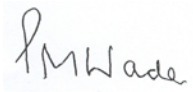
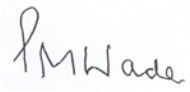
SUNNICA ENERGY FARM

Appendix 8E: Great Crested Newt Survey Report

Sunnica Ltd

August 2020

Quality information

Prepared by	Checked by	Verified by	Approved by
			*Neil Titley*
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Revision History

Revision	Revision date	Details	Authorized	Name	Position
1	August 2020	For Issue	August 2020	Max Wade	Technical Director

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1. Introduction

1.1.1 In March 2019, AECOM (on behalf of Sunnica Limited), undertook a Preliminary Ecological Appraisal (PEA) (Ref 8E-1) for the proposed Sunnica Energy Farm (hereafter referred to as the Scheme). This PEA identified the need for follow-up surveys to determine the potential impacts of the Scheme on protected or notable species1, including Great Crested Newt Triturus cristatus.

1.1.1 A review of Ordnance Survey (OS) mapping of the Scheme, as part of the desk study for the PEA, identified that the habitat within the Development Consent Order (DCO) Site (the Site) was suitable to support Great Crested Newt. Surveys were therefore required to determine the presence or likely absence of Great Crested Newt within the DCO Site and an appropriate survey buffer of 500 m from the DCO Site (referred to hereafter as the survey area, *i.e.* the Site and the 500 m buffer).

1.2 The Scheme

2.1.1 Sunnica Energy Farm is a new solar farm scheme that would connect to the national electricity transmission network. Sunnica will use ground mounted solar photovoltaic (PV) panel arrays to generate electricity energy from the sun and combine these with a Battery Energy Storage System (BESS). The Scheme will be connected to the national electricity transmission network by an underground cable.

2.1.2 The BESS will consist of a compound and battery array to allow for the storage, importation and exportation of energy to the National Grid. Details of the design of the BESS elements, including their power and energy ratings, and their dimensions and appearance, are currently in development.

2.1.3 Supporting electrical infrastructure will include an on-site substation and on-site cabling between the different electrical elements of the Scheme. The generating equipment of the Scheme will be fenced and be protected via security measures such as CCTV and lighting. Inside the fenced areas, in addition to the generating equipment will be, internal access tracks, landscaping and habitat management and drainage.

2.1.4 The Scheme will be connected to the existing Burwell National Grid Substation, most likely using 132kV cables buried underground. The cables will run between Sunnica West and Sunnica East (Grid Connection Route A), and then on from Sunnica West to the Burwell National Grid Substation (Grid Connection Route B). Details of the cable route, dimensions of the cables, the depth and method of burial, and numbers of joints required are currently in development.

[1] A notable species is a species with a conservation designation, but no legal protection.

2.1.5 The Scheme qualifies as a Nationally Significant Infrastructure Project (NSIP) and will require a DCO from national government, due to its generating capacity.

2.1.6 The Scheme comprises the following key areas:

- Solar Farm Sites:
  - Sunnica East Site A;
  - Sunnica East Site B;
  - Sunnica West Site A; and
  - Sunnica West Site B.
- associated electrical infrastructure for connection to the national transmission system comprise:
  - Grid Connection Route A (connecting the Sunnica East Site A with the Sunnica East Site B and then connecting to the Sunnica West Site A);
  - Grid Connection Route B (connecting the Sunnica West Site A and Sunnica West Site B and the Burwell National Grid Substation); and
  - Burwell National Grid Substation Extension.

2.1.7 **Sub-Appendix B Figure 8E-1** shows the locations of these key areas.

1.3 Site Description

3.1.1 A summary description of the habitats within the Scheme boundary (made up of the three Sites) is provided below and a more detailed description of the habitats is provided in the Preliminary Ecological Appraisal (Ref 8E-1). The extent of the Scheme is shown in **Sub-Appendix B Figure 8E-1**.

Sunnica East Site

3.1.2 The Sunnica East is split into two sub-sites, one to the north of Freckenham (referred to as Sunnica East Site A) and the other to the south of Worlington (referred to as Sunnica East Site B). These two sites are approximately 1 km apart and are separated by agricultural fields. The Sunnica East Site A encompasses an area of approximately 231.7 ha and includes land within the county of Suffolk and Cambridgeshire. Sunnica East Site B lies within Suffolk and encompasses an area of approximately 323.1 ha (**Figure 8E-1**).

3.1.3 The landscape features within the Sunnica East Site A and Sunnica East Site B consist of arable agricultural fields interspersed with individual trees, hedgerows, linear tree belts, small woodland blocks, farm access tracks and local roads.

3.1.4 The landscape features immediately surrounding the Sunnica East Site A and Sunnica East Site B comprise small rural villages, including Worlington to the north, Barton Mills to the north-east, Red Lodge and Freckenham to the south and Isleham to the west. Industrial land uses adjoin the A11 to the south of the Sunnica East Site with an industrial installation of a 7.5 MW solar farm situated adjacent to the south-eastern extent of the Sunnica East Site and an anaerobic digestion (AD) plant located to the south of the Sunnica East Site.

Sunnica West Site

3.1.5 The Sunnica West Site is located within the East Cambridgeshire District Council administrative area, approximately 3 km north east of Newmarket and 6.5 km east of Burwell.

3.1.6 Sunnica West is split into two sub-sites, one to the south-east (referred to as Sunnica West Site A) and the other to the north-west of Snailwell (referred to as Sunnica West Site B). These two sites are approximately 1 km apart, separated by agricultural fields and Chippenham Road. The Sunnica West Site A encompasses an area of approximately 485.5 ha and includes land to the east and west of the A11, consisting of agricultural fields bounded by trees, managed hedgerows, linear tree shelter belts, small woodland and copses and farm access tracks. Sunnica West Site B encompasses an area of approximately 68.8 ha and comprise of agricultural fields, grassland, small woodland and copses, farm access tracks and irrigation ditches fed by the River Snail which runs along the western and northern boundaries of the Site (**Figure 8E-1**).

3.1.7 The surrounding landscape comprises regularly shaped arable fields interspersed with managed hedgerows, tall shelter belts of trees and in the Chippenham Hall area, a parkland landscape with mature individual trees. Much of the area is also characterised by grazed paddocks, horse gallops and exercise tracks.

Cable Route Corridors

3.1.8 The Scheme will connect to the existing Burwell National Grid Substation via a cable route corridor. The cable route corridors under consideration are Grid Connection Route A, which connects the Sunnica East Site A with the Sunnica East Site B and then runs between the Sunnica West Site A and the Sunnica East Site B; and Grid Connection Route B, between the Sunnica West Site A and Sunnica West Site B and the Burwell National Grid Substation.

Grid Connection Route A

3.1.9 Grid Connection Route A connects the Sunnica East Site A with Sunnica East Site B and crosses two minor roads and arable farmland (**Figure 8E-1**).

3.1.10 Heading south from the Sunnica East Site B, the cable route corridor for Grid Connection Route A crosses the River Kennett, pastoral farmland, the Chippenham footpath 49/7 (a Public Right of Way (PRoW)) and B1085 (**Figure 8E-1**).

Grid Connection Route B

3.1.11 Heading east from the Burwell National Grid Substation, the cable route corridor for Grid Connection Route B crosses agricultural fields and a number of roads including the B1102 and A142. Grid Connection Route B also crosses a number of watercourses (*e.g.* ditches or rivers), including the Burwell Lode, New River, and the River Snail, as well as a number of drainage ditches associated with Burwell Fen, Little Fen, the Broads, and agricultural drains (**Figure 8E-1**).

3.1.12 The cable route corridor for Grid Connection Route B crosses a PRoW (footpath 92/19) before crossing the railway line and the A142 Newmarket / Fordham Road. The Route then runs alongside Snailwell Road and across the River Snail into Sunnica West Site B.

Burwell National Grid Substation Extension

3.1.13 The habitat within the Burwell National Grid Substation Extension (surrounding the existing substation) comprises small grassland fields to the east of the existing substation (bordered by hedgerows and mature trees) and arable land to the south and west of the existing substation (**Figure 8E-1**).

1.4 Scope of Report

4.1.1 The objective of the Great Crested Newt survey was to identify the presence or likely absence of this species within the survey area and to determine whether there are any potential impacts from the Scheme on Great Crested Newt.

4.1.2 This report includes the following information:

- relevant legislation and policy;
- methods for desk and field-based assessments (undertaken between 2019 and 2020);
- limitations to the surveys undertaken and any assumptions made as a result of incomplete data;
- survey results;
- the approach for determining the nature conservation importance of Great Crested Newt populations recorded during the assessments; and
- conclusions, recommendations and proposed mitigation.

4.1.3 This report is a technical appendix to accompany the Preliminary Environmental Information report, reporting on and evaluating the baseline data collected as of August 2020.

2. Great Crested Newt Ecology

1.2.1 Great Crested Newt is one of seven species of amphibian native to Britain and in common with other UK amphibians, they spend the majority of their lives on land, returning to standing water (water bodies and ditches) in the spring in order to breed.

2.2 Effect of temperature on activity

2.2.1 Great Crested Newts are ectothermic, meaning that they regulate their temperature through exchange of heat with the external environment. Gaseous exchange (oxygen/carbon dioxide) is achieved largely by absorption through their permeable skins, which must be moist for this purpose. Behaviour and activity are therefore strongly linked to external environmental conditions, especially daily and seasonal cycles. Great Crested Newts are mainly active at night (usually when temperatures exceed 5°C and following recent rainfall). With the onset of winter frosts, Great Crested Newts hibernate. Activity recommences when the frosts subside (which may be as early as January / February), with adults migrating to breeding water bodies. Peak breeding activity is usually between mid-March and mid-May.

2.3 Reproduction

3.2.1 Breeding takes place within water bodies with males performing a courtship ‘dance’ in order to attract and encourage females to take up a spermatophore (a packet containing sperm). Females deposit eggs (up to 200 per season) on the submerged leaves of aquatic broadleaved plants. Each egg is individually sealed for protection from predators within a folded leaf. Adults begin to leave the water bodies around May but may return in order to feed.

3.2.2 Larvae hatch after three weeks and feed on small aquatic invertebrates and the larvae/eggs of other amphibians for approximately three months. They metamorphose into land-adapted juveniles called efts and begin to emerge from their water bodies around August.

2.4 Habitat Requirements

4.2.1 During their terrestrial phase, Great Crested Newts require a complex habitat structure in order to provide both food and shelter. These are most commonly provided by broadleaved woodland, rough or tussocky grassland and scrub habitats. They also require a secure area in which to hibernate. Hibernacula generally need to provide a stable temperature, be free from frost and provide protection from flooding and predation (a hibernaculum is a shelter occupied during the winter by a dormant animal). These requirements are commonly met by log/rubble piles, underground crevices or mammal burrows.

4.2.2 For breeding, Great Crested Newts require water bodies that provide suitable protection and food for their developing larvae. Generally, such water bodies should be of relatively good water quality so as to provide a diverse range of invertebrate prey. Unshaded water bodies tend to provide more of the required broadleaf aquatic vegetation, upon which great crested newt eggs

can be laid. Water bodies with large fish populations (which can prey on newts) or heavy grazing pressure from waterfowl (which can prey on newts and reduce water quality and egg laying habitat) tend not to support Great Crested Newt. Connectivity between water bodies and good quality terrestrial habitat tend to favour large, viable, populations of Great Crested Newt. In rural landscapes in Britain, such connectivity is often provided by the hedgerow network.

2.5 Great Crested Newt Range

5.2.1 Great Crested Newts are thought to commonly move between water bodies up to a distance of 250 m from each other, although there are studies showing great crested newt travelling much further than this (Great Crested Newt Mitigation Guidelines, English Nature 2001) (Ref 8E-2). The range of Great Crested Newt may be impacted by a range of factors, including the type and quality of habitat surrounding a breeding water body, the availability of hibernation sites and the presence or absence of barriers to dispersal (*e.g.* large and busy roads with no features that Great Crested Newt could move through).

3. Legislative and Policy Framework

3.1 Relevant Legislative Context

1.3.1 All stages of the Great Crested Newt life cycle as well as their habitat are fully protected under Schedule 2 of The Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 8E-3). Great Crested Newt is listed on Schedule 5 of the Wildlife & Countryside Act 1981 (Ref 8E-4), which affords it protection under Section 9, as amended by the Countryside Rights of Way Act (2000) (Ref 8E-5). It is also listed on Annex II and VI of the EC Habitats Directive (Ref 8E-6), is included as a Species of Principal Importance in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (Ref 8E-7) and is a UK Post-2010 Biodiversity Framework (Ref 8E-8) species listed on the UK Biodiversity Action Plan. In combination, this makes it an offence to:

- deliberately capture, injure or kill a Great Crested Newt;
- deliberately take or destroy their eggs;
- deliberately, intentionally or recklessly disturb an individual; or
- damage, destroy or obstruct access to any structure which a Great Crested Newt uses for shelter or protection.

1.3.2 The protection includes both the breeding waterbody itself and the terrestrial habitat used for foraging and hibernation, which may be distant from the waterbody.

3.2 European Protected Species Licensing

2.3.1 Where Great Crested Newt habitat, including their breeding sites and resting places, is present on a site and a development has the potential to cause one or more offences under The Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 8E-3), a European Protected Species Licence (EPSL) is required from Natural England to allow the development to proceed. This licence allows the development to proceed with exemption from offences, provided works are undertaken with strict accordance of the terms of the licence. A licence cannot, however, be obtained to provide protection against offences under the Wildlife and Countryside Act, 1981 (as amended) (Ref 8E-4).

2.3.2 In determining whether to grant a licence, Natural England must apply the requirements of Regulation 535 of the Regulations, these being:

- Regulation 53(2)(e) states: "*a licence can be granted for the purposes of "preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment*".
- Regulation 53(9)(a) states: "*the appropriate authority shall not grant a licence unless they are satisfied "that there is no satisfactory alternative*".
- Regulation 53(9)(b) states: "*the appropriate authority shall not grant a licence unless they are satisfied "that the action authorised will not be*

detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range."

2.3.3 A local planning authority must also apply these tests when determining a planning application, where a proposed development is likely to cause an offence under The Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 8E-3).

2.3.4 In order for a European Protected Species Licence to be approved by Natural England for works with Great Crested Newt, it must be demonstrated that the proposed development will minimise any potential impacts upon Great Crested Newt and will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

2.3.5 Offences can be avoided through the implementation of appropriate mitigation that will minimise the potential for any offences to be committed. Mitigation can include the undertaking of vegetation clearance works at an appropriate time of the year and completing works in accordance with methods that will minimise or avoid potential disturbance or destruction of habitats. In such circumstances it is sensible for works to be completed using Reasonable Avoidance Measures (RAMs).

3.3 National and Local Planning Policy

3.3.1 National and local planning policy relevant to nature conservation is provided in detail in the Preliminary Ecological Appraisal for the Scheme (Ref 8E-1).

3.4 Priority Species

4.3.1 The NERC list of Species of Principal Importance (Ref 8E-7) is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act (2006); under Section 40 every public authority (*e.g*. a local authority or local planning authority) must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.

4.3.2 In addition, with regard to those species on the list of Species of Principal Importance listed under Section 41, the Secretary of State must:

"(a) take such steps as appear to the Secretary of State to be reasonably practicable to further the conservation of the living organisms and types of habitat included in any list published under this section, or

(b) promote the taking by others of such steps."

4.3.3 The UK Biodiversity Action Plan (UKBAP) was launched in 1994 and established a framework and criteria for identifying species and habitat types of conservation concern. From this list, action plans for priority habitats and species of conservation concern were published and have subsequently been succeeded by the UK Post-2010 Biodiversity Framework (July 2012) (Ref 8E-8). The UK Post 2010 Development Framework is relevant in the context of Section 40 of the NERC Act 2006, meaning that Priority Species and Habitats are material considerations in planning. These habitats and

species are identified as those of conservation concern due to their rarity or a declining population trend.

4.3.4 Great Crested Newt was added to the UK Biodiversity Action Plan (UKBAP) as a priority species in September 2007 and subsequently was included as a Species of Principal Importance in England under Section 41 of the NERC Act (2006) meaning that they are of material consideration in planning.

3.5 Local Biodiversity Action Plan

5.3.1 The Scheme is located within two counties, Cambridgeshire and Suffolk. The Cambridgeshire and Peterborough Biodiversity Action Plan (Ref 8E-9) and Suffolk Biodiversity Action Plan (Ref 8E-10) provide the local nature conservation strategy for identifying threats to species within these counties and sets out the actions necessary to conserve them. These Biodiversity Action Plans provide context to inform identification of threatened and, or uncommon species within the district / county. The plans also identify priorities for conservation and enhancement but confers no particular legislative or policy protection to the species identified, however in some cases this is provided through related legislation and local planning policy.

5.3.2 Great Crested Newt is listed as Priority Species on both the Cambridgeshire and Peterborough Biodiversity Action Plan (Ref 8E-9) and the Suffolk Biodiversity Action Plan (Ref 8E-10).

4. Methods

1.4.1 This section describes the survey methods used to determine the status of Great Crested Newt within the survey area, which included:

- a desk study;
- a Habitat Suitability Index (HSI) survey;
- environmental DNA (eDNA) analysis; and
- presence or likely absence survey using field methods (bottle trapping, torching, egg-searching and, or netting).

4.2 Desk Study

2.4.1 A desk study was undertaken in December 2018 through Cambridgeshire & Peterborough Environmental Records Centre (CPERC) and Suffolk Biodiversity Information Service (SBIS) to obtain records of Great Crested Newt within the last ten years and within a 2 km radius of the DCO Site.

2.4.2 Only records up to ten years old were considered within the assessment, as any records older than ten years are unlikely to be still representative of reptile presence in the local area.

2.4.3 Aerial photographs and OS maps were reviewed as part of the PEA to identify water bodies of potential value to Great Crested Newt within 500 m of the DCO Site that were not separated by major barriers to Great Crested Newt dispersal (such as main roads and large rivers). The review of aerial photography and mapping included identifying any key routes of potential connectivity to the Scheme from outside waterbodies (*e.g.* ponds) and significant barriers to Great Crested Newt dispersal.

4.3 Field Survey

3.4.1 From the desk study, using maps and aerial photography, a total of 37 waterbodies and watercourses were identified as needing to be assessed for their suitability to support Great Crested Newt (**Figure 8E-2**).

3.4.2 From these 37 waterbodies and watercourses:

- the desk study and field surveys scoped out 17 waterbodies and watercourses from requiring any surveys (see **Table 8E-2** for reasons for waterbodies and watercourses being scoped out); and
- 20 waterbodies and watercourses were taken forward for further survey.

Habitat Suitability Index (HSI)

3.4.3 The Habitat Suitability Index (HSI) is a measure of habitat suitability, developed by Oldham *et al*. (2000) (Ref 8E-11) for evaluating the suitability of waterbodies and watercourses as habitat for Great Crested Newt. Ten habitat features of the waterbody or watercourse are assessed in the field and from these data a suitability index is calculated (**Table 8E-1**). Waterbodies or watercourses with higher HSI scores are considered more likely to support Great Crested Newt than those with lower scores.

3.4.4 A value is recorded for each parameter and combined to determine an index of breeding suitability for Great Crested Newt (**Table 8E-1**).

Table 8E-1 Great Crested Newt suitability indices and description

Suitability Indices	Suitability Indices Title	Suitability Indices Description
(SI_1)	Geographic location	Different areas of the UK represent different indices scores
(SI_2)	Water body area	The optimum water body size is between 500 and 750 m^2.
(SI_3)	Water body permanence	The optimal frequency of drying is one year per decade.
(SI_4)	Water quality	The presence of indicator organisms (the same that are used to assess running water) is the water quality indicator.
(SI_5)	Water body shading	Great crested newt occurrence is significantly reduced above a threshold of 75% shade.
(SI_6)	Impact of waterfowl	Waterfowl impact on water body vegetation and water turbidity is a negative indicator for great crested newt.
(SI_7)	Occurrence of fish	The effect of fish presence is related to the species. Some species can have negative impacts and great crested newt hardly ever coexist with larger predatory fish species. Other species (depending on conditions) are not detrimental.
(SI_8)	Water body density	Water body densities above four water bodies/km^2 are taken as optimal.
(SI_9)	Terrestrial habitat	In general, scrub, unimproved grassland, woodland (deciduous and coniferous) and gardens are regarded as being suitable terrestrial habitat, unlike improved pasture, arable and hardstanding. The SI_9 is the combination between positive factors (suitable habitat) and negative factors (*e.g.* inherent in barriers to movement such as roads). The surrounding habitat is scored according to the extent of high-quality terrestrial newt habitat.
(SI_{10})	Macrophyte content	The highest occurrence of great crested newt is found in water bodies with emergent vegetation cover between 25% and 50% and

Suitability Indices	Suitability Indices Title	Suitability Indices Description
		submerged vegetation between 50% and 75%.

3.4.5 The HSI of a water body is a numerical index which scores ponds on a scale of between 0 and 1, using a geometric mean of the ten suitability indices, with the following suitability categories for the results:

- <0.5: poor likelihood of presence
- 0.5 – 0.59: below average likelihood of presence
- 0.6 – 0.69: average likelihood of presence
- 0.7 – 0.79: good likelihood of presence
- >0.8: excellent likelihood of presence.

3.4.6 Any waterbody or watercourse with an HSI score of average or greater, should then be surveyed using eDNA analysis or field-based methods, to determine Great Crested Newt presence or likely absence.

4.4 eDNA laboratory analysis

4.4.1 Water samples were taken from nine waterbodies and watercourses which were sent off for environmental DNA (eDNA) analysis. This method (eDNA analysis) was used to assess the presence or likely absence of Great Crested Newt DNA from a water sample. This new survey methodology is approved by Natural England and it provides evidence of presence or absence of Great Crested Newt (WC1067 Technical Advice Note (Biggs *et al.,* 2014)) (Ref 8E-12). Natural England has also issued their standing advice, which includes the recommended protocol for eDNA analysis (Gov.UK, 2015) (Ref 8E-13). This requires water samples for eDNA to be taken between the 15th April and the 30th June.

4.4.2 Field surveys strictly followed the protocol set out in the WC1067 Technical Advice Note (Ref 8E-12) and to prevent contamination of the samples:

- gloves were worn at all times during the sampling process, and gloves were replaced between sample collection from the waterbody and pipetting into the sterile sub-sample tubes; and
- samples were collected without entering the water, *i.e*. the surveyor stood only on the waterbody bank or waterbody edges. This prevented disturbance of the substrate to limit cross-contamination.

4.4.3 The field sampling protocol consisted of the following steps for each surveyed waterbody or watercourse:

- The location of sub-samples was spaced as evenly as possible around the margin of the waterbody or watercourse. Subsamples generally targeted areas with potential egg laying substrate (*e.g*. vegetation) and open water areas which newts may be using for displaying. Prior to sampling, the water column was mixed by gently using a ladle to stir through the entire water column, whilst avoiding disturbing the sediment

on the bed of the waterbody. Sampling of very shallow water (less than 5-10 cm deep) was avoided where possible;

- a new pair of gloves was put on to keep the next stage as uncontaminated as possible;
- using a clear plastic pipette, approximately15mL of water were taken from the bag and pipetted into six sterile tubes containing 35mL of ethanol to preserve the eDNA sample (*i.e*. the tube was filled to the 50 mL mark);
- the tube was shaken vigorously for 10 seconds to mix the sample and preservative. This is essential to prevent DNA degradation and was also repeated for each of the six conical tubes. Before taking each sample, the water in the bag was shaken to homogenise the sample, as DNA material constantly sinks to the bottom; and
- the box of preserved sub-samples was kept in a fridge and then later returned to ambient temperature in the laboratory for analysis.

4.4.4 Laboratory analysis was consistent with the methods described in Appendix 5 of the WC1067 Technical Advice Note (Ref 8E-12), including control analysis for inhibition and degradation.

4.4.5 EDNA kits were procured from ADAS and on collection of samples, they were then sent back to ADAS to be analysed in their laboratory.

4.5 Great Crested Newt Survey using field methods

5.4.1 Field methods were used to determine presence or likely absence of Great Crested Newt following Natural England recommendations (English Nature, 2001) (Ref 8E-2):

- three methods (preferably torch surveys, bottle-trapping and egg searching) were used during each visit with netting as another technique which was be applied if one of the other techniques was not possible;
- visits were undertaken in suitable weather conditions, *i.e*. warm, still evenings without rain;
- four presence/absence surveys were undertaken and, if Great Crested Newts was confirmed, two additional visits (total of six visits) were made to estimate population class size; and
- surveys were undertaken between mid-March and mid-June with at least two surveys in peak season (usually mid-April to mid-May) with three surveys carried out between mid-April to mid-May if Great Crested Newts was confirmed within the waterbody.

5.4.2 All surveys were undertaken by experienced Great Crested Newt surveyors who hold Natural England Class (WML-CL08) survey licences for Great Crested Newts, accompanied by unlicensed assistants.

Bottle trapping

5.4.3 Prior to sunset, bottle-traps were set at approximately one trap every 2 metres of water's edge, where practicable, in accordance with the Great Crested Newt mitigation guidance (Ref 8E-2). Where access was restricted,

due to vegetation overgrowth or other factors, this method was amended for the purposes of practicality and safety. The traps were left set overnight and were checked again the following morning, soon after sunrise. No trap was left set for longer than 11 hours. Any animals caught were identified, aged (juvenile / adult) and sexed and then released at the trap location.

Torch survey

5.4.4 Cluson torches, with 1-million candlepower, were used for the torch counts. Surveyors walked slowly around the water's edge after dark, looking for Great Crested Newt which would have emerged to begin courtship and feeding.

Egg searching

5.4.5 Aquatic and marginal vegetation (both living and dead vegetation) within the waterbodies and watercourses was searched for Great Crested Newt eggs. Once an egg was found and confirmed as that of a Great Crested Newt, the search would be terminated to ensure that no damage or further disturbance to eggs would occur. Great Crested Newt eggs, like those of other newts, are typically laid within a folded leaf. In order to determine the species of newt egg found, the leaf must be unfolded, rendering it more prone to predation or damage. Numbers of eggs present are not indicative of population sizes.

Netting

5.4.6 If any of the methods above could not be conducted, netting was used. In order not to disturb sediment and adversely affect water clarity for torchlight surveys, netting was conducted after torchlight surveys. Netting was conducted with an Environment Agency approved 2 mm mesh professional dipping net and was targeted at both open water and areas of suitable egg laying vegetation.

4.6 Population Class Assessment

6.4.1 If Great Crested Newt was found to be present during surveys, the results of the six survey visits were used to produce an approximate indication of the population size class. Based on the maximum count of adult Great Crested Newt, counted per water body per night, the Great Crested Newt population in each waterbody can be classified as small, medium or large, in line with the Great Crested Newt Mitigation Guidelines (English Nature, 2001) (Ref 8E-2).

6.4.2 A population of Great Crested Newt is classified using the following indices:

- small: for maximum counts up to 10;
- medium: for maximum counts between 11 and 100; and
- large: for maximum counts over 100.

4.7 Assumptions and Limitations

Desk Study

7.4.1 The aim of a desk study was to help characterise the baseline context of the Scheme and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of a desk study was dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for Great Crested Newt does not necessarily mean that this species does not occur in the study area. Likewise, the presence of records of Great Crested Newt does not automatically mean that these still occurred within the area of interest or were relevant in the context of the Scheme.

Field Survey

7.4.2 No access was granted for Waterbodies 9, 16, 17, 18 and 19 (see **Figure 8E-2**), which were within 500 m of Grid Connection Route A (between the Sunnica West Site and the Sunnica East Site) (Waterbody 9) and Grid Connection Route B (between the Sunnica West Site B and National Grid Burwell Substation Extension) (Waterbodies 16, 17, 18 and 19). Therefore, no surveys for Great Crested Newt were carried out within these areas. Whilst the presence or absence of Great Crested Newt cannot be confirmed within these areas, the likelihood of Great Crested Newt presence in these waterbodies (based on the results of the desk study) is low. Nevertheless, surveys to determine the suitability of the waterbodies for Great Crested Newt and follow-up surveys (if required) would be necessary to confirm species presence or absence within 500 m of the Grid Connection Routes.

7.4.3 Surveys of the Waterbody 27 and Watercourse 27a (Sunnica West Site B), using traditional methods, were only undertaken once (rather than four survey visits) as these areas were found to be dry on subsequent visits and hence likely unsuitable for supporting breeding Great crested Newt.

7.4.4 Despite the limitations detailed above, sufficient information was gathered from the surveys to provide an assessment of Great Crested Newt presence within 500 m of the solar farm sites (Sunnica East Sites A and B; and Sunnica West Sites A and B).

7.4.5 The Great Crested Newt survey data are valid only for short periods due to the inherently transient nature of the subject[2]. On this basis, it is recommended that surveys for Great Crested Newt will need repeating in two years (*i.e.* in 2021 and 2022).

[2] CIEEM: Advice Note on the lifespan of ecological surveys and reports. Available at https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf (Accessed June 2020).

5. Results

5.1 Desk Study

1.5.1 No records of Great Crested Newt were returned from the data search, within 2 km of the Scheme boundary. The closest record of Great Crested Newt to the Scheme boundary was 2.1 km from the Burwell National Grid Substation Extension, in 2013.

5.2 Field Survey

2.5.1 Of the 37 waterbodies and watercourses identified within the survey area (see **Figure 8E-2**), 20 were taken forward for further assessments, with the remaining 17 waterbodies and watercourses scoped out. A breakdown of the surveys undertaken and the rationale for these are provided in **Table 8E-1**.

Table 8E-1 Summary of Great Crested Newt assessment undertaken for all waterbodies and watercourses, including reason for exclusion from any surveys

Waterbody or watercourse number (see Figure 2 for location)	*Within 500 m of the DCO Site?*	*Within the DCO Site?*	*Taken forward for further survey?*	*HSI Assessment carried out?* *(HSI score: 1 = Excellent, 2 = good, 3= average, 4= below average, 5=poor)*	*Field survey methods carried out?* *(Great Crested Newt - P = present; A = absent)*	*eDNA Analysis carried out?* *(Great Crested Newt - P = present; A = absent)*	*Reason for exclusion from any surveys*
1	Yes	No	Yes	Yes (1)	No	Yes (P)	Access granted after survey season in 2020, no population assessment undertaken but Great Crested Newt present from eDNA analysis.
2	Yes	Yes	No	-	-	-	Dry in 2019 and 2020 survey seasons
3	Yes	No	Yes	Yes (5)	No	Yes (A)	
4	Yes	No	Yes	Yes (4)	No	Yes (A)	
5	Yes	No	Yes	Yes (5)	No	No	HSI poor for Great Crested Newt
6	Yes	No	No	-	-	-	Within working quarry - heavily disturbed and unlikely to support Great Crested Newt
7	Yes	Yes	No	-	-	-	Agricultural reservoir, little to no vegetation and concrete or lined
8	Yes	No	No	-	-	-	No access, but appears from aerial photography to be an agricultural reservoir, little to no vegetation and concrete or lined
9	Yes	Yes	Yes	No	No	No	Part of the River Kennet. No access.

Waterbody or watercourse number (see Figure 2 for location)	*Within 500 m of the DCO Site?*	*Within the DCO Site?*	*Taken forward for further survey?*	*HSI Assessment carried out?* (HSI score: 1 = Excellent, 2 = good, 3= average, 4= below average, 5=poor)	*Field survey methods carried out?* (Great Crested Newt - P = present; A = absent)	*eDNA Analysis carried out?* (Great Crested Newt - P = present; A = absent)	*Reason for exclusion from any surveys*
10	Yes	Yes	Yes	Yes (4)	Yes (A)	No	No Great Crested Newt recorded during surveys using traditional methods, so no eDNA needed
11	Yes	No	No	-	-	-	Waterbody dry
11a	Yes	No	No	-	-	-	Waterbody dry
11b	Yes	No	No	-	-	-	Waterbody dry
11c	Yes	No	No	-	-	-	Waterbody dry
12	Yes	No	Yes	Yes (1)	No	Yes (A)	
13	Yes	No	No	-	-	-	Agricultural reservoir, little to no vegetation
14	Yes	No	Yes	Yes (1)	No	Yes (A)	
15	Yes	No	No	-	-	-	Barriers to dispersal between Scheme and this waterbody
16	Yes	No	Yes	No	No	No	Access not granted
17	Yes	No	Yes	No	No	No	Access not granted

Waterbody or watercourse number (see Figure 2 for location)	*Within 500 m of the DCO Site?*	*Within the DCO Site?*	*Taken forward for further survey?*	*HSI Assessment carried out?* (HSI score: 1 = Excellent, 2 = good, 3= average, 4= below average, 5=poor)	*Field survey methods carried out?* (Great Crested Newt - P = present; A = absent)	*eDNA Analysis carried out?* (Great Crested Newt - P = present; A = absent)	*Reason for exclusion from any surveys*
18	Yes	No	Yes	No	No	No	Access not granted
19	Yes	No	Yes	No	No	No	Access not granted
20	Yes	No	No	-	-	-	Agricultural reservoir, little to no vegetation. Lots of waterfowl present, including Herons and Cormorants
21	Yes	No	No	-	-	-	Agricultural reservoir, little to no vegetation. Lots of waterfowl present, including Herons and Cormorants
21a	Yes	No	Yes	Yes (4)	No	Yes (A)	
22	Yes	No	Yes	Yes (1)	No	Yes (A)	
22a	Yes	No	Yes	Yes (4)	-	-	HSI score below average. Close to Waterbody 22 with negative eDNA
23	Yes	No	No	-	-	-	Access not granted. However, barriers to dispersal between Scheme and this waterbody
23a	Yes	No	No	-	-	-	Access not granted. However, barriers to dispersal between Scheme and this waterbody

Waterbody or watercourse number (see Figure 2 for location)	*Within 500 m of the DCO Site?*	*Within the DCO Site?*	*Taken forward for further survey?*	*HSI Assessment carried out?* (HSI score: 1 = Excellent, 2 = good, 3= average, 4= below average, 5=poor)	*Field survey methods carried out?* (Great Crested Newt - P = present; A = absent)	*eDNA Analysis carried out?* (Great Crested Newt - P = present; A = absent)	*Reason for exclusion from any surveys*
24	Yes	No	Yes	Yes (5)	No	Yes (A)	
25	Yes	Yes	Yes	Yes (1)	No	Yes (A)	
25a	Yes	No	Yes	Yes (4)	-	-	Pond surrounded by intensively managed farmland, HSI 'below average' for Great Crested Newt. Close to Waterbodies 24 and 25, both with negative eDNA
25b	Yes	No	No	-	-	-	Waterbody dry
25c	Yes	No	No	-	-	-	Waterbody dry
26	Yes	No	No	-	-	-	Reservoir, little to no vegetation
27	Yes	Yes	Yes	Yes (5)	Yes (A)	No	Waterbody dried out during season, after survey 1. HSI 'Poor' so unlikely to support Great Crested Newt
27a	Yes	Yes	Yes	Yes (5)	Yes (A)	No	Watercourses dried out during season, after survey 1. HSI 'Poor' so unlikely to support Great Crested Newt

Habitat Suitability Index

2.5.2 Habitat Suitability Indices (HSI's) were estimated for 15 waterbodies and watercourses within the survey area. The results of the HSI are presented in **Sub-Appendix A**, **Table 8E-A1**.

2.5.3 In summary, of the 15 waterbodies surveyed using HSI methods:

- none was 'excellent' suitability to support breeding Great Crested Newt;
- five were 'good' suitability to support breeding Great Crested Newt;
- none were 'average' suitability to support breeding Great Crested Newt;
- five were 'below average' to support breeding Great Crested Newt; and
- five were 'poor' to support breeding Great Crested Newt.

Great Crested Newt Survey Using Field Methods

2.5.4 Surveys, using field methods, were undertaken on Waterbody 10 (Sunnica West Site A), with four survey visits undertaken in May 2020 to determine Great Crested Newt presence / absence. The survey dates and weather conditions during surveys, are presented in **Table 8E-2**.

2.5.5 A single survey, using field methods, was also undertaken on the waterbody and watercourses (27 and 27a) in the Sunnica West Site B. However, on the subsequent visits (from 9th May 2020), the Waterbody and watercourses were found to be dry and no further surveys could be undertaken. The date of the survey and weather conditions are also presented in **Table 8E-2**.

Table 8E-2 Survey dates and weather conditions for each survey visit

Waterbody number / reference	*Visit Number*	*Survey Dates*	*Approximate Air Temp (˚C) at time of Torching*	*Weather Conditions*
10	1	4th May – 5th May 2020	10	Dry, wind F1 SW, cloud 2/8,
	2	9th – 10th May 2020	13	Dry, wind F2-3 E, cloud 3/8
	3	15th – 16th May 2020	10	Dry, wind F2-3 E, cloud 2/8
	4	28th – 29th May	17	Dry, wind F1-2 E, cloud 1/8
27	1	4th May – 5th May 2020	10	Dry, wind F1 SW, cloud 2/8,
27a	1	4th May – 5th May 2020	10	Dry, wind F1 SW, cloud 2/8,

Notes on Table 8-3: Wind speed is shown using the Beaufort scale, which is an empirical measure of force 0-12 that relates wind speed to observed conditions. Cloud cover is shown in a scale of 0-8 where the number represents the amount of cloud cover *e.g.* 2/8 is 25% cover 4/8 is 50% etc.

2.5.6 No Great Crested Newt were recorded in any of the surveyed waterbodies and watercourses.

2.5.7 Smooth Newt *Lissotriton vulgaris* were found to be present in Waterbody 11, peaking at six animals on 4th-5th May 2020.

eDNA Analysis

2.5.8 Water samples were taken from nine waterbodies (see Table 8E-3), with the lead ecologists undertaking the sampling being registered to hold a Natural England Great Crested Newt survey Class 1 licence and having appropriate training for eDNA sampling surveys. All samples taken were subsequently analyses by the ADAS Laboratory in Helsby.

2.5.9 The results of the eDNA surveys for Great Crested Newt are presented in **Table 8E-3**.

Table 8E-3 eDNA survey results

Waterbody and Watercourse Reference	Sample Date	eDNA Detection Results
1	23rd June 2020	Positive
3	29th June 2020	Negative
4	23rd June 2020	Negative
12	23rd June 2020	Negative
14	23rd June 2020	Negative
21a	28th June 2019	Negative
22	23rd June 2020	Negative
24	23rd June 2020	Negative
25	23rd June 2020	Negative

2.5.10 The results of the Great Crested Newt eDNA survey identified positive eDNA samples for Great Crested Newt in Waterbody 1, which is approximately 250m from the Sunnica East Site B.

2.5.11 The HSI score of 0.76 for Waterbody 1 indicates excellent suitability for the species. Apart from one other score of 0.76 (Waterbody 12), this was the highest HSI score across all waterbodies and watercourses.

6. Conclusions and Recommendations

1.6.1 No Great Crested Newt were recorded within any of the waterbodies or watercourses surveyed within the Scheme boundary during the Great Crested Newt surveys.

1.6.2 However, positive Great Crested Newt eDNA samples were recorded from Waterbody 1 (see **Figure 8E-2**), also scoring an Excellent for the HSI index, which is approximately 250 m from the Scheme boundary.

Potential Impacts to Great Crested Newt Population

1.6.3 The Scheme will not impact on Waterbody 1 used by Great Crested Newt, as this waterbody is situated approximately 250 m north of the Scheme boundary. Furthermore, the developable areas of the Scheme (within the Scheme boundary) are at a greater distance than 250 m from this waterbody.

1.6.4 Connectivity between the Site and Waterbody 1 is limited, with the surrounding 'moat' being dry at the time of survey (which would inhibit Great Crested Newt dispersal) and there were no other connecting watercourses or waterbodies between the Site and waterbody 1. Furthermore, there are no other waterbodies and watercourses close to Waterbody 1. Therefore, the meta-population of Great Crested Newt in Waterbody 1 is isolated with limited dispersal routes.

1.6.5 Therefore, as there are limited dispersal routes and no hydrological connections between the Waterbody 1 and the Site, it is highly unlikely that Great Crested Newt was present within the Scheme boundary and this is further substantiated by the results of the surveys using field methods. However, a precautionary method of working will be adopted during construction of the Scheme within 500 m of Waterbody 1.

6.2 Precautionary Method of Working

2.6.1 Where the risk of affecting Great Crested Newt during construction is low *i.e.* in on-site habitats considered of low value for Great Crested Newt, or where other amphibians may be affected, other approaches to mitigation can be considered using precautionary methods of working.

2.6.2 Such methods can be used during minor vegetation clearance and involves clearance of vegetation to encourage any amphibians to move away from any affected areas into adjacent areas using habitat manipulation. To mitigate against harm to any amphibians present, the following precautionary methods of working are deemed appropriate for the works within the areas of low suitability for Great Crested Newt or other amphibian habitat.

2.6.3 Habitat manipulation should be overseen by a suitably qualified ecologist (SQE) acting as an Ecological Clerk of Works (ECoW) and will comprise the following general principles:

- the on-site vegetation is cut short during winter (when amphibians are hibernating) if possible. If not possible (*i.e.* works during active season), the vegetation will be cut in a phased approach, firstly cutting to 30cm, then, following a period of no less than 24 hours, can be cut to 15cm and then to ground level, after another 24 hours;
- the vegetation should then be kept short to displace any present amphibians, which may be present, away from the works when they emerge in the early spring, and discourage amphibians from moving into the site from the surrounding habitat; and
- vegetation (including topsoil) should be carefully removed using an excavator using a toothed bucket. These works should be supervised by an SQE if this is deemed appropriate to do so.

2.6.4 Any habitat features which may conceal sheltering amphibians (log piles, rubble mound bunds, any other debris etc.) will be dismantled by hand under supervision of the SQE.

2.6.5 Dismantling of any on-site rubble piles should be conducted during the amphibian active season (*i.e*. April to October) during warm weather conditions (*i.e.* above 5 °C) to avoid killing or injuring potential hibernating amphibians.

2.6.6 In the unlikely event that any Great Crested Newt are discovered during these works, then such works must cease immediately and a SQE must be consulted to determine how to proceed. If other amphibians are discovered during vegetation clearance it is proposed that these are translocated to suitable habitat nearby in suitable weather conditions.

6.3 Habitat Enhancement Measures

Habitat Management

3.6.1 Future management for the waterbodies and watercourses located within the Scheme boundary could involve clearing any shading vegetation, planting appropriate vegetation, and removal of vegetation from ponds to make them more suitable for Great Crested Newt breeding. Management of ponds should be formalised into a habitat management and maintenance plan.

3.6.2 Any removal of shading vegetation should be undertaken outside the amphibian active season to avoid disturbance or killing of any amphibians. Ideally this should be undertaken using hand tools where feasible to minimise the risk of harming animals.

3.6.3 Planting appropriate vegetation can help enhance the biodiversity of the waterbodies and watercourses and can be planted in a way to make management easier. Where a substantial amount of overshadowing vegetation has been removed, it may be beneficial to initiate a planting regime to supply immediate cover for fauna. Where this is undertaken, species planted should be thoroughly checked for unwanted fauna prior to exposure to the site and should comprise native species appropriate to the site and its existing fauna. Consideration should be given to plant species

which provide good egg laying sites, for example, water Forget–me-not (*Myosotis scorpioides*) and Floating sweet-grass (*Glyceria fluitans*).

3.6.4 The removal of vegetation from ponds should take place at the time of minimum newt activity, avoiding the newt breeding season (when newts have laid eggs on vegetation). October to January is the most suitable time to carry out such works, after animals have bred and have dispersed within or out of the pond or are dormant.

Habitat creation

3.6.5 Providing wood and rock piles for shelter and over wintering is important for amphibians and acts as hibernacula for hibernating Great Crested Newt. Following the vegetation clearance, there is an opportunity to re-use materials such as cut timber and branches. Fallen dead wood on site could be supplemented with cut logs. These can be placed directly on the ground or in shallow excavations with spoil and turf in between and on top of logs. Where possible, log piles should be positioned in shady places where the sunlight cannot dry them out too much.

3.6.6 Stone, rock, brick rubble (without cement residue) can also be used to provide additional shelter and refuges to newts. Positioning of the rubble piles can be anywhere within 200 m of the waterbodies and watercourses, but the closer they are to the waterbodies and watercourses the better. Allowing grass and moss to grow on the wood or rubble piles by adding soil on top and inside heaps may increase the humidity and stability of the environment.

3.6.7 These hibernacula would not only provide shelter for amphibians but for other species such as reptile populations which may populate the site in the future.

Other habitat enhancement opportunities

3.6.8 Input into the landscape design for flood attenuation and drainage swales represent an opportunity for further Biodiversity gain. Such enhancements could include:

- establishing wildlife 'sanctuary areas' with limited public access, where drainage areas are large enough; and
- locating and designing landscape features to discourage the introduction of unsuitable species *i.e*. fish and non-native plants.

3.6.9 Contribution to the landscape design could include:

- creating new ponds with gentle sloping sides and vegetation cover to develop around the pond edge. Care would be taken in sourcing native plants, avoiding stocking with fish and minimising shade;
- allowing grass to grow into meadows in places. Closely mown lawns represent poor habitat for amphibians and their invertebrate prey. Cuttings would be left on site as compost heaps; and
- *linking up hedgerows / scrub and creation of wildlife corridors between ponds with known newt populations through appropriate planting.*

7. References

Ref 8E-1 AECOM. 2020. Sunnica Energy Farm Preliminary Ecological Appraisal.

Ref 8E-2 English Nature. 2001. Great Crested Newt Mitigation Guidelines. English Nature, Peterborough

Ref 8E-3 HMSO. 2018. Conservation of Habitats and Species Regulations 2017 (as amended). HMSO, London.

Ref 8E-4 HMSO. 1981. The Wildlife & Countryside Act 1981. HMSO, London.

Ref 8E-5 HMSO. 2000. Countryside and Rights of Way Act 2000. HMSO, London.

Ref 8E-6 European Commission. (1992). Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. EC, Brussels.

Ref 8E-7 HMSO. 2006. The Natural Environment and Rural Communities Act. HMSO, London.

Ref 8E-8 JNCC, UK Post-2010 Biodiversity Framework. 2012. available at http://jncc.defra.gov.uk/page-6189 (Accessed July 2020)

Ref 8E-9 Cambridgeshire and Peterborough Biodiversity Group. 2008. Priority Species and Habitats. Available from: http://www.cpbiodiversity.org.uk/biodiversity-action-plans/priority-species (Accessed July 2020).

Ref 8E-10 Suffolk biodiversity Information service (SBIS). 2015. Priority species and habitats. Available from: http://www.suffolkbis.org.uk/biodiversity/speciesandhabitats#:~:text=The%20Suffolk%20Planning%20Biodiversity%20Action%20Plan%20%282012%29%20is,departments%20to%20meet%20their%20legal%20obligations%20towards%20biodiversity (Accessed July 2020).

Ref 8E-11 Oldham, R.S., Keeble, J., Swan, M.J.S., and Jeffcote, M. 2000. Evaluating the Suitability of Habitat for the Great Crested Newt (*Triturus cristatus*).Herpetological Journal, 10, 143-155.

Ref 8E-12 Biggs, J., Ewald N., Valentini, A., Gaboriaud C., Griffiths, R.A., Foster, J., Wilkinson, J., Arnett, A., Williams, P. and Dunn, F. 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.

Ref 8E-13 https://www.gov.uk/guidance/great-crested-newts-surveys-and-mitigation-for-development-projects (Accessed July 2020)

Sub-Appendix A HSI Scores

Table 8E-A1. Habitat Suitability Index Scores for waterbodies and watercourses assessed

Waterbody and Watercourse Reference	*HSI Score*
1	0.76
3	0.33
4	0.50
5	0.47
10	0.59
12	0.76
14	0.70
21a	0.51
22	0.70
22a	0.59
24	0.39
25	0.70
25a	0.59
27	0.35
27a	0.41

HSI Score colour coding – Dark green: Excellent likelihood of Great Crested Newt present; Light green – Good likelihood of Great Crested Newt present; Yellow – Average likelihood of Great Crested Newt present; Orange – Below average likelihood of Great Crested Newt present; and Red – Poor likelihood of Great Crested Newt present.

Sub-Appendix B Figures

Figure 8E-1 DCO Site Boundary

560000 565000 570000

275000

270000

265000

Sunnica East Site A

Sunnica East Site B

Sunnica West Site B

Sunnica West Site A

0 1,000 2,000 3,000 4,000 5,000m

N

THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

LEGEND

- Scheme Boundary
- Not Included in the DCO Site
- Public Highway within Scheme

NOTE:
Public highways run through the Sunnica East Site, which are not part of the site boundary. These have been digitised based on the 1:1250 scale OS Mastermap.

Purpose of Issue
PEIR

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
FIGURE 8E-1
SCHEME BOUNDARY

Drawn	Checked	Approved	Date
AD	DW	NC	02/09/2020

AECOM Internal Project No.	Scale @ A3
60589004	1:50,000

AECOM
Unit 1 Wellbrook Court,
Girton,
Cambridge, CB3 0NA
United Kingdom
Telephone (01223) 488000
www.aecom.com

File Name:C:\Users\Anna.Diliello\AECOM Directory\Sunnica Energy Farm - GIS - General\Layout\PEIR\Chapter_2_Site_Description_Surrounds\200902_SunnicaEnergyFarm_Figure2-1_SchemeBoundary.mxd

Figure 8E-2 Great Crested Newt Survey Areas

560000

570000

270000

THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

LEGEND

- DCO Boundary
- 500m scheme buffer
- Waterbodies surveyed for great crested newts

Sunnica East Area A

Sunnica East Area B

Sunnica West Area A

Sunnica West Area B

Cable Route A

Cable Route B

SubStation

Purpose of Issue

FOR INFORMATION

Client

SUNNICA LTD

Project Title

sunnica energy farm

Drawing Title

GREAT CRESTED NEWT SURVEY AREAS

Drawn	Checked	Approved	Date
AD	NG	CLB	20/08/2020

AECOM Internal Project No.: 60589004

Scale @ A3: 1:40,000

AECOM
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www.aecom.com

0 2 4km

N

File Name:W:\Active Projects\Solar Associates\GIS\02_Maps\SEF_GCN.mxd