

Appendix 10E: Great Crested Newt Survey Report

Eggborough CCGT

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Eggborough Power Limited

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Quality information

Prepared by

Jo Atkinson MCIEEM
Principal Ecologist

Steven Ward MCIEEM
Senior Ecologist

Checked by

David Broughton CEnv MCIEEM
Principal Ecologist

Approved by

Stephanie Peay CEcol MCIEEM
Associate Ecologist

Prepared for:

Eggborough Power Limited

Prepared by:

Jo Atkinson MCIEEM
Principal Ecologist

Steven Ward MCIEEM
Senior Ecologist

AECOM
2 City Walk
Leeds
LS11 9AR

T: +44 (113) 391 6800
aecom.com

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1. Introduction

1.1 Purpose of Survey

This report describes the approach and findings of great crested newt (*Triturus cristatus*) surveys undertaken in support of the Ecological Impact Assessment (EclA) of the Proposed Development. The terms of reference used in this report are consistent with those defined within the main chapters of the Environmental Statement (ES).

AECOM was commissioned to undertake surveys of relevant ponds for great crested newt in June 2016. This precluded the undertaking of great crested newt presence/absence field surveys using traditional techniques (as defined in English Nature, 2001), as a proportion of these need to be completed in the peak newt breeding period between mid-April and mid-May. Instead a survey was undertaken using the environmental DNA (eDNA) approach (Briggs *et al.*, 2014). This is an approved valid method for great crested newt presence/absence survey.

Surveys using the eDNA method have a benefit over traditional surveys in that they can be validly completed within a single visit to each relevant water body between mid-May and the end of June. Therefore, they can be programmed and completed later in the newt survey season when surveys using traditional methods are not possible. However, it has the limitation that it cannot be extended to make an estimate of the population size class of any great crested newt populations identified as present using the eDNA method. In addition, the method cannot currently be used to record the presence or absence of other species of amphibian present in the surveyed water bodies.

1.2 Scope of Works

The Study Area for great crested newts incorporated all land within the Site and within 250 m of the Site boundary; this is the typical terrestrial range of great crested newts from their breeding ponds (English Nature, 2001), and is widely accepted as an appropriate search area for the species representing the potential zone of influence of a particular development. Natural England (2016) guidance states that requirements for great crested newt survey should be proportionate and risk based, and that surveys of ponds of greater than 250 m distance (up to a maximum survey radius of 500 m) are only likely to be required where a specific combination of circumstances are met. Following review of this guidance, it was concluded that the Proposed Development was of a type whereby surveys of more distant ponds were not necessary or proportionate.

The scope of works for the great crested newt survey was as follows:

- identify all ponds within the Site and within 250 m of the Site boundary (collectively referred to as the 'Study Area') through a combination of review of aerial photographs and 1:25,000 Ordnance Survey maps, and field survey;
- complete Habitat Suitability Index (HSI) assessment of all potentially suitable ponds within the Study Area to indicate their likely suitability for great crested newts; and
- undertake eDNA survey of all ponds with potential to support great crested newts in the Study Area to determine likely presence or absence.

The Study Area at the time of survey was based on a wider corridor for the Proposed Gas Connection and Above Ground Installation (AGI) than that which is proposed at the time of writing this report, following refinement of the corridor width from 500 m to c. 36 m. As a consequence, some of the ponds surveyed are now located beyond the zone of influence (250 m) of the Proposed Development, as illustrated on Figure 10E.1. However, for clarity, the results of the surveys of these ponds are still included within this report.

The methods and results of the great crested newt survey are reported in this Appendix, along with an evaluation of the results to inform the EclA. Because of the limitations associated with the eDNA method it was not possible to collect data on other species of amphibian during the survey, so the remit of this report is restricted to great crested newt and other species of amphibian are not considered further.

1.3 Relevant Legislation

The great crested newt is listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended). This legislation, when taken together, results in a level of protection that prohibits the intentional, deliberate or reckless:

- killing, injuring, taking or disturbance of great crested newts;
- damaging, destroying or obstructing any place used by great crested newts for the purposes of breeding, sheltering or protection; and
- selling and/or advertising for sale a great crested newt or any part thereof.

The great crested newt is listed as a species of principal importance for nature conservation in England in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the same Act requires that local and regional authorities have regard to the conservation of biodiversity in England, when carrying out their normal functions.

2. Survey Methods

2.1 Desk Study

A desk study was undertaken as part of the scope of works for the Phase 1 Habitat survey and is reported in detail in Appendix 10C (Preliminary Ecological Appraisal (PEA) Report in ES Volume III).

Protected species records were obtained from the local ecological records centre (North and East Yorkshire Ecological Data Centre (NEYEDC)) for a search radius of 1 km out from the Site boundary.

In addition, the Multi-Agency Geographical Information for the Countryside (MAGIC) database was consulted on 8th November 2016 to establish whether there were data available on European Protected Species Mitigation (EPSM) licences issued by Natural England for great crested newt mitigation projects within the Study Area (as defined in Section 1.2). These data were used to supplement the data obtained from NEYEDC, to provide a combined picture of the known distribution of great crested newt in the Study Area.

2.2 Habitat Suitability Index (HSI) Assessment

A total of twelve potentially suitable water bodies (all ponds) were identified within the Study Area (Figure 10E.1, Annex B), and were assessed for their potential to support great crested newt using the Habitat Suitability Index (HSI) in accordance with standard methodology (Oldham *et al.*, 2000). The assessments were undertaken during June 2016.

The HSI assessment considers the following ten habitat attributes that are considered to influence the suitability of a pond for breeding great crested newts:

- location – within a UK-wide context reflecting the differences in national distribution of this species;
- area – water bodies between 100 and 300 m² in size are considered to represent the most suitable habitat for great crested newt;
- drying – the number of years in which a pond dries over a ten year period. Occasional drying kills fish which is beneficial for great crested newt, but the species predominantly favours ponds that do not dry out every year.
- water quality – qualitative evidence-based assessment to infer good (diverse aquatic invertebrate assemblage), moderate (moderate invertebrate diversity), poor (low invertebrate diversity, few submerged plants) or bad (clearly polluted) water quality.
- shade – percentage of pond perimeter shaded to at least 1 m from the shore. Great crested newt favours lightly shaded water bodies;
- waterfowl – qualitative evidence-based assessment of presence or absence and numbers is made. Large numbers of waterfowl can result in nutrient enrichment of the water and habitat damage, which is less favourable for great crested newt;
- fish – qualitative evidence-based assessment of likely presence or absence is made. Great crested newt favour breeding ponds that do not support fish because their open-water swimming larvae are vulnerable to fish predation;
- number of waterbodies within 1 km – great crested newt populations are typically best developed where they have access to a network of ponds, and therefore the species is more likely to be found where there are several ponds within 1 km that are linked by suitable terrestrial habitat; and
- macrophyte cover – percentage of pond surface area occupied by macrophyte cover. Female great crested newts require aquatic vegetation for egg-laying.

2.3 eDNA Survey

Water samples were collected by AECOM from all suitable ponds within the Study Area on 28th June and 5th July 2016 and sent to FERA for analysis for eDNA in accordance with approved field and

laboratory protocols (Briggs *et al.*, 2014). Water bodies were not entered by surveyors during sample collection, and new sterile equipment supplied by FERA was used to collect each water sample, to prevent contamination between samples.

The presence or absence of great crested newt from each of the surveyed water bodies was determined based on the results of the eDNA analysis. If eDNA is detected this provides confirmation of presence and the relevant water bodies are likely to represent a development constraint that requires further consideration. If eDNA is not detected then this provides high confidence that there is no reasonable likelihood of great crested newt being present in the relevant water bodies, and they require no further assessment with regard to this species.

2.4 Limitations

The eDNA sampling technique does not enable an estimate of population size class; rather it provides confirmation of presence or likely absence of great crested newts in the waterbody concerned. In some circumstances, further survey is needed to allow estimation of the population size class, particularly where a EPSML may subsequently need to be obtained. However, in the context of the Proposed Development and consideration of the geographic location and relative distance of the only pond testing positive for great crested newt, population size class data is not relevant and no further survey work is necessary. Therefore reliance entirely on the result of eDNA survey is not a limitation to the current assessment presented in this report. The available data is sufficient to determine the potential consequences of the Proposed Development for great crested newt and to allow a planning decision to be reached.

Based on Natural England's standing advice on great crested newts, the window for collecting eDNA samples is 15th April to 30th June. The samples for Water bodies 11 and 12 were collected on 5th July 2016, five days after the 30th June cut-off date and therefore the survey of these two ponds was not strictly compliant with the approved method. However, this is not considered a relevant limitation for the following reasons:

- great crested newt activity does not follow human calendars and survey 5 days after the recommended end date for survey does not mean that this species will no longer be present or that all trace of its eDNA will be gone. Clearly if it is appropriate to survey on the 30th June, then there remains a high likelihood of eDNA still be present 5 days later particularly as eDNA is likely to persist for up to 14 days (Briggs *et al.*, 2014). Where great crested newt has successfully bred and there are larvae present, there will be ongoing sources of new eDNA throughout the summer until the larvae metamorphose and leave the pond (August or later);
- confirming the above rationale, a positive result was returned for Water body 11, and therefore it is reasonable to assume that use of this technique was still effective at detecting great crested newt after the advised cut-off point of 30th June; and
- Water body 12 is immediately adjacent to Water body 11, and therefore it is reasonable that the presence of great crested newt in Water body 12 would have been detected through eDNA sampling should the species have been present, given that the presence of great crested newt was confirmed from the adjacent pond.

3. Results

3.1 Desk Study

No records of great crested newt were returned by NEYEDC for the Study Area. The nearest record of great crested newt provided was a record from Gowdall (Butt Fields) at SE 618 230 and located approximately 3 km east of the Site.

The nearest record for a great crested newt EPSM licence on the MAGIC database is Knottingley, which is approximately 6 km west of the Site.

3.2 Habitat Suitability Index (HSI) Assessment

A total of 12 potential ponds were identified in the Study Area, three of which were subsequently found not to hold water and therefore do not constitute functional ponds suitable for breeding great crested newt. All extant ponds capable of holding water through spring and summer were subject to HSI assessment. The results of the assessment are summarised in Table 3.1 below. Detailed pond descriptions and the HSI analyses are provided in Annex A, and the location of the ponds is shown on Figure 10E.1 in Annex B.

Table 3.1: Summary of Pond HSI Assessment

Water body (Pond) Reference	Pond Type	Distance and Direction from the Site	HSI Score	Scoped in to eDNA Survey	Rationale for Scoping Out of eDNA survey
1	Man-made butyl lined reservoir (lagoon)	Within the Site	Poor	✓	-
2	Medium sized pond	50 m west	Good	✓	-
3	Concrete lined surface water attenuation tank	100 m north	Poor	×	Tank receives surface water run-off / effluent from operational areas of the existing power station, is regularly drained and does not support any aquatic plants.
4	Concrete cooling water tanks and channels	50 m east	Poor	×	Cooling water tanks and channels are regularly drained and do not support any aquatic vegetation.
5	Man-made ornamental pond	10 m east	Poor	×	A very small pond stocked with goldfish, which precludes presence of GCN.
6	Ornamental golf course pond	70 m south	Good	✓	-
7	Attenuation pond	130 m west	Poor	×	Pond is separated from Site by busy A19 road, which represents significant barrier to great crested newt dispersal.
8	Shallow depression in floodplain of River Aire	10 m east	N/A	×	Dry at the time of the survey and presumably only holds water after periods when the river has been in flood or after heavy prolonged precipitation, and supports no aquatic vegetation.
9	Shallow depression in floodplain of River Aire	430 m east	N/A	×	Dry at the time of the survey and presumably only holds water after periods when the river has been in flood or after heavy prolonged precipitation, and

Water body (Pond) Reference	Pond Type	Distance and Direction from the Site	HSI Score	Scoped in to eDNA Survey	Rationale for Scoping Out of eDNA survey
					supports no aquatic vegetation.
10	Dry former field pond and ditch	400 m east	N/A	×	Pond is defunct, having succeeded entirely to woodland.
11	Circular attenuation pond adjacent to Selby Canal	300 m ¹ north-west	Average	✓	-
12	Circular attenuation pond adjacent to Selby Canal	350 m north-west	Average	✓	-

3.3 eDNA Survey

Of the 12 ponds identified in the Study Area, five were sampled for eDNA as justified in Table 3.1. Of the ponds sampled, only one (Water body 11) returned a positive result for great crested newt eDNA. The full eDNA results from the laboratory are provided in Annex C² and are summarised in Table 3.2 below.

Table 3.2: Summary of Pond eDNA Survey

Water body (Pond) Reference	Pond Type	Distance from the Site	Date Sample Collected	eDNA Positive for GCN?	FERA reference
1	Man-made butyl lined reservoir	Within existing coal-fired power station	28.06.16	×	S16-013562 S16-013564
2	Medium sized pond	50 m west	28.06.16	×	S16-013563
6	Ornamental golf course pond	70 m south	28.06.16	×	S16-013565
11	Circular attenuation pond adjacent to Selby Canal	300 m north-west	05.07.16	✓	S16-012870
12	Circular attenuation pond adjacent to Selby Canal	350 m ³ north-west	05.07.16	×	S16-012869

¹ At the time of the survey, this pond was within 250 m of the Site boundary; the Site boundary was subsequently refined, partly to avoid the terrestrial habitat in the highest risk zone within 250 m of a GCN breeding pond.

² Results returned from FERA for samples S16-013567 and S16-013566 in Annex C relate to ponds that were subsequently scoped out of the assessment due to boundary changes after the eDNA samples had been taken i.e. those ponds are now >250m from the Site boundary and are therefore no longer relevant.

³ At the time of the survey, this pond was within 250 m of the Site boundary; the Site boundary was subsequently refined as described for Pond 11.

4. Discussion

4.1 Presence of Great Crested Newts

Water body 11 located to the north-west of the Proposed Gas Connection and AGI Site supports great crested newt. None of the other ponds surveyed tested positive for great crested newt eDNA, so there is no reasonable likelihood of this species being present in association with these ponds.

4.2 Terrestrial Habitat Connectivity to the Site

At the time of survey Water body 11 was located approximately 250 m north-west of the Proposed Gas Connection and AGI Site (formerly known as the Gas Connection Search Area). Following refinement of the corridor for the Proposed Gas Connection and AGI Site, and in response to the results of this survey, this distance has been expanded to approximately 300 m from the Proposed AGI Site location.

The habitat between Water body 11 and the Proposed AGI Site is under intensive management as arable farmland and therefore represents poor quality foraging habitat for great crested newt. Arable farmland is also unsuitable as great crested newt hibernation habitat due to the associated land management regimes. Given this, it is considered highly unlikely that great crested newts would make use of habitats within the Site, as the need to cross 300 m of sub-optimal arable habitat is likely to deter attempts at movement in this direction. There are no other ponds within the area 500 m to the east of Water body 11 that would encourage great crested newt to migrate towards the Site. Instead, the great crested newts associated with Water body 11 would be more likely to utilise the grassland and woodland habitat along the canal banks for foraging, refuge and hibernation.

4.3 Relative Nature Conservation Value of the Great Crested Newt Population

For the EclA it is necessary to evaluate the importance of each ecological feature that has the potential to be affected by the Proposed Development. The method for this is detailed in Appendix 10B of the ES (Volume III).

The Selby Biodiversity Action Plan (BAP) states that in terms of regional distribution, great crested newts are "... *widespread ... with some areas supporting significant populations*". In terms of local status the Selby BAP states that "*Some records exist for the District, however, there have not been any systematic surveys so the current status is unclear. Possibly widespread in the District*" (Megson, 2004). The great crested newt distribution map presented in the Selby BAP indicates records at North Duffield, which is approximately 12 km north-east of the Study Area, and along the A64 corridor north of Tadcaster, which is in the far north of Selby District. Given that the Selby BAP is over ten years old it is likely that the distribution map is now somewhat out-of-date, but it does provide useful context against which to evaluate the importance of the identified great crested newt population.

North Yorkshire SINC Panel (2008) provides criteria that can be used to identify sites of county value for great crested newt. This sets a threshold whereby any pond supporting a good population (nocturnal counts of 11 to 100 adults) of great crested newt can be considered for selection as a SINC, on the basis that the species is vulnerable at a European level. The use of eDNA survey methods in isolation to determine presence or likely absence does not allow an estimation of population size class to be made, therefore the precautionary principle needs to be applied when making an assessment of value.

Based on the 'Average' suitability of Water body 11 for great crested newt as assessed using HSI (see Annex A), and its relative isolation in an intensively managed arable landscape where no other great crested newt ponds are known to occur, the great crested newt population in Water body 11 is assessed as being of district value for the purposes of EclA.

It should be noted that the assignment of a specific value to the great crested newt population associated with Water body 11 does not imply that an impact from the Proposed Development is likely. This is beyond the scope of this technical appendix and is considered further in Chapter 10: Ecology and Nature Conservation of the ES (Volume I). However, as noted above in Section 4.2 the design of the Proposed Development has taken account of the presence of great crested newt in

association with Water body 11, and this will have a bearing on and almost certainly reduce the potential for impact and the likely significance of the effect on great crested newt.

5. References

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Annex A: Pond Descriptions and HSI Assessments

Water body 1

Location: SE 581 242

Distance from Site: 0 m (within Site boundary)

This is a large reservoir with an artificial butyl liner located in the east of the existing power station. It is approximately 150 m x 80 m, up to 1 m deep and stocked with coarse fish. The open water has dense submerged beds of water milfoil (*Myriophyllum* sp.), as well as a single patch of white water-lily (*Nymphaea alba*) at the south-east corner. Occasional stands of common reed (*Phragmites australis*) and yellow iris (*Iris pseudacorus*) occur around the margins. The reservoir is surrounded on all sides by earth banks with semi-mature coniferous screening woodland. The pond has been previously used for recreational angling, as is evident from several disused fishing platforms to the margins of the pond.



Suitability Index	Habitat Attribute	Field Score	SI Score
SI1	Location	Optimal	1
SI2	Pond Area	150 x 80 = 12000m ²	n/a
SI3	Pond Drying	Never	0.9
SI4	Water Quality	Moderate	0.67
SI5	Shade	0%	1
SI6	Fowl	Minor	0.67
SI7	Fish	Major	0.01
SI8	Ponds per km ²	0.64	0.55
SI9	Terrestrial Habitat	Poor	0.33
SI10	Macrophyte cover	10%	0.3
HSI SCORE			0.43 = Poor Suitability

Water body 2

Location: SE 580 245

Distance from Site: 50 m west

This is a medium sized pond, approximately 50 x 10 m in size, within a landscaped area to the east of the cooling towers within the existing coal-fired power station. A marginal fringe of bulrush (*Typha latifolia*) extends around most of the pond margins. The pond is surrounded by dense gorse (*Ulex europaeus*) and bramble (*Rubus fruticosus* agg.) scrub but is open and unshaded. The landscaped banks surrounding the pond are vegetated with plantation coniferous woodland. Fish are known to have been stocked in the past, and it is assumed that they are still likely to be present.



Suitability Index	Habitat Attribute	Field Score	SI Score
SI1	Location	Optimal	1
SI2	Pond Area	50 x 10 m = 500m ²	1
SI3	Pond Drying	Never	0.9
SI4	Water Quality	Moderate	0.67
SI5	Shade	0%	1
SI6	Fowl	Minor	0.67
SI7	Fish	Minor	0.33
SI8	Ponds per km ²	0.64	0.55
SI9	Terrestrial Habitat	Moderate	0.67
SI10	Macrophyte cover	30%	0.6
HSI SCORE			0.70 = Good Suitability

Water body 3

Location: SE 578 244

Distance from Site: 100 m north

This is a large concrete tank that receives surface water run-off / effluent from operational areas of the existing power station. The tank is regularly drained and does not support any aquatic plants.

Tank when full of water:



Tank when drained of water:



Suitability Index	Habitat Attribute	Field Score	SI Score
SI1	Location	Optimal	1
SI2	Pond Area	10 x 20 m = 2000m ²	0.8
SI3	Pond Drying	Annually	0.1
SI4	Water Quality	Bad	0.01
SI5	Shade	0%	1
SI6	Fowl	Absent	1
SI7	Fish	Absent	1
SI8	Ponds per km ²	0.64	0.55
SI9	Terrestrial Habitat	Poor	0.33
SI10	Macrophyte cover	0%	0.3
HSI SCORE			0.37 = Poor Suitability

Water body 4

Location: SE 577 245

Distance from Site: 50 m east

This comprises the tanks and channels associated with the cooling water system of the power station. The tanks and channels are concrete, do not support any aquatic vegetation and are regularly drained.

Main tank:



Example channel:



Suitability Index	Habitat Attribute	Field Score	SI Score
SI1	Location	Optimal	1
SI2	Pond Area	n/a	n/a
SI3	Pond Drying	Annually	0.1
SI4	Water Quality	Bad	0.01
SI5	Shade	0%	1
SI6	Fowl	Absent	1
SI7	Fish	Absent	1
SI8	Ponds per km ²	0.64	0.55
SI9	Terrestrial Habitat	Poor	0.33
SI10	Macrophyte cover	0%	0.3
HSI SCORE			0.37 = Poor Suitability

Water body 5

Location: SE 575 242

Distance from Site: 10 m east

This is a man-made ornamental pond adjacent to office buildings within the existing power station. The pond has scattered ornamental marginal planting, waterfall and fountain features and is stocked with goldfish.



Suitability Index	Habitat Attribute	Field Score	SI Score
SI1	Location	Optimal	1
SI2	Pond Area	10 x 5 m = 50m ²	0.1
SI3	Pond Drying	Never	0.9
SI4	Water Quality	Poor	0.33
SI5	Shade	70%	0.8
SI6	Fowl	Absent	1
SI7	Fish	Major	0.01
SI8	Ponds per km ²	0.64	0.55
SI9	Terrestrial Habitat	None	0.01
SI10	Macrophyte cover	None	0.3
HSI SCORE			0.23 = Poor Suitability

Water body 6

Location: SE 576 246

Distance from Site: 70 m south

This is a small ornamental butyl-lined pond within the golf course adjacent to the existing coal-fired power station. The pond supports abundant aquatic and marginal plants include bogbean (*Menyanthes trifoliata*), an ornamental water-lily species, yellow iris and bulrush. The pond is surrounded by ornamental shrub and tree planting.



Suitability Index	Habitat Attribute	Field Score	SI Score
SI1	Location	Optimal	1
SI2	Pond Area	200m ²	0.4
SI3	Pond Drying	Never	0.9
SI4	Water Quality	Moderate	0.67
SI5	Shade	10%	1
SI6	Fowl	Minor	0.67
SI7	Fish	Possible	0.67
SI8	Ponds per km ²	0.64	0.55
SI9	Terrestrial Habitat	Moderate	0.67
SI10	Macrophyte cover	60%	0.9
HSI SCORE			0.72 = Good Suitability

Water body 7

Location: SE 568 242

Distance from Site: 130 m west (on west side of A19)

This is a concrete triangular shaped attenuation pond on the edge of an industrial estate. The pond is completely overgrown with dense stands of bulrush growing on the accumulated silts within the pond, and very little open water was present at the time of survey. The pond is separated from the Site boundary by the busy A19 road, which represents a major barrier to amphibian dispersal.



Suitability Index	Habitat Attribute	Field Score	SI Score
SI1	Location	Optimal	1
SI2	Pond Area	200m ²	0.4
SI3	Pond Drying	Annually	0.1
SI4	Water Quality	Poor	0.33
SI5	Shade	0%	1
SI6	Fowl	Minor	0.67
SI7	Fish	Absent	1
SI8	Ponds per km ²	0.32	0.35
SI9	Terrestrial Habitat	Poor	0.33
SI10	Macrophyte cover	100%	0.8
HSI SCORE			0.49 = Poor Suitability

Water body 8

Location: SE 585 254

Distance from Site: 10 m east

This is a shallow depression in the flood plain of the River Aire on the north side of the River, which only holds water after prolonged heavy precipitation or after the River has been in flood. The floor of the depression is colonised by species-poor grassland and has no aquatic or marshy vegetation to suggest that it regularly holds water.



Water body 9

Location: SE 589 254

Distance from Site: 430 m east

Description as per Water body 8.



Water body 10

Location: SE 591 259

Distance from Site: 400 m east

This is a former pond along a drainage ditch at the edge of a field, both of which were dry at the time of the survey. The pond has reverted to woodland through natural succession, having become colonised and overgrown by willow (*Salix* sp.) trees. There were no aquatic or marshy plants to suggest that it regularly, if ever, holds water and it is therefore no longer considered to be a functional pond.



Water body 11

Location: SE 576 281

Distance from Site: 300 m north-west (on east side of Selby Canal)

One of two connected drainage 'knuckles' on either side of the Selby Canal, comprising circular stone built attenuation ponds linked by a pipe beneath the canal. The 'knuckles' were constructed with the canal in the late 18th century to store drainage water from surrounding farmland and allow its movement across the canal barrier.

The pond banks are vertical walls, and the pond appeared to be relatively deep (>1 m). The pond was partially shaded to the margins by overhanging hawthorn (*Crataegus monogyna*) and ash (*Fraxinus excelsior*), and supported abundant aquatic and marginal vegetation with substantial emergent stands of bulrush. The water's surface was almost completely covered by duckweed (*Lemna* sp.) at the time of the survey.



Suitability Index	Habitat Attribute	Field Score	SI Score
SI1	Location	Optimal	1
SI2	Pond Area	150m ²	0.3
SI3	Pond Drying	Never	0.9
SI4	Water Quality	Moderate	0.67
SI5	Shade	30%	1
SI6	Fowl	Minor	0.67
SI7	Fish	Possible	0.67
SI8	Ponds per km ²	0.32	0.35
SI9	Terrestrial Habitat	Poor	0.33
SI10	Macrophyte cover	60%	0.9
HSI SCORE			0.62 = Average Suitability

Water body 12

Location: SE 575 281

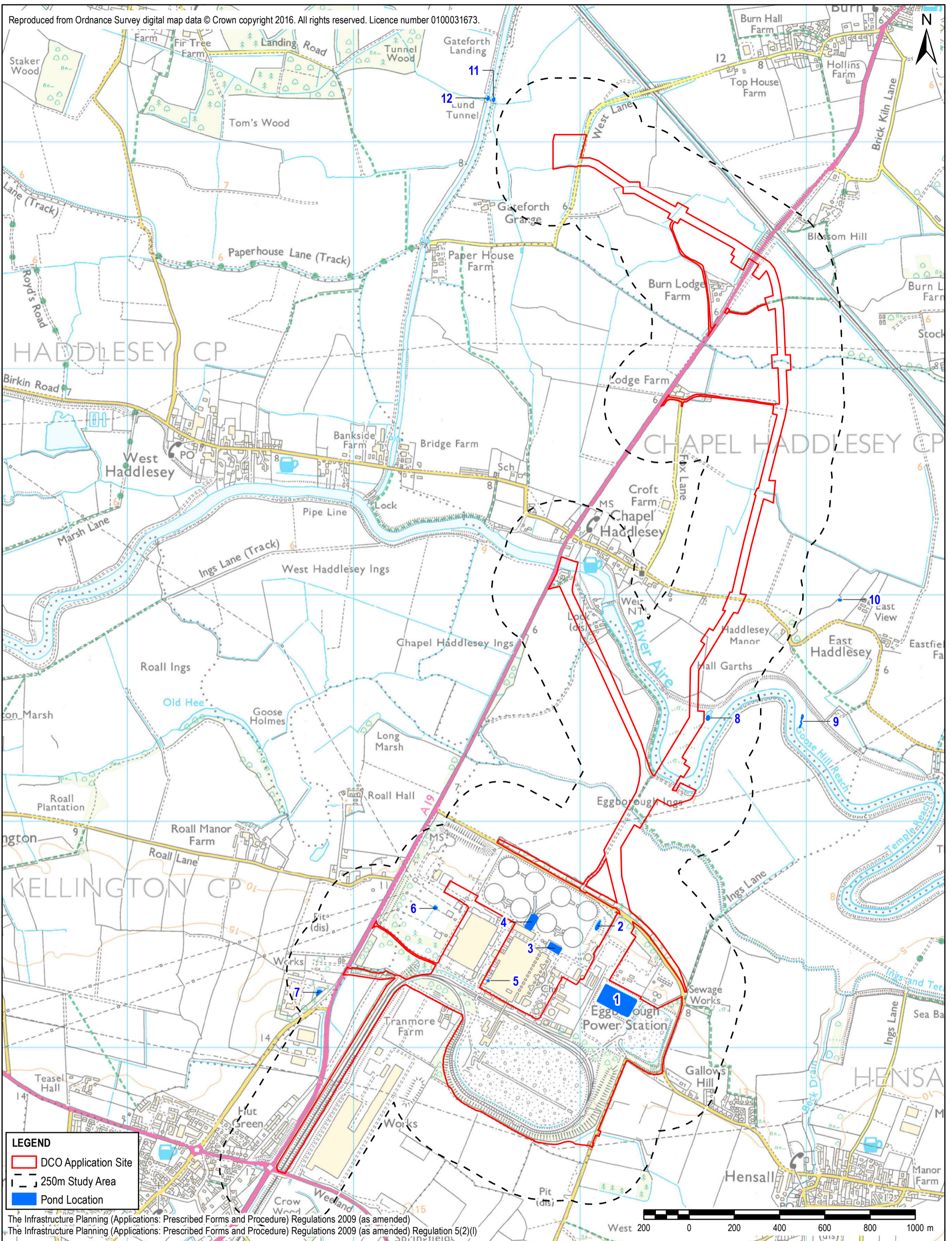
Distance from Site: 350 m north-west (on west side of Selby Canal)

This is the opposing drainage knuckle to Water body 11. Description as per Water body 11.



Suitability Index	Habitat Attribute	Field Score	SI Score
SI1	Location	Optimal	1
SI2	Pond Area	150m ²	0.3
SI3	Pond Drying	Never	0.9
SI4	Water Quality	Moderate	0.67
SI5	Shade	40%	1
SI6	Fowl	Minor	0.67
SI7	Fish	Possible	0.67
SI8	Ponds per km ²	0.32	0.35
SI9	Terrestrial Habitat	Poor	0.33
SI10	Macrophyte cover	95%	0.85
HSI SCORE			0.62 = Average Suitability

Annex B: Pond Location Plan



LEGEND

- DCO Application Site
- 250m Study Area
- Pond Location

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended)
 The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) Regulation 5(2)(l)

Project Title EGGBOROUGH CCGT DCO	Client EGGBOROUGH POWER LTD		AECOM Scott House Alençon Link, Basingstoke Hampshire, RG21 7PP Telephone (01256) 310200 Fax (01256) 310201 www.aecom.com
Drawing Title POND LOCATIONS	Drawn JW	Checked AK	Approved SW
	Date 12/05/2017	Scale @ A3 1:15,000	Purpose of Issue Environmental Statement
	Drawing Number FIGURE 10E.1	Rev 01	AECOM THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.

Annex C: Results of FERA Laboratory Analysis

DNA Analysis Report - Commercial in Confidence



CustomerReference	Fera Reference	GCN Detection	GCN Score	Inhibition	Degradation
152	S16-012869	Negative	0	No	No
154	S16-012870	Positive	1	n/a	n/a

The results indicate that eDNA for great crested newts was detected in one of the samples and in the remaining sample eDNA was not detected (as detailed in the table above). Analysis was conducted in the presence of the following controls: 1) Extraction blank, 2) appropriate positive and negative PCR controls for each of the TaqMan assays (GCN, Inhibition, and Degradation). All controls performed as expected.

This test procedure was developed using research funded by the Department of Environment, Food and Rural Affairs, and was performed under the conditions of licensing arrangements with Applied Biosystems and patent rights owned by F. Hoffman-La Roche Ltd.

Issuing officer: Steven Bryce

Tel: 01904 462 324

Email: e-dna@fera.co.uk

DNA Analysis Report - Commercial in Confidence



CustomerReference	Fera Reference	GCN Detection	GCN Score	Inhibition	Degradation
-	S16-013562	Negative	0	No	No
-	S16-013563	Negative	0	No	No
-	S16-013564	Negative	0	No	No
-	S16-013565	Negative	0	No	No
-	S16-013566	Positive	1	n/a	n/a
-	S16-013567	Positive	12	n/a	n/a

The results indicate that eDNA for great crested newts was detected in two of the samples and in the remaining samples eDNA was not detected (as detailed in the table above). Analysis was conducted in the presence of the following controls: 1) Extraction blank, 2) appropriate positive and negative PCR controls for each of the TaqMan assays (GCN, Inhibition, and Degradation). All controls performed as expected.

This test procedure was developed using research funded by the Department of Environment, Food and Rural Affairs, and was performed under the conditions of licensing arrangements with Applied Biosystems and patent rights owned by F. Hoffman-La Roche Ltd.

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