BEACON FEN
ENERGY PARK

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Appenidx 7.12 Great Crested Newt Survey Report (solar array area)

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The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 - Regulation 5(2)(A), 5(2)(I)

Quality information

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1. INTRODUCTION

1.1 Background

1.1.1 This great crested newt survey report has been prepared by Wardell Armstrong LLP (part of SLR) ('WA') on behalf of Beacon Fen Energy Park Ltd (the 'Applicant') in support of an application for a Development Consent Order (DCO) for Beacon Fen Energy Park (the 'Proposed Development'). This report relates to the Solar Array Area associated with the development, hereafter referred to as the 'Site'.

1.1.2 The surveys were carried out in order to determine the presence/absence of Great Crested Newts (GCN) on Site and whether the findings are likely to pose constraints to any development proposals, and provide an outline of any ecological mitigation which may be required to ensure that GCN are fully considered within the development proposals.

1.1.3 Surveys followed Habitat Suitability Index (HSI) and Environmental (e)DNA surveys undertaken by AECOM Ltd. In 2022 and WA in 2023 which recommended undertaking presence/absence surveys for waterbodies within a 500m radius from the Site boundary.

1.1.4 The Site covering approximately 529 hectares consists largely of agricultural cropland with field margins, scattered areas of broadleaved woodland, improved and semi-improved grassland and waterbodies.

1.1.5 The Site originally comprised two continuous sites, then known as Beacon Fen North and Beacon Fen South – hereafter referred to as the 'Study Area'. Beacon Fen South was later removed from the scheme due to conflicts with another project. However the results of surveys around both plots of land are included in this report to provide information on GCN populations in the wider landscape.

1.2 Legislative Framework

1.2.1 GCN are protected by both British and EU legislation which has been incorporated into domestic law and provides both the species and its habitats with strict protection. The Wildlife and Countryside Act 1981 (as amended) provides protection to the species under Section 9, Schedule 5 to the Act.

1.2.2 The EU Habitats Directive (Council Directive 92/43/EEC (a) on the conservation of Natural Habitats and Wild Fauna and Flora) allows for the designation of Special Areas for Conservation (SACs) for GCN. The species is listed in both Annex II and IV of the Habitats Directive, offering strict protection.

1.2.3 The Habitats Directive is implemented in England by the Conservation of Habitats and Species Regulations 2017 (or the Habitats Regulations) with protection provided via Regulation 43, Schedule 2. Furthermore, the Countryside and Rights of Way Act 2000 (CROW Act) allows for further amendments to the protection measures ensure by the WCA 1981.

1.2.4 The combined pieces of legislation make it illegal in the UK to:

- Intentionally/deliberately injure, capture or kill a GCN;
- Intentionally/deliberately disturb a GCN or disturb them in a place used for protection or shelter;
- Damage or destroy a GCN resting place or breeding site;
- Intentionally or recklessly damage, obstruct or destroy access to an area used for protection or shelter;
- Possess a GCN, either whole or part of, unless acquired lawfully; or
- Exchange, sell, barter, offer for sale or transport a GCN or parts of one.

1.3 Quality Assurance and Environmental Management

1.3.1 The surveys and assessments have been overseen by and the report checked and verified by a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM), who is bound by its code of professional conduct.

1.3.2 All surveys and assessments have been undertaken with reference to the recommendations given in British Standard (BS 42020, 2013), and as stated within specialist guidance, as appropriate, and are referenced separately.

2. SURVEY METHODOLOGY

2.1 Desk Study

2.1.1 The Habitat Suitability Index (HSI) and Environmental DNA (eDNA) report produced by AECOM (June, 2022) was reviewed to assess the suitable breeding and terrestrial habitats for GCN within and in close proximity of the Study Area, and to inform further survey requirements. Additional HSI and eDNA surveys were undertaken by WA in May 2023 to assess the GCN suitability of several waterbodies that were dry at the time of the June 2022 survey.

2.1.2 Lincolnshire Environmental Records Centre (LERC) were contacted by AECOM in June 2022 to ascertain whether there were records of GCN, within a 2km radius from the Study Area. An updated request was made to LERC in March 2023 to review GCN records submitted since the data search in 2022.

2.2 Habitat Suitability Index (HSI)

2.2.1 The HSI assessment is a rapid survey technique used to assist in assessing the suitability of ponds for breeding GCN. The assessment followed the relevant good practice guidelines (Amphibian and Reptile Groups of the United Kingdom (ARG UK) 2010).

2.2.2 The HSI is a numerical index between 0 and 1, wherein a score of 1 represents optimal habitat for GCN, as shown in Table 1. It is calculated by assigning a quantitative figure to each of the ten variables known to influence the presence of GCN (Oldham et al., 2000). The tenth root of the product of these variables is then calculated, giving a figure for habitat suitability.

2.2.3 The variable to which a quantitative figure is assigned are:

1. Location
2. Pond area
3. Pond drying
4. Water quality
5. Shade
6. Wildfowl presence
7. Fish presence
8. Number of ponds within 1km
9. Quality of terrestrial habitat
10. Presence of macrophytes

Table 1: Habitat Suitability Index Assessment Scoring System

HSI Score	Pond Suitability for GCN
< 0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
> 0.8	Excellent

2.3 Field Survey

2.3.1 Following the review of ecological records, waterbody locations and HSI assessments, 22 waterbodies are present within a 500m radius of the Study Area. Of the water features identified, 11 were dry in June 2022 and were not sampled by AECOM. Of the 11 waterbodies sampled, 9 were considered

suitable to support GCN. An updated HSI assessment of 12 waterbodies onsite was undertaken by WA in March 2023, and 5 waterbodies were considered suitable to support GCN.

2.3.2 Waterbodies 11, 12, 13, 19, 20, 21, 28 and 31 were descoped as they were outside the 500m buffer (Drawing reference: ST19595-502-1 Waterbodies surveyed for GCN).

Environmental DNA Surveys

2.3.3 Environmental DNA surveys were carried out on 20 waterbodies: 3, 4, 5, 6, 8, 9, 10, 16, 17, 24, 26, 27, 35, 36, 37, 40, 42, 44, 45, and 46. Waterbody 6 was sampled by AECOM and WA in 2022 and 2023 respectively. The surveys followed Natural England guidance (Biggs et al. 2014). Water samples were collected from 10 ponds (6, 10, 17, 24, 26, 27, 35, 37, 40, and 42) by AECOM between the 14th-15th June 2022, and 11 ponds (3, 4, 5, 6, 8, 9, 16, 36, 44, 45, and 46) were sampled by WA between the 18th-19th May 2023 as they were recorded as dry at the time of AECOM's survey. The samples were analysed by Surescreen Scientifics following the standard Natural England protocols (Biggs et al. 2014).

Traditional Presence/Absence and Population Surveys

2.3.4 All surveys were completed by suitably qualified and experienced WA Ecologists. All lead surveyors belong to CIEEM. The lead surveyors also held, or were Accredited Agents on, a Natural England class survey licence for GCN.

2.3.5 Field survey protocols followed those described by English Nature (2001) and Gent & Gibson JNCC (2003). All waterbodies were subject to four survey visits in order to determine the presence or absence of GCN, with a view to undertaking an assessment of the population size class if presence was established, in which case a further two surveys were carried out. All waterbodies were subject to torchlight surveys, bottle trapping surveys and egg searches.

Torchlight Survey

2.3.6 1 million candlepower CluLite™ torches were used to scan the waterbodies after sunset. Accessible margins were walked slowly and any amphibians were recorded.

Bottle Trap Survey

2.3.7 Bottle trap construction and placement was undertaken using guidelines outlined by Gent & Gibson (2003) and following the protocol described by Griffiths *et al.* (1996). At each pond bottle traps were deployed at approximately 2m interval around the waterbody margins. Traps were left in place for no longer than 12 hours and any captured newts were recorded and released where they were found.

Egg Searches

2.3.8 Egg searches were conducted during daytime visits to each waterbody. Search effort was focused on submerged or floating vegetation around the waterbody margins.

Netting Searches

2.3.9 When changing conditions (e.g. increased coverage of floating vegetation) resulted in torchlight surveys becoming ineffective, netting was used as an alternate technique for determining presence/absence of GCN at night. A sturdy dip-net with a 2-4mm mesh was moved for several seconds in a figure of eight on the verges of the pond, and the contents checked for GCN adults and larvae. The pond was searched at a rate of no faster than 50 m of shoreline checked every 15 minutes.

Survey Visits/ Dates

2.3.10 Each survey visit was undertaken in one night where feasible. In some cases, despite significant effort through letters, phone calls and visiting properties, access could not be obtained for all waterbodies prior to the commencement of surveys (see section 2.4 below for detail). As it was unclear if or when access would be obtained, the surveys commenced as soon as the weather was suitable for all waterbodies surveyed within the Site, a summary of visit dates are provided in Table 2.

Table 2: Survey Visit/Date Summary

VISIT	DATE	WATERBODIES SURVEYED
1	03/05/2023 – 04/05/2023	26, 27, 37
2	11/05/2023 – 12/05/2023	26, 27, 37
3	18/05/2023 – 19/05/2023	26, 27, 37
4	30/05/2023 – 31/05/2023	26, 27, 37
5	05/06/2023 – 06/06/2023	26, 27, 37
6	12/06/2023 – 13/05/2023	26, 27, 37

2.3.11 Environmental conditions were recorded during all the survey visits. Specific weather conditions for each visit are described in Appendix 2.

Metapopulations

2.3.12 Great crested newts tend to live within metapopulations (clusters of smaller sub-populations found within nearby ponds). Individuals may move between sub-populations, maintaining genetic diversity, and in times of prolonged drought, the whole metapopulation may move into one or two of the remaining ponds.

2.3.13 Therefore, this report groups nearby ponds with GCN together as a single metapopulation. These are ponds containing GCN within 500m of another pond containing GCN (the overall metapopulation may be spread over more than 500m). The size of each metapopulation is assessed as opposed to the population of each pond.

2.4 Limitations

2.4.1 The impact of the constraints below on the validity of the data is considered negligible, and the survey results are robust and representative of a suitable baseline.

Access Constraints

2.4.2 Letters were delivered to properties where waterbodies were present; where waterbodies were situated in areas of open space/farmland the relevant landowner/tenant was contacted by email and phone calls. Initial contact was made in early March 2022. Where responses were not received in advance of the initial survey visit, the surveyors attempted on several occasions to speak in person at the relevant properties. Ponds 29, 32, 33 and 43 were not surveyed, however these were all around the southern parcel – which has since been removed from the Order Limits - and not within 500 m of the Order Limits, therefore this is not a limitation to the results of this report.

Environmental Conditions

2.4.3 Throughout the survey period, night-time temperatures generally remained above 5°C, so the methods included bottle trapping for every survey visit.

2.4.4 The survey period remained relatively warm with no heavy rainfall. However, previous results confirm that poor weather conditions such as heavy rainfall and high winds did not significantly impact or alter GCN counts.

Further Constraints

2.4.5 Over the course of the survey period, waterbodies 27 and 37 partially dried up. This prevented the insertion of all the intended bottle traps.

2.4.6 For waterbodies 26 and 37, pond weed and leaf litter was present at some point during the survey period. This obstructed the view for torchlight surveys, so net surveys were employed as alternative survey methods.

2.4.7 Ponds 26, 27 and 37 were over 500 m from the Order Limits, therefore the limitations outlined above are not considered to affect the robustness of the survey and impact assessment.

3. RESULTS

3.1 Desk Study

3.1.1 A total of 11 GCN records were provided within a 2km search radius of the Study Area in 2023.

3.1.2 Two records of GCN occur within the 500m buffer of the Study Area boundary. The closest record outside of the 500m buffer was 0.2km from the buffer obtained from surveys in 2021.

3.1.3 The HSI & eDNA Report produced by AECOM identified suitable breeding habitat (ponds) and terrestrial habitat (broadleaved woodland – semi-natural, broadleaved woodland - plantation, dense/continuous scrub, scattered scrub, improved and semi-improved grassland, tall ruderal herb and fern and hedgerows) within the Study Area.

3.1.4 A total of 46 waterbodies were identified within the 500m Study Area.

3.2 Habitat Suitability Index

3.2.1 Of the 46 water features identified within the survey area, 22 were visited and assessed for their suitability to support GCN.

3.2.2 AECOM's desk study scoped out the need for HSI and eDNA surveys on 24 water bodies for the following reasons:

- Distance (>250m) and/ or barriers to dispersal – waterbodies 1, 2, 14, 15, 22, 23, 25, 30, 34, 38, 39 and 41; or
- Barriers to dispersal with limited suitable connecting habitat between these water bodies and the Study Area – waterbodies 28, 29, 32 and 33; or
- Furthermore, eight waterbodies - 11, 12, 13, 19, 20, 21, 28, 31 - were outside of the study area with no access. Therefore, these waterbodies did not form part of the scopes of the work reported in the document produced by AECOM.

3.2.3 22 ponds were assessed by AECOM in June 2022, each waterbody and assigned HSI score is detailed in Table 3, below. As limited descriptions and no images were provided by AECOM for most waterbodies, background information has been supplemented where possible with photos and images produced by WA in 2023, and Ordnance Survey (OS) and satellite mapping was also used to gain contextual habitat information.

Table 3: Waterbody Descriptions (AECOM, June 2022)

Waterbody Description and Photograph taken in 2022		HSI Score	HSI Category
Waterbody 3 **Grid Reference: TF10544485** **Description:** Waterbody location dry in June 2022. Small waterbody located in a grassy field in a small patch of broadleaved woodland, adjacent to residential/agricultural buildings.		**N/A**	**N/A**
Waterbody 4 **Grid Reference: TF11674520** **Description:** Waterbody location dry in June 2022. Small waterbody located in a grassy field, adjacent to residential/agricultural buildings and private roads.		**N/A**	**N/A**
Waterbody 5 **Grid Reference: TF11664525** **Description:** Waterbody location dry in June 2022. Small waterbody located in a grassy field in a small patch of broadleaved woodland, adjacent to residential/agricultural buildings.		**N/A**	**N/A**
Waterbody 6* **Grid Reference: TF11854510** **Description:** Pond surrounded by immature trees. Medium sized waterbody located near a cluster of agricultural buildings.		**<0.50**	**Poor**
Waterbody 7* **Grid Reference: TF12314554** **Description:** Waterbody location dry in June 2022. Small waterbody located in a grass field located near residential/agricultural buildings and farm tracks.	**No image available.**	**N/A**	**N/A**
Waterbody 8 **Grid Reference: TF12454549** **Description:** Waterbody location dry in June 2022. Small waterbody located in a grassy field, adjacent to a small patch of broadleaved woodland and a hedgerow.		**N/A**	**N/A**
Waterbody 9 **Grid Reference: TF11744675** **Description:** Waterbody location dry in June 2022. Located in an arable field and surrounded broadleaved woodland connected to several hedgerows.		**N/A**	**N/A**
Waterbody 10* **Grid Reference: TF11854692** **Description:** Located in an arable field directly adjacent to a hedgerow bordering Ewerby Road/Main Street.	**No image available.**	**0.62**	**Average**

Waterbody 16 **Grid Reference: TF13824639** **Description:** Waterbody location dry in June 2022. Located in a patch of broadleaved woodland connected to hedgerows.		**N/A**	**N/A**
Waterbody 17* **Grid Reference: TF13954650** **Description:** Located in an arable field adjacent to Howell Fen Drove.	**No image available.**	**0.65**	**Average**
Waterbody 18* **Grid Reference: TF14074689** **Description:** Located in a thin patch of broadleaved woodland surrounded by arable land.	**No image available.**	**<0.5**	**Poor**
Waterbody 24* **Grid Reference: TF14574726** **Description:** Ovular waterbody located in an arable field.	**No image available.**	**0.62**	**Average**
Waterbody 26 **Grid Reference: TF115421** **Description:** A medium size ovular waterbody located on the margin of an arable field with a connecting hedgerow to the north. The banks are steep and dominated by ruderal herbs and neutral grassland. The bank to the southern and eastern side has several examples of *Fraxinus angustifolia* ranging from young to semi-mature individuals. One semi-mature individual has fallen and now lies across the water body – as a result, the majority of the waterbody is largely in shade (images and description provided by WA based on 2023 surveys).		**0.69**	**Average**
Waterbody 27 **Grid Reference: TF116420** **Description:** A small circular waterbody located on the margin of an arable field set into a depression with steep sides and surrounded by ruderal herb and neutral grassland, >250m from pond 26. Approximately 40% of the waterbody has cover by macrophytes and supports a diverse range of invertebrates (images and description provided by WA based on 2023 surveys).		**0.65**	**Average**
Waterbody 35* **Grid Reference: TF16154402** **Description:** located on the verge of a patch of broadleaved woodland adjacent to a farm track and several agricultural/residential building.	**No image available.**	**0.82**	**Excellent**

Waterbody 36 **Grid Reference: TF17174309** **Description:** Waterbody location dry in June 2022. Located in an area of broadleaved woodland adjacent to Great Hale Drove.		**N/A**	**N/A**
Waterbody 37 **Grid Reference: TF123403** **Description:** A large oval waterbody located between two arable fields with connecting habitat to woodland in the form of unmanaged grassland. The eastern and western are dominated by dense stands of *Typha latifolia* where the waterbody is shallowest, and areas of *Juncus effusus* are established in areas with deeper water (images and description provided by WA based on 2023 surveys).		**0.83**	**Excellent**
Waterbody 40* **Grid Reference: TF22374236** **Description:** medium size waterbody located in an area of grassland adjacent to hedgerows and surrounded by arable land.	**No image available.**	**0.61**	**Average**
Waterbody 42* **Grid Reference: TF133396** **Description:** possibly ornamental waterbody located on private land near residential buildings adjacent to North Drove.	**No image available.**	**0.79**	**Good**
Waterbody 44 **Grid Reference: TF133391** **Description:** Waterbody location dry in June 2022. Located in a small patch of broadleaved woodland surrounded by arable land.		**N/A**	**N/A**
Waterbody 45 **Grid Reference: TF139481** **Description:** Waterbody location dry in June 2022. Located in a square patch of woodland surrounded by agricultural land.		**N/A**	**N/A**
Waterbody 46 **Grid Reference: TF117417** **Description:** Waterbody location dry in June 2022. Located on the verge of a patch of broadleaved woodland surrounded by agricultural land.		**N/A**	**N/A**

* no image or description provided by AECOM

3.2.4 Twelve ponds were assessed by WA in April 2023. Each waterbody and assigned HSI score are detailed in Table 4, below.

Table 4: Waterbody Descriptions (Wardell Armstrong, April 2023)

Waterbody Description and Photograph taken in 2023		HSI Score	HSI Category
Waterbody 3 **Grid Reference: TF11684506** **Description:** Very shallow. 5cm at deepest point. Not possible to trap in current state. Located in a grassy field adjacent to agricultural/residential buildings.		**<0.5**	**Poor**
Waterbody 4 **Grid Reference: TF11674520** **Description:** About 5-10cm deep. Located in a grassy field adjacent to agricultural/residential buildings.		**0.64**	**Average**
Waterbody 5 **Grid Reference: TF146474** **Description:** 5cm deep. Unsuitable for bottle trapping in current state. Located in a grassy field possibly used for grazing.		**<0.5**	**Poor**
Waterbody 6 **Grid Reference: TF154473** **Description:** Pond surrounded by immature trees. Medium sized waterbody located near a cluster of agricultural buildings.		**0.61**	**Average**
Waterbody 7 **Grid Reference: TF12314554** **Description:** Damp in north-eastern extent but holding no water. Possibly ornamental waterbody associated with broadleaved trees and shrubs, located in a grassy field adjacent to agricultural/residential buildings.	**No image available.**	**<0.5**	**Poor**
Waterbody 8 **Grid Reference: TF12454549** **Description:** Only 10cm deep at deepest point. Located in a grassy field surrounded by agricultural land, adjacent to a hedgerow and agricultural/residential buildings.		**<0.5**	**Poor**
Waterbody 9 **Grid Reference: TF145472** **Description:** Some water in southwestern extent – 10cm deepest. Located in an arable field and surrounded broadleaved woodland connected to several hedgerows.		**<0.5**	**Poor**

Waterbody 16 **Grid Reference: TF114427** **Description:** 5-10 cm deep. Located in a patch of broadleaved woodland connected to hedgerows.		**<0.5**	**Poor**
Waterbody 36 **Grid Reference: TF122404** **Description:** Very shallow. Located in an area of broadleaved woodland adjacent to Great Hale Drove.		**<0.5**	**Poor**
Waterbody 44 **Grid Reference: TF133391** **Description:** Located in a small patch of broadleaved woodland surrounded by arable land.		**0.63**	**Average**
Waterbody 45 **Grid Reference: TF139481** **Description:** N/A		**0.72**	**Good**
Waterbody 46 **Grid Reference: TF117417** **Description:** 10cm deep. Located on the verge of a patch of broadleaved woodland surrounded by agricultural land.		**0.76**	**Good**

3.3 Field Survey

Environmental DNA Surveys

3.3.1 AECOM undertook eDNA assessments of 10 waterbodies, results are as follows:

- GCN present: 26, 27, 37
- GCN absent: Waterbodies 10, 17, 24, 35, 40, and 42.
- Inconclusive: Waterbody 6.

3.3.2 WA undertook eDNA assessments of 11 waterbodies, results are as follows:

- Negative: Waterbodies 3, 4, 5, 6, 8, 9, 16, 36, 44, 45, and 46.

Traditional Presence/Absence and Population Surveys

3.3.3 Presence/absence surveys were undertaken at waterbodies 26, 27, and 37. GCN were recorded in all of the waterbodies, as such these were subject to a further two survey visits to assess the population size. Table 5 summaries the maximum adult counts for each waterbody surveyed in 2023.

Table 5: Summary of Survey Results by Waterbody

Waterbody	Amphibians Recorded – Maximum Adult Count		
	Great Crested Newt	Smooth Newt	Frog/Toad
26	1	9	0
27	9	7	0
37	25	37	8

Metapopulations

3.3.4 Two metapopulations have been identified:

- Group 1 (G1): Water bodies 26 and 27; and,
- Group 2 (G2): Water body 37.

3.3.5 The peak count for G1 was 9 (on 11th May 2023). The peak count for G2 was 25 (on May 18th 2023). Both of the metapopulations are of 'medium' size (English Nature 2001). Full results can be seen in Appendix 3.

4. DISCUSSION AND RECOMMENDATIONS

4.1.1 GCN were recorded to be present within all three of the water bodies surveyed, all of which are located within the Study Area boundary.

4.1.2 Terrestrial habitats suitable for supporting GCN are present across the Study Area and outside the Study Area boundary. Numerous records were returned from the desk study for GCN within the locality.

4.1.3 The maximum number of individual GCN adults observed on a single survey visit occurred at waterbody 37 (on 18th May) where 25 adults were recorded.

4.1.4 Other amphibians recorded during the surveys included Smooth newt, Common frog and European toad.

5. REFERENCES

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BFEP Appendices

Appendix 1Survey Dates

Waterbody	Visit Number	Dates Surveyed
26	1	03/05/2023
		04/05/2023
	2	11/05/2023
		12/05/2023
	3	18/05/2023
		19/05/2023
	4	30/05/2023
		31/05/2023
	5	05/06/2023
		06/06/2023
	6	12/06/2023
		13/06/2023

Waterbody	Visit Number	Dates Surveyed
27	1	03/05/2023
		04/05/2023
	2	11/05/2023
		12/05/2023
	3	18/05/2023
		19/05/2023
	4	30/05/2023
		31/05/2023
	5	05/06/2023
		06/06/2023
	6	12/06/2023
		13/06/2023

Waterbody	Visit Number	Dates Surveyed
37	1	03/05/2023
		04/05/2023
	2	11/05/2023
		12/05/2023
	3	18/05/2023
		19/05/2023
	4	30/05/2023
		31/05/2023
	5	05/06/2023
		06/06/2023
	6	12/06/2023
		13/06/2023

Appendix 2 Weather Condition

Weather Conditions					
Date	**Precipitation**	**Cloud cover[1]**	**Wind**	**Temperature**	**Notes**
Visit 1					
03/05/2023	Dry	8	Gentle	8	A fallen tree, steep banks, and dense vegetation limit access to pond 26
04/05/2023	Dry	8	Gentle	9	
Visit 2					
11/05/2023	Dry	2	Gentle	11	
12/05/2023	Dry	8	Moderate	11	
Visit 3					
18/05/2023	Dry	8	Still	13	
19/05/2023	Light rain	8	Light	11	
Visit 4					
30/05/2023	Light rain	8	Gentle	11	
31/05/2023	Light rain	8	Gentle	12	
Visit 5					
05/06/2023	Dry	8	Gentle	11	
06/06/2023	Light rain	8	Gentle	11	
Visit 6					
12/05/2023	Dry	4	Gentle	19	
13/05/2023	Dry	1	Gentle	19	

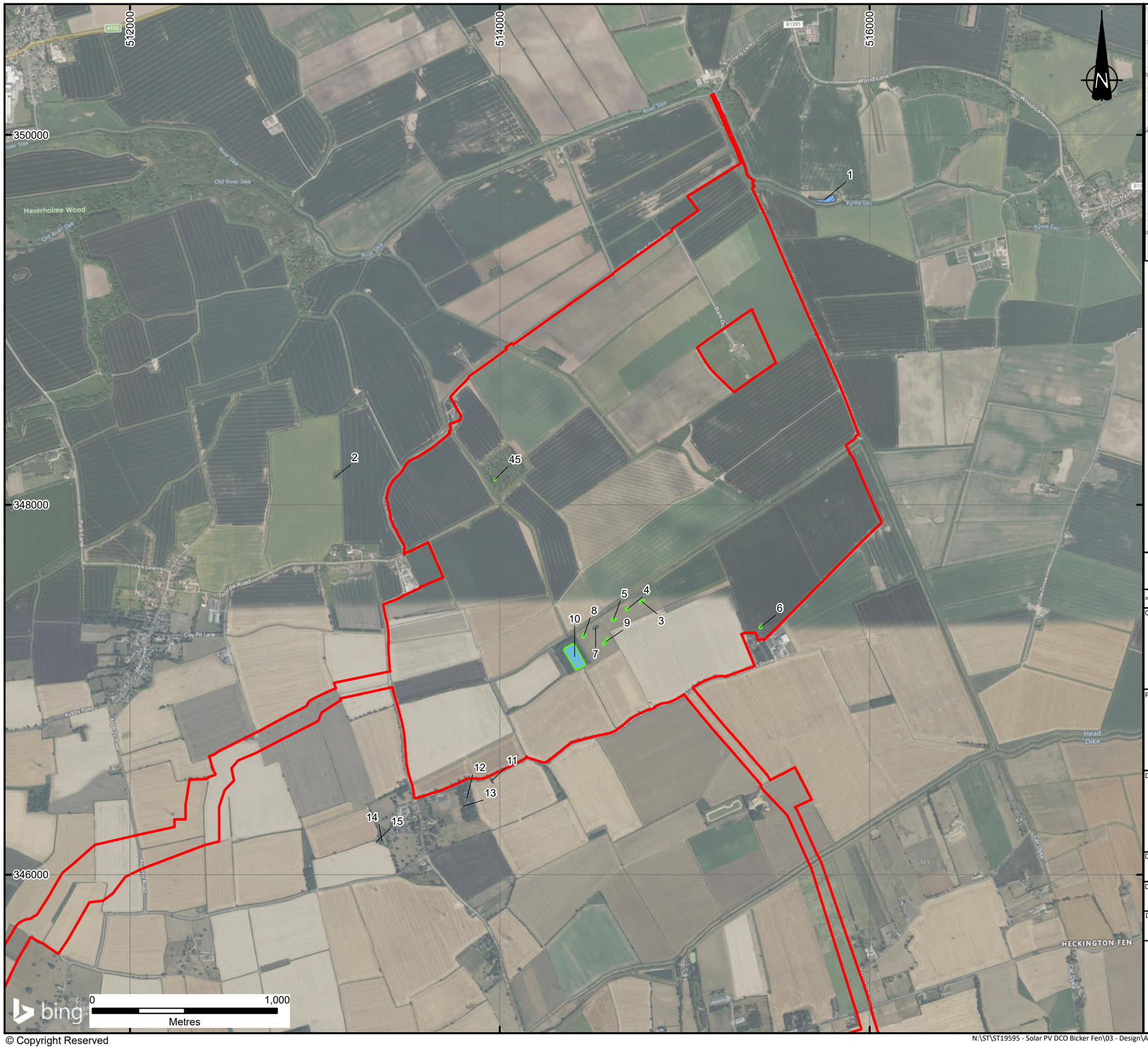
[1] Cloud cover: based on Okta scale: 0 = cloudless, **1** = sparse clouds, **2** = 1/4 sky covered by cloud, **3** = 3/8, **4** = 1/2, **5** = 5/8, **6** = 3/4, **7** = 7/8, **8** = no sky visible, completely overcast.

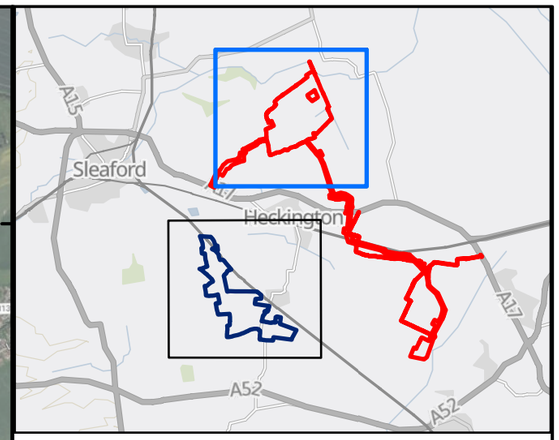
Appendix 3 Great Crested Newt Survey Results

Great Crested Newt Counts: Number of adults seen in evening (torching and net surveys) and morning (bottle traps)													
Waterbodies	**Visit 1**		**Visit 2**		**Visit 3**		**Visit 4**		**Visit 5**		**Visit 6**		**Comments**
	PM	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	
26	0	0	0	0	0	0	1*	0	0	0	0	0	Water levels low on visit 4, 5 and 6, visibility obscured by leaf litter on water surface on visit 5 and 6.
27	3	1	9*	2	3	0	2	6	0	2	0	0	Water levels low and visibility obscured by pond weed on visit 4 and 5.
37	0	2	0	4	25*#	4	2	0	2	0	0	0	Water levels low and visibility obscured by pond weed on visit 5 and 6.
* Indicates maximum count for waterbody. # Indicates maximum count for survey area.								Highest count Group 1			Highest count Group 2		

Drawings

ST19595-502 Waterbodies surveyed for GCN





KEY

DCO Order Limits

Not Accessed

GCN

Absent

Notes:

Excluding the DCO Order Limits, boundaries shown are indicative. Aerial imagery shown for context purposes only.
DCO Order Limits provided by Ardent Management on 04/02/2025.
Bicker Fen South provided by client on 07/02/2023.
Features approximately identified from Aecom plan "Figure 4.2 WATERBODIES WITHIN 500M OF THE PROPOSED SCHEME; COY LAND BICKER FEN, WATTS LAND".

REVISION	DETAILS	DATE	DRAWN	CHKD	APPD
1	FIRST ISSUE	21/03/25	BL	TB	TB

CLIENT

BEACON FEN ENERGY PARK LTD

PROJECT

BEACON FEN ENERGY PARK

DRAWING TITLE

WATERBODIES SURVEYED FOR GCN
SHEET 1 OF 2

DRG No.	REV	SUIT. CODE
ST19595-502	1	--

DRG SIZE	SCALE	DATE
A3	1:20,000	21/03/2025

DRAWN BY	CHECKED BY	APPROVED BY
BL	TB	TB

wardell armstrong
PART OF SLR

[redacted]

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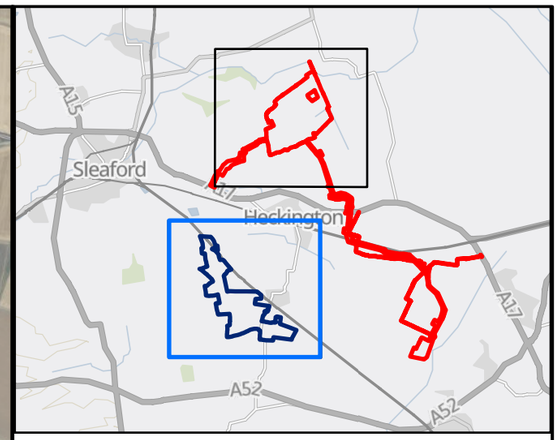

KEY

Bicker Fen South

GCN

Absent

Present

Not Accessed

Approximate Pond Location (Aecom)

Absent

Not Accessed

Notes:

Excluding the DCO Order Limits, boundaries shown are indicative. Aerial imagery shown for context purposes only.
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DRAWING TITLE

WATERBODIES SURVEYED FOR GCN
SHEET 2 OF 2

DRG No.	REV	SUIT. CODE
ST19595-502	1	--

DRG SIZE	SCALE	DATE
A3	1:20,000	21/03/2025

DRAWN BY	CHECKED BY	APPROVED BY
BL	TB	TB

wardell armstrong
PART OF SLR

[redacted]

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