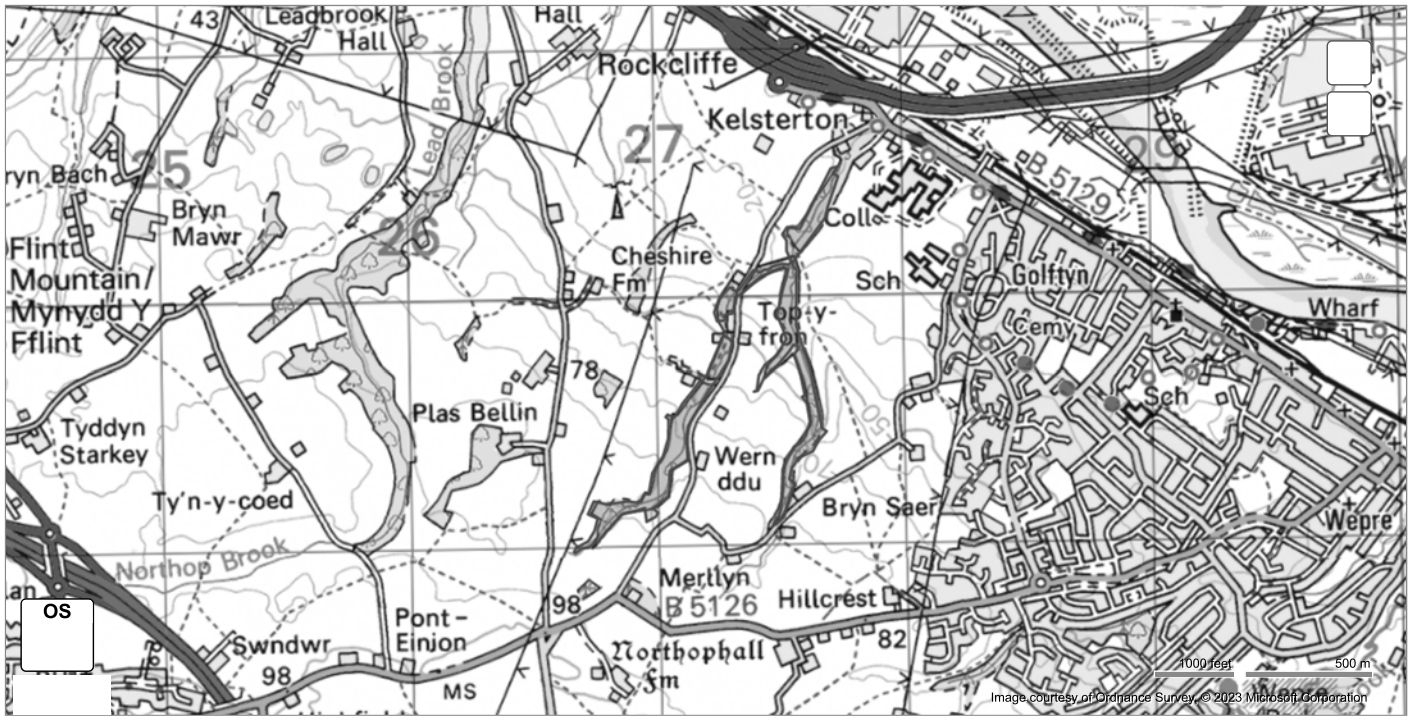


Safleol

A Local Sites System for Wales

26NE09: Top-y-fron Dingle and Kelserton Brook

Location:	Flintshire
Centroid Grid Reference:	SJ273696
Area:	16.4 ha
Site Description:	Semi-natural broad-leaved woodland occupying two narrow steep-sided steam valleys that join into one south of Kelsterton. The dominant woodland canopy species is sycamore, but sessile oak, alder, ash and birch are all locally dominant. The Kelsterton Brook section also has common lime and yew. The shrub layer is variable. Top-y-Fron Dingle has a shrub layer of holly, hazel, elder and canopy saplings. The northern section of Kelsterton Brook lacks a shrub layer and the southern section has abundant elder but rhododendron and other introduced species are locally dominant. There is a rich herb flora. In Top-y-Fron Dingle bramble, ramsons, opposite-leaved golden saxifrage, dog's mercury, wood sorrel and bryophytes are all frequent. The herb layer in the Kelsterton Dingle has frequent wood speedwell, dog's mercury, red campion with some nettle, bramble, bluebell, ramsons and rough meadow-grass. The northern part is dominated by rough meadow-grass.
Habitats:	Broad-leaved semi-natural woodland (16.335 ha)
Designation Reason:	Broad-leaved woodland and scrub

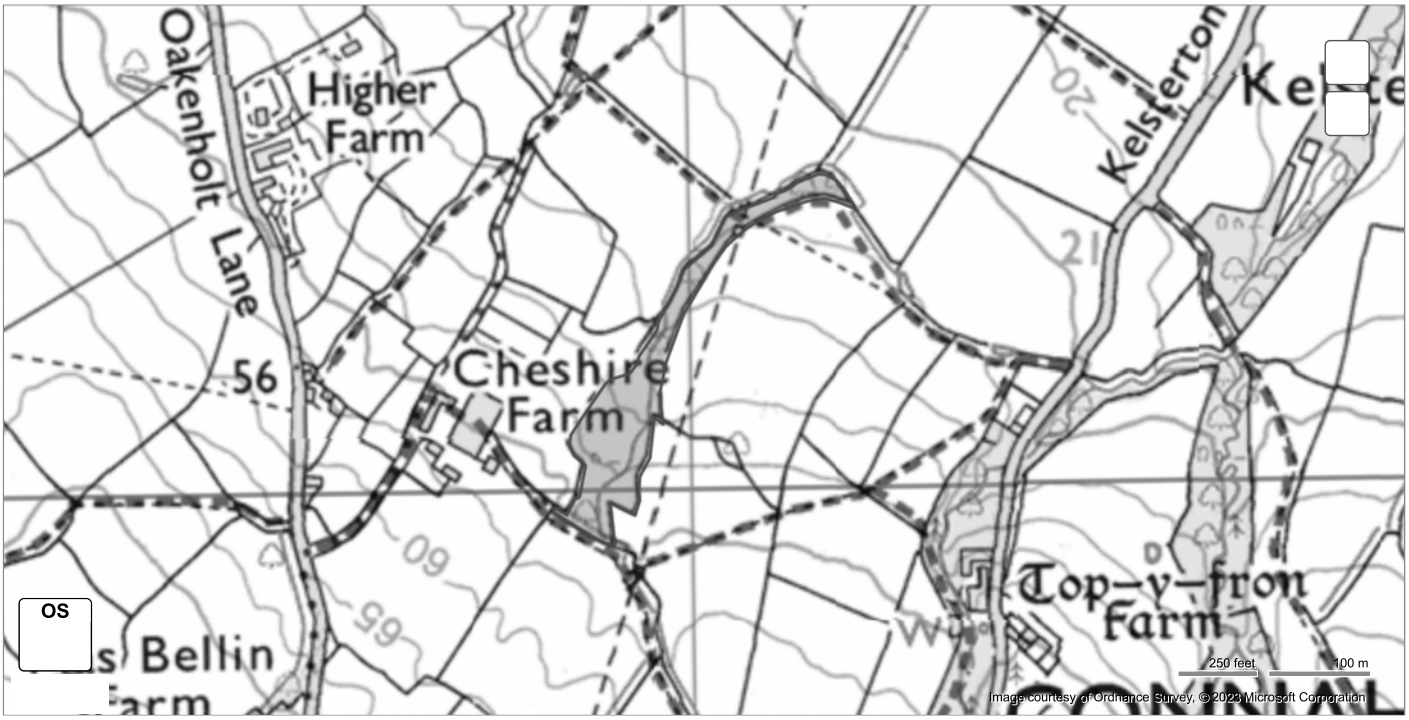


Safleol

A Local Sites System for Wales

27SE01: Cheshire Farm Wood

Location:	Flintshire
Centroid Grid Reference:	SJ269701
Area:	1.6 ha
Site Description:	Semi-natural broad-leaved woodland following the course of a small stream. The woodland canopy is dominated by sessile oak with some beech, sycamore and ash. The shrub layer contains wych elm, hawthorn, hazel and beech. The ground flora has abundant wood melick, soft grass and bluebell with pignut, wood anemone, wood speedwell, bramble and greater stitchwort.
Habitats:	Broad-leaved semi-natural woodland (1.617 ha)
Designation Reason:	Broad-leaved woodland and scrub



Appendix 6322/2:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)[1].

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable".*

3. Various characteristics contribute to the importance of ecological features, including:

- Naturalness;
- Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
- Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
- Endemic species or locally distinct sub-populations of a species;
- Habitat diversity;
- Habitat connectivity and/or synergistic associations;
- Habitats and species in decline;
- Rich assemblages of plants and animals;
- Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
- Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
- Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.

4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

[1] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

<u>Assigning Level of Importance</u>

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:

- International (European);
- National;
- Regional;
- County;
- District;
- Local (e.g. Parish or Neighbourhood);
- Site (not of importance beyond the immediate context of the site).

7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.

8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.

9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.

12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.

13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.

15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.

16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.

17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6322/3:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).

2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself[1]. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.

3. In summary, the key pieces of legislation relating to nature conservation in the UK are:

    - Wildlife and Countryside Act 1981 (as amended)
    - Protection of Badgers Act 1992
    - Hedgerows Regulations 1997
    - Countryside and Rights of Way (CRoW) Act for England and Wales 2000
    - Natural Environment and Rural Communities Act 2006
    - Conservation of Habitats and Species Regulations 2017

4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.

5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.

6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).

7. Under Section 1(1) of the Act, all wild birds are protected such that is an offence to intentionally:

    - Kill, injure or take any wild bird;
    - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
    - Take or destroy an egg of any wild bird.

    * The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.

8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:

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

[1] http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/

9. Under Section 9(1) of the Act, it is an offence to:

- Intentionally kill, injure or take any wild animal included in Schedule 5.

10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:

- Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
- Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.

11. Under Section 13(1) it is an offence:

- To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
- Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.

12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.

13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
- To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

\# A sett is defined as "*any structure or place which displays signs indicating current use by a Badger*". Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way

14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.

15. **Hedgerows Regulations 1997**. 'Important' hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify 'important' hedgerows for wildlife, landscape or historical reasons.

16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).

18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.

19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)[2] classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.

20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:

- Deliberately capture, injure or kill any wild animal of a European Protected Species;
- Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
- Deliberately take or destroy the eggs of such an animal;
- Damage or destroy a breeding site or resting place of such an animal.

21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.

22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

[2] Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

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Connah's Quay Power Station:
Northern Land Parcel

Reptile Surveys

July 2023

Quality Management	
Client:	Uniper UK Ltd
Project:	Connah's Quay Power Station: Northern Land Parcel
Report Title:	Reptile Surveys
Project Number:	ECO-6322
File Reference:	6322 Reptiles North 2023 dv3 /ADB
Date:	10/07/2023

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This report may contain sensitive information relating to protected species. All records of Badger setts must remain confidential. Where this report is circulated publicly or uploaded to online planning portals, reference to Badger setts must be redacted and any maps pertaining to the locations of Badger setts removed from the document.

Legal Guidance

The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

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Executive Summary

i) **Introduction.** Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, Flintshire.

ii) **Survey.** A desk study was undertaken in August 2021 sourcing biological records from the area of the site, including records of reptiles. The site contains habitat with the potential to support reptiles. Reptile surveys were subsequently undertaken at the site in May 2022 in accordance with standard methodology.

iii) **Desk Study.** The site lies adjacent to the statutory designation Dee Estuary (SPA, Ramsar and SAC). This is a vast site which extends substantially from the site's northern and western boundaries. Reptiles are not a reason for the designation of this site, nor are they mentioned in the citations of any other statutory or non-statutory ecological designations in the wider area of the site. The desk study returned a single record of one Common Lizard from within the 2km search area, dating from 2013.

iv) **Survey Findings.** The surveys found no reptiles to be present within the site on any survey occasion. It is therefore concluded that reptiles are likely to be absent from the site.

v) **Conclusions.** Reptiles are likely to be absent from the site. No further actions are required in respect of reptiles should works be undertaken at the site.

1 Introduction

1.1 Background and Proposals

1.1.1 Aspect Ecology was commissioned by Uniper UK Ltd in July 2021 to undertake baseline ecological surveys of the Northern Land Parcel at Connah's Quay Power Station, Connah's Quay, approximately centred at grid reference SJ 270 716 (see Plan 6322/ECO1), hereafter referred to as 'the site'.

1.1.2 Because of the presence of suitable habitat to support reptiles within the site, and the return of one record of reptiles from the desk study, reptile surveys were undertaken in May 2022.

1.2 Site Overview

1.2.1 The site is located in north-east Flintshire in North Wales (see Plan 6322/ECO1). The site is bounded to the north-east by the River Dee, beyond which extend large areas of open wetland associated with the River Dee Estuary. Connah's Quay Power Station is located immediately adjacent to the site's south-eastern boundary and a railway line and industrial development, with associated planting, forms the site's southern boundary.

1.2.2 The site itself comprises grassland fields with roads, treelines, hedgerows, along with areas of scrub and tall ruderal vegetation.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the desk study in relation to reptiles, and the reptile surveys carried out. The importance of the site for reptiles is evaluated.

2 Methodology

2.1 Desktop Study

2.1.1 Background information relevant to the site and its immediate surroundings to a distance of 2km was sourced from the North Wales Environmental Information Service (Cofnod) in August 2021. The data obtained comprised information on designated sites and species records.

2.1.2 Information on statutory designations was obtained from the MAGIC database[1], which uses data provided by Natural England, from within an extended search area of 25km. The MAGIC database was also searched for the presence of Priority Habitats within or adjacent to the site. Relevant information is shown on Plan 6322/ECO2.

2.2 Reptile Surveys

Presence/Absence Survey

2.2.1 The site was surveyed in August 2021 to assess the general ecological value of the land and to identify the main habitats and ecological features present. Habitats present are shown on Plan 6322/ECO3.

2.2.2 Because of the presence of habitats suitable to support reptiles, a reptile survey was subsequently undertaken in May 2022. The survey set out to confirm whether or not reptiles were present at the site, and to estimate the sizes of any populations present.

2.2.3 The reptile survey was undertaken in accordance with standard guidance[2]. A total of 125 50x50cm sheets of thick roofing felt were placed within areas of suitable habitat within the site to serve as artificial refugia (see Plan 6322/ECO4). This corresponds to an approximate density of 5.5 refugia per hectare of suitable habitats, which corresponds to the recommended five to ten refugia per hectare.

2.2.4 Refugia provide sheltering sites for reptiles that will tend to heat up more quickly than their surroundings in the morning and remain warmer than their surroundings into the late afternoon. Reptiles bask on and beneath refugia so as to raise their body temperature, enabling them to forage. The survey method is based on checking for the presence of reptiles on or beneath refugia in the morning or evening when basking reptiles are most likely to be observed.

2.2.5 The refugia were deployed and left undisturbed for 1-2 weeks prior to the first survey visit to allow reptiles to find and make use of them. Following this initial settling period, all refugia were checked for the presence of reptiles on seven occasions during optimal weather conditions (taken as not during continual heavy rain or strong winds, ambient temperature 9-18°C). Weather conditions during the survey visits are shown in Table 2.1 below.

[1] Multi-Agency Geographic Information for the Countryside (MAGIC), https://magic.defra.gov.uk/

[2] Froglife Advice Sheet 10 (1999) '*Reptile Survey - an introduction to planning, conducting and interpreting surveys for snake and lizard conservation.*'

Table 2.1. Reptile survey dates and weather conditions.

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°C)	Cloud Cover (%)	Precipitation
06/05/2022	3	16-17	0	Dry
09/05/2022	3	16	75	Dry
12/05/2022	3	14-16	65	Dry
16/05/2022	3	18-20	100	Light Rain
20/05/2022	2	14-16	10	Dry
23/05/2022	2	13-14	100	Showers
25/05/2022	3	17	100	Damp

BF = Beaufort Force: BF0 = calm, BF12 = hurricane force

2.3 Survey Constraints and Limitations

2.3.1 Conditions during the survey undertaken on 16th May 2022 were outside the optimum recommended survey conditions, with a recorded temperature of 18-20°C. However, as weather conditions were overcast with light rain, despite the high temperature the refugia did not heat up substantially. It is likely that conditions for reptiles at the refugia were therefore not substantially different to those during other surveys.

2.4 Ecological Evaluation Methodology

2.4.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)[3], which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). Further detail is provided in Appendix 6322/2.

2.5 National Policy Approach to Biodiversity in the Planning System

2.5.1 National Planning Policy in Wales is set out in Planning Policy Wales (PPW)[4]. This describes policies designed to maximise environmental protection and limit environmental impact including the promotion of resilient biodiversity and ecosystems, citing biodiversity as an element in the delivery of distinctive and natural places, and ensuring environmental sustainability through good design.

2.5.2 PPW sets out a framework for the sustainable management of natural resources, which within which the planning system contribute by:

'• improving the resilience of ecosystems and ecological networks;

• halting and reversing the loss of biodiversity;

• maintaining and enhancing green infrastructure based on seeking multiple ecosystem benefits and solutions;' amongst other measures.

[3] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine'*, ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

[4] Llywodraeth Cymru/Welsh Government (2021). *'Planning Policy Wales'*, Edition 11, February 2021.

2.5.3 PPW embeds the protection and enhancement of biodiversity within all components of the planning system in Wales, stating that:

'Biodiversity loss should be reversed, pollution reduced, environmental risks addressed and overall resilience of ecosystems improved.'

2.5.4 The approach to dealing with biodiversity in the context of planning applications is set out on Section 6.4, stating:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.'

and

'Development plan strategies, policies and development proposals must consider the need to:

• support the conservation of biodiversity, in particular the conservation of wildlife and habitats;

• ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;

• ensure statutorily and non-statutorily designated sites are properly protected and managed;

• safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and

• secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.'

'All reasonable steps must be taken to maintain and enhance biodiversity and promote the resilience of ecosystems and these should be balanced with the wider economic and social needs of business and local communities. Where adverse effects on the environment cannot be avoided or mitigated, it will be necessary to refuse planning permission.'

2.5.5 PPW does not currently mandate a target for Biodiversity Net Gain, but does set out that:

'…development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity;'

'…planning decisions should incorporate measures which seek the creation, restoration and appropriate management of green networks and linkages between habitats and maintaining and enhancing other green infrastructure features and networks'.

2.5.6 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019[5], which involves the following step-wise process:

- **Avoidance –** avoiding adverse effects through good design;
- **Mitigation –** where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation –** where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement –** planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.5.7 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

2.6 Local Policy

2.6.1 The Local Policy for Cyngor Sir y Fflint Flintshire County Council is currently set out within the 'Flintshire Local Development Plan 2015 - 2030 (Adopted January 2023)'. Policies that relate specifically to ecology and biodiversity are set out below.

2.6.2 Policy EN2: Green Infrastructure

"Development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate:

a. Create new green infrastructure linkages from the proposed development to the existing local network;

b. Fill in gaps in the existing network to improve connectivity.

Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required."

2.6.3 Policy EN3: Undeveloped Coast and Dee Estuary Corridor states:

"Within the undeveloped coast development will only be permitted where:

a. It can be demonstrated a coastal location is essential;

b. It conserves and enhances the open character of the coast;

c. It would not unacceptably harm areas of nature conservation, landscape or biodiversity;

d. It would not harm existing or proposed recreational or active travel routes;

e. Extensive coastal protection measures are not required; and

[5] British Standards Institution (2013) '*Biodiversity – Code of practice for planning and development*', BS 42020:2019

f. It would not be potentially at risk of flooding nor unacceptably increase erosion or flooding or interfere with natural coastal processes."

2.6.4 Policy EN6: Sites of Biodiversity and Geodiversity Importance states:

"Development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance. Proposals where adverse effects on site integrity cannot be ruled out would not be supported.

Development likely to impact the special features of a Nationally Designated Site will only be granted in exceptional circumstances where appropriate compensation can be provided. Development proposals that would have a significant adverse effect on locally designated sites or site with other biodiversity and / or geological interest, including priority species, will only be permitted where:

a. it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the site; and

b. it can be demonstrated that the development cannot reasonably be located elsewhere; and

c. any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided.

Development that results in the restoration, enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems."

2.6.5 Policy EN7: Development Affecting Trees, Woodlands and Hedgerows states:

"Development proposals that will result in significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value will not be permitted.

Where the impact of development affecting trees, woodlands or hedgerows is considered acceptable, development will only be permitted where:

a. the development maximises their retention through sensitive design

b. measures; and

c. where the removal of trees is considered necessary, suitable replacements

d. shall be provided elsewhere within the site; and

e. *it results in a net benefit in biodiversity."*

2.6.6 Policy EN7: Development In or Adjacent to Conservation Areas states:

"Development within or adjacent to a conservation area will only be permitted if it would preserve or enhance the character and appearance of the conservation area or its setting. New development in such locations must also be of a high standard of design, respond to the area's special characteristics, and pay particular regard to:

a. *important views, vistas, street scenes, roofscapes, trees, open spaces, gaps and other features that contribute to the character or appearance of the conservation area;*

b. *the retention of historically significant boundaries or other elements that contribute to the established form of development;*

c. *the relationship to existing buildings and spaces, and pattern of development;*

d. *scale, height and massing, architectural design and detailing, the use of materials, boundary treatment, and public realm materials."*

3 Reptiles

3.1 Legislation

3.1.1 All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which protects individuals against intentional killing or injury. Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* receive additional protection under the Conservation of Habitats and Species Regulations 2017 (as amended) (see Appendix 6322/2 for detailed provisions). All six reptile species are also S41 Priority Species.

3.2 Background Records

3.2.1 The desk study returned only one record of a reptile from within 2km of the site. This record, dating from 2013, was of a single Common Lizard *Zootoca vivipara* and was located at distance from the site.

3.3 Survey Results

3.3.1 No reptiles were recorded during any of the surveys undertaken at the site. It is therefore concluded that reptiles are likely to be absent from the site.

3.3.2 Survey forms recording each survey visit are provided in Appendix 6322/3.

3.4 Evaluation

3.4.1 The data obtained from the desk study and surveys indicates that reptiles are likely to be absent from the site. No further consideration of reptiles is required in relation to potential works at the site.

4 Summary

4.1.1 A desk study, habitat survey and surveys for reptiles have been carried out at the site.

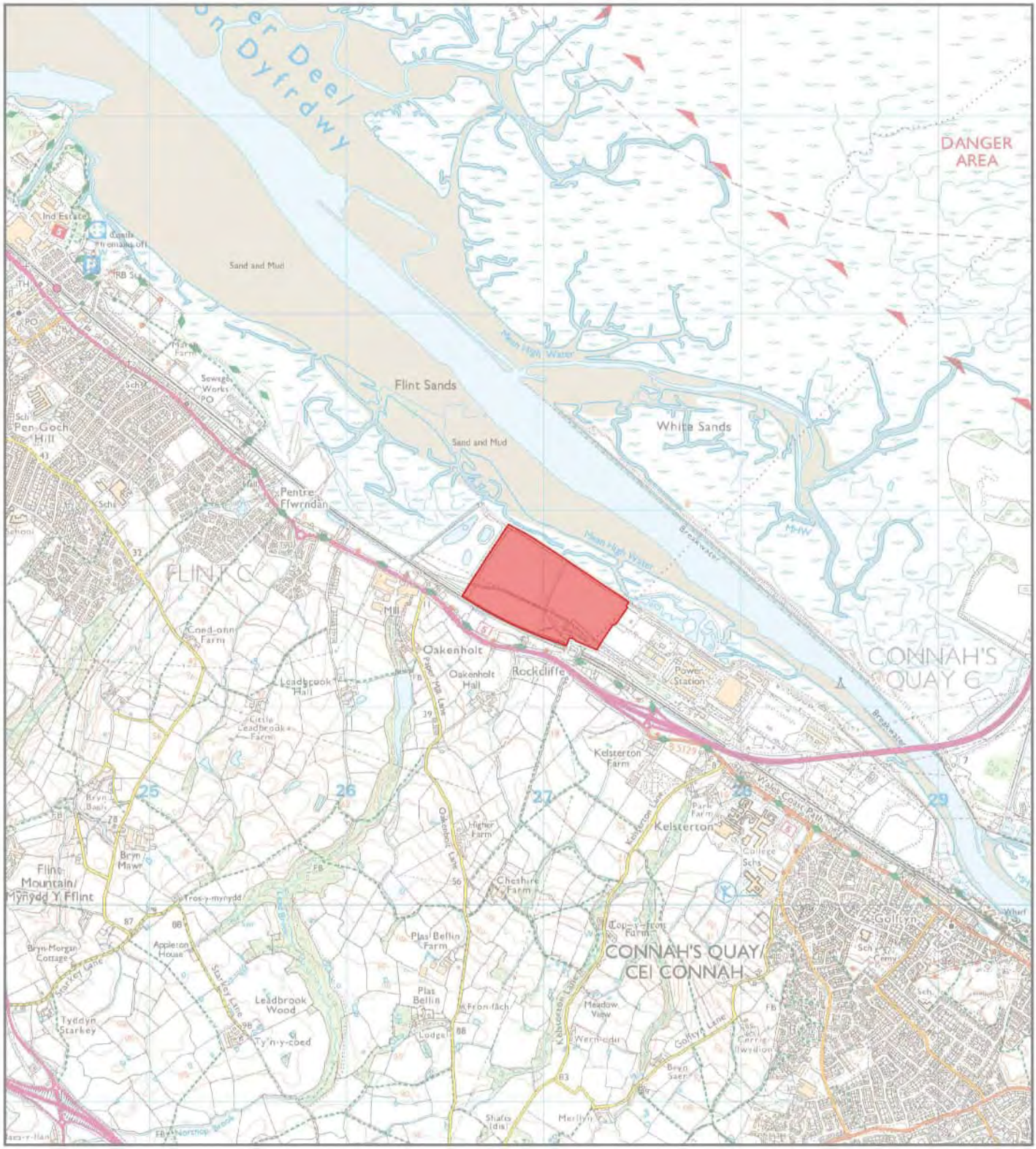
4.1.2 The desk study returned a single record of Common Lizard from within the 2km search area, and habitat with the potential to support reptiles was confirmed to be present within the site.

4.1.3 Surveys for reptiles undertaken in May 2022 found no reptiles to be present within the site.

4.1.4 It is concluded that reptiles are likely to be absent from the site. Reptiles are therefore not considered to be a constraint to any works that may be undertaken at the site.

Plan 6322/ECO1:

Site Location



Key:

Site Location

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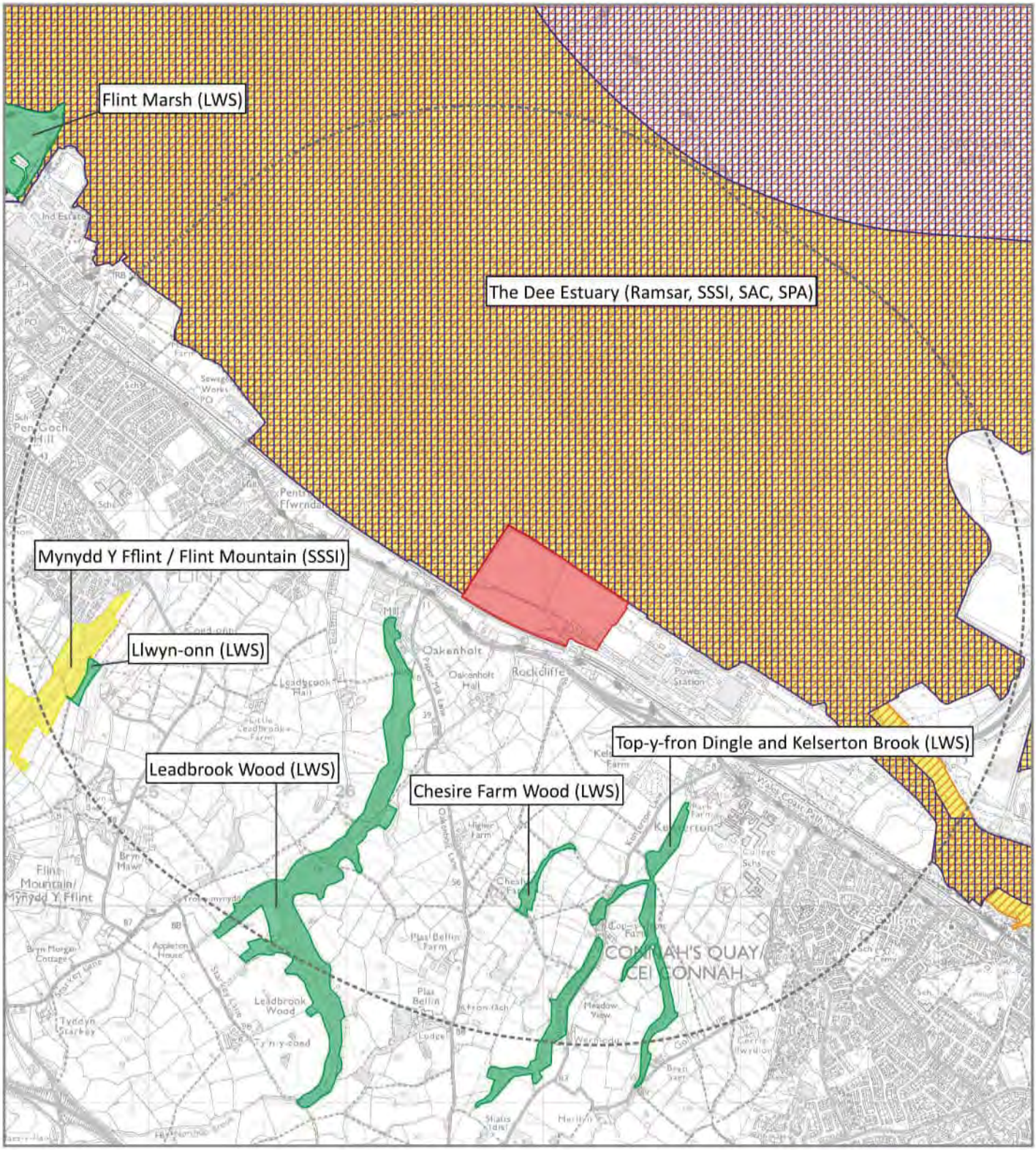
Connah's Quay (North)	PROJECT
Site Location	TITLE
6322/ECO1	DRAWING NO.
B/JP	REV.
September 2023	DATE

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Plan 6322/ECO2:

Ecological Designations



Key:

- Site Location
- 2km Study Area
- Ramsar Site
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Local Wildlife Site (LWS)

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Connah's Quay (North)	PROJECT
Ecological Designations	TITLE
6322/ECO2	DRAWING NO
B/JP	REV
September 2023	DATE

N

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Plan 6322/ECO3:

Habitats and Ecological Features



Key:

- Site Boundary
- Rough Grassland
- Improved Grassland
- Pasture
- Marshy Grassland
- Tall Ruderal Vegetation
- Scattered Scrub
- Dense Scrub
- Pond
- Reed Bed/Rush
- Hedgerow
- Tree Line
- Hardstanding

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Connah's Quay (North)	PROJECT
Habitats and Ecological Features	TITLE
6322/ECO3	DRAWING NO.
B/JP	REV
September 2023	DATE

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Plan 6322/ECO4:

Reptile Transect Locations



Key:

- Site Boundary
- Reptile Transect

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Connah's Quay (North)	PROJECT
Reptile Transect	TITLE
6322/ECO4	DRAWING NO.
B/JP	REV
September 2023	DATE

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Appendix 6322/1:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)[1].

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable".*

3. Various characteristics contribute to the importance of ecological features, including:

- Naturalness;
- Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
- Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
- Endemic species or locally distinct sub-populations of a species;
- Habitat diversity;
- Habitat connectivity and/or synergistic associations;
- Habitats and species in decline;
- Rich assemblages of plants and animals;
- Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
- Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
- Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.

4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

[1] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

<u>Assigning Level of Importance</u>

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:

- International (European);
- National;
- Regional;
- County;
- District;
- Local (e.g. Parish or Neighbourhood);
- Site (not of importance beyond the immediate context of the site).

7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.

8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.

9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.

12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.

13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.

15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.

16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.

17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6322/2:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).

2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself[1]. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.

3. In summary, the key pieces of legislation relating to nature conservation in the UK are:

    - Wildlife and Countryside Act 1981 (as amended)
    - Protection of Badgers Act 1992
    - Hedgerows Regulations 1997
    - Countryside and Rights of Way (CRoW) Act for England and Wales 2000
    - Natural Environment and Rural Communities Act 2006
    - Conservation of Habitats and Species Regulations 2017

4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.

5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.

6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).

7. Under Section 1(1) of the Act, all wild birds are protected such that is an offence to intentionally:

    - Kill, injure or take any wild bird;
    - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
    - Take or destroy an egg of any wild bird.

    * The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.

8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:

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

[1] http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/

9. Under Section 9(1) of the Act, it is an offence to:

- Intentionally kill, injure or take any wild animal included in Schedule 5.

10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:

- Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
- Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.

11. Under Section 13(1) it is an offence:

- To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
- Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.

12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.

13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
- To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

\# A sett is defined as "*any structure or place which displays signs indicating current use by a Badger*". Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way

14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.

15. **Hedgerows Regulations 1997**. 'Important' hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify 'important' hedgerows for wildlife, landscape or historical reasons.

16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).

18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.

19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)[2] classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.

20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:

- Deliberately capture, injure or kill any wild animal of a European Protected Species;
- Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
- Deliberately take or destroy the eggs of such an animal;
- Damage or destroy a breeding site or resting place of such an animal.

21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.

22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

[2] Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

Appendix 6322/3:

Survey Data

ECO & Project	6322 CONNAH'S QUAY NORTH
Date and Time	6/5/22 12-15
Surveyors	AN + CW
Tin Temperture(s)	Warm
Weather and Other Info	Start Temp °C: 16 / End Temp °C: 17 / Cloud Cover %: 0% / Beaufort: 3 / Rain: NONE

Tin temperature relates to the warmth of the tins to touch – i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool – warm

Other info: 12 mph NE whds

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S breif?
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile			
	Male	Female		Male	Female		Male	Female				
A												
B												
C												
D												
E												
F												
G												
H												
I												
J												
K												
L												
M												
N												
O												
P												
Q												
R												
S												
T												
U												
V												
W												
X												
Y												
Z												
TOTAL												

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.

Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322 Connah's Quay North					Tin temperature relates to the warmth of the tins to touch – i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool – warm
Date and Time	9/5/22 11 am					Cool
Surveyors	LP/AC					
Tin Temperture(s)						Other info
Weather and Other Info	Start Temp °C: 16	End Temp °C: 16	Cloud Cover %: 75	Beaufort: 3	Rain: Dry	

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S breif? ✓
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile			
	Male	Female		Male	Female		Male	Female				
A ✓												
B ✓												
C ✓												
D ✓												
E ✓												
F ✓												
G ✓												
H ✓												
I ✓												
J ✓												
K ✓												
L ✓												
M ✓												
N												
O												
P												
Q												
R												
S												
T												
U												
V												
W												
X												
Y												
Z												
TOTAL												

Nothing found

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.

Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322 Connah's Quay North					Tin temperature relates to the warmth of the tins to touch – i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool – warm
Date and Time	12/05/22 11.30					
Surveyors	MW + AN					
Tin Temperture(s)						Other info
Weather and Other Info	Start Temp °C: 14	End Temp °C: 16	Cloud Cover %: 65	Beaufort: 3	Rain: Dry	

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S breif? Yes
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile			
	Male	Female		Male	Female		Male	Female				
A												
B												
C												
D												
E												
F												
G												
H												
I												
J												
K												
L												
M												
N												
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Q												
R												
S												
T												
U												
V												
W												
X												
Y												
Z												
TOTAL												

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.

Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322 Conrad's Quay North					Tin temperature relates to the warmth of the tins to touch – i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example *cool – warm*
Date and Time	16/05/22 12.00 pm					
Surveyors	[redacted]					
Tin Temperture(s)	Warm					Other info
Weather and Other Info	Start Temp °C: 18	End Temp °C: 20	Cloud Cover %: 100	Beaufort: 3	Rain: Light rain	

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S breif? ✓
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile			
	Male	Female		Male	Female		Male	Female				
✓												
✓B												
✓C												
✓D												
✓E												
✓F												
✓G												
✓H												
✓I												
✓J												
✓K												
✓L												
✓M												
N												
O												
P												
Q												
R												
S												
T												
U												
V												
W												
X												
Y												
Z												
TOTAL												

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.

Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	Connah's quay 6322 North					Tin temperature relates to the warmth of the tins to touch – i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example cool – warm
Date and Time	10 am 20/05/22					
Surveyors	MH					
Tin Temperture(s)	Cool - Warm					Other info
Weather and Other Info	Start Temp °C: 14	End Temp °C: 16	Cloud Cover %: 10	Beaufort: 2	Rain: N	

	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S breif?	✓
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile				
Transect	Male	Female		Male	Female		Male	Female					
X A													
X B													
X C													
X D													
X E													
X F													
X G													
X H													
X I													
X J													
X K													
X L													
X M													
N													
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P													
Q													
R													
S													
T													
U													
V													
W													
X													
Y													
Z													
TOTAL													

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.

Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322 – Connah's Quay North					Tin temperature relates to the warmth of the tins to touch – i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example *cool – warm*
Date and Time	11.30 23/05/22					
Surveyors	AN					
Tin Temperture(s)	Cool					Other info
Weather and Other Info	Start Temp °C: 13	End Temp °C: 14	Cloud Cover %: 100	Beaufort: 2	Rain: Showers	

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S breif? Yes
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile			
	Male	Female		Male	Female		Male	Female				
✓A											Common Toad	
✓B												
✓C												
✓D												
✓E												
✓F												
✓G												
✓H												
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Z												
TOTAL												

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.

Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.

ECO & Project	6322 Connah's Quay North					Tin temperature relates to the warmth of the tins to touch – i.e cold, cool, warm or hot. Note that some tins may be different temperatures to others so on the form you could record for example *cool – warm*
Date and Time	25/5/22 – 12.30					
Surveyors	Rhiannon					
Tin Temperture(s)	Cool					Other info
Weather and Other Info	Start Temp °C: 17	End Temp °C: 17	Cloud Cover %: 100	Beaufort: 3	Rain: Damp	

Transect	Common Lizard			Slow Worm			Grass Snake			Other Reptiles	Other species	Have you read the H&S breif? ✓
	Adults		Juvenile	Adults		Juvenile	Adults		Juvenile			
	Male	Female		Male	Female		Male	Female				
A												
B												
C												
D												
E												
F												
G												
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V												
W												
X												
Y												
Z												
TOTAL												

NO REPTILES FOUND

Comments

PLEASE NOTE THE ROUGH LOCATION OF ANY REPTILES FOUND ON THE TIN LOCATION PLAN

Beaufort Scale: 0-smoke rises vertically 1-Wind motion visible in smoke 2-Wind felt on exposed skin 3-Leaves and smaller twigs in constant motion 4-Small branches begin to move 5-Smaller trees sway 6-Large trees in motion, whistling heard in overhead wires 7-Whole trees in motion, some difficulty when walking into wind 8-Twigs broken from trees, cars veer on road 9-Light structural damage 10-Trees uprooted, considerable structural damage 11-Widespread structural damage 12-Considerable and widespread destruction to structures.

Rain: Dry, light rain, showers, heavy shower, misty etc. Please make a note of the rains start and stop time.