Gravity

Smart Campus

Gravity LDO Environmental Statement

Volume 2 – Appendices

Appendix 12.6

Great Crested Newt Survey Report

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1. INTRODUCTION

1.1. Background

1.1.1. Ecology Solutions Ltd was commissioned on behalf of This Is Gravity in March 2020 to undertake a comprehensive programme of ecology survey work for This is Gravity Ltd (TIGL), at the site known as Gravity, at Puriton, near Bridgwater, Somerset; hereafter referred to as the 'Site'.

1.1.2. Survey work undertaken at the Site includes a range of habitat and species-specific surveys covering the 2020 survey period. This report has been produced in order to detail the methodologies and findings of the habitat survey work undertaken.

1.1.3. It should also be recognised that the Site has already been subject to previous extensive ecological survey and assessment work as part of the decommissioning and remediation works which have planning consent, as well as to inform the extant hybrid planning permission for the Site redevelopment and Natural England licence applications.

1.1.4. The majority of the Site has been the subject of numerous ecological surveys since 2008. EnvironPlus International Limited (EPI) undertook an initial suite of surveys in 2008, with Ecology Solutions having undertaken regular update work since 2011. The results of the survey works are detailed in the Environmental Statement (2013) and ES Addendum (2017) produced by Ecology Solutions in support of the extant planning permission.

1.1.5. The majority of the site and the previous surveys on it, did not include the 'full' Site, therefore as well as updating previous surveys, surveys of the additional land to be contained in the LDO were included.

1.1.6. The extensive historic survey information available has been used to inform the update survey work and is referenced, where necessary, within this report.

1.2. Site Characteristics

1.2.1. The main component of the Site is located to the north east of Puriton. In addition, the Site includes a railway spur to the north west, a road connection from Junction 23 of the M5 motorway to the south west of the Site and a reedbed system that connects the Site to the River Huntspill to the north. The Site is within an agricultural setting, and is located between the villages of Puriton (to the west) and Woolavington (to the east).

1.2.2. Broadly, the Site comprises grasslands, woodland, scrub, hedgerows, tall ruderal and ephemeral vegetation along with standing water, reed bed, wet and dry ditches as well as buildings and hardstanding. There are also areas of disturbed / bare ground.

1.3. Great Crested Newt Survey Report

1.3.1. This document describes the results of ecological baseline habitat survey work undertaken and provides a broad assessment of the current ecological

interest of the Site as a whole, based upon field and desk-based studies. The importance of the habitats within the site is evaluated with due consideration given to the guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM) [1].

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

2. SURVEY METHODOLOGY

2.1 The methodology utilised for the Great Crested Newt survey work can be split into two areas, a desk study and specific faunal survey work. These are discussed in more detail below.

2.2 Desk Study

2.2.1 In order to compile background information on the use of the application site and its immediate surroundings by Great Crested Newt, Ecology Solutions contacted Somerset Ecological Records Centre (SERC). The records received are collated data from a number of sources and provide information on an array of amphibian species (covering a 3km search radius from the application site).

2.2.2 Information provided by SERC is referred to where relevant.

2.3 Great Crested Newt Survey

2.3.1 The Site contains a number of ponds and a network of rhynes as well as another aquatic habitat such as reedbed and fishing ponds. Furthermore, additional ponds have been identified within 500m of the Site, these were subject to further assessment for their suitability to support GCN.

2.3.2 The Site was subject to two licenced trapping and translocation exercises (completed in 2014 and 2017).

2.3.3 A trapping and translocation exercise (completed in 2014) was undertaken in the east of the Site as part of the installation of a pipeline. No specific receptor site was created as part of this process.

2.3.4 However, GCN were trapped within central areas of the Site (in 2017) and translocated to a purpose-built mitigation areas located in the north west and south east of the Site (see Plan ECO1).

2.3.5 The waterbodies present within these mitigation areas have been subject to regular presence / absence monitoring, utilising eDNA sampling, in the main.

2.3.6 eDNA testing was carried out according to the methodology outlined in the analytical and methodological development for the improved surveillance of Great Crested Newt, published by the Department for Environment, Food & Rural Affairs (DEFRA). This involves taking several water samples from various points around the waterbody. These are then combined and mixed with eight small samples of the mixture taken and added to a preservative liquid. Testing is then performed under laboratory conditions by SureScreen Scientifics in order to determine if Great Crested Newt DNA is present.

2.3.7 Specific aquatic surveys were also undertaken by Ecology Solutions during 2020 following standard guidance. The surveys undertaken were focussed on providing data to guide site management initiatives and to support any subsequent licence application. The majority of waterbodies within the Site were subject to at least an assessment for Great Crested Newt breeding suitability, with many also subject to detailed surveys.

2.3.8 Detailed surveys were undertaken during the period April and May 2020. A minimum of four survey visits were undertaken for each waterbody which maintained potential to support Great Crested Newts. Six visits were undertaken for any pond where presence was recorded. Surveys involved a combination of torching, bottle trapping, egg searching, netting (where applicable) and refuge searching.

4. SURVEY RESULTS

3.1 A number of waterbodies are located within the Site and wider area in the form of ponds, reed beds, rhynes and fishing lakes. Some of which are considered to offer potential value to breeding amphibians.

3.2 **Previous surveys.** Ecology Solutions carried out specific surveys for Great Crested Newts (GCN) during May and June 2011. A total of 49 waterbodies were surveyed. During these surveys all other amphibian species present were recorded including Smooth Newt *Lissotriton vulgaris* and Palmate Newt *Lissotriton helveticus*.

3.3 The above survey work was used to inform the licenced translocation of GCN from within the Site to two receptor areas (see Plan ECO1). A receptor area is located in the north west of the Site, where six new ponds were created as well as hibernacula and suitable habitats. It should be noted that ponds P1 and P3 are each made of two ponds that share a hydrological link when water levels rise, whilst they represent distinct pond features, for the purposes of surveying they are reported as a combined waterbody. An additional receptor area was located in the east of the Site, where a pond, hibernacula and suitable habitat was created. The translocation took place over the active period in 2017. In total 100 GCN were moved and Smooth Newt, Common Toad *Bufo bufo* and Common Frog *Rana temporaria* were also recorded.

3.4 In addition to the above translocation, a second translocation was also undertaken in the east of the Site, in relation to the installation of a pipeline. The licence was granted and trapping took place in 2014. 24 GCN were moved to the receptor area created in the east of the Site.

3.5 Rhynes and field ponds located to the south of the Site and wider areas were subject to surveys in 2018 to inform the development of the new access road. A single pond was recorded to hold GCN, although given its distance from the Site, it was considered that no impacts would arise. The location of these ponds is shown at Plan ECO2.

3.6 **Update surveys.** Monitoring surveys have been completed annually at both receptor sites, as per the conditions of the extant licences, and presence has been recorded each year utilising eDNA sampling techniques.

3.7 In addition, these ponds (13 ponds in total) were subject to a full suite of detailed surveys, including bottle-trapping, netting and torching techniques in 2020. The results of the survey are tabulated at Appendix 12.6A. Of the 13 ponds subject to survey, 5 ponds (ponds P1 and P2 in the north west of the Site and ponds P36, P35 and P32 in the south east of the Site) were recorded as supporting GCN.

3.8 The reed bed and adjacent rhynes to the north of the Site were also sampled for eDNA in 2020 and returned negative results for the presence of GCN.

3.9 Further eDNA sampling was undertaken in 2021 as part of licence monitoring requirements. The sampling recorded GCN presence in ponds P1, P4, P34, P31, P36, P33, P37, P32 and P35.

3.10 The results of recent GCN survey work is shown graphically at Plan ECO1.

3.11 **Background records.** The desk study undertaken with SERC returned two records of amphibian species within or immediately adjacent to the Site. The records of amphibians nearest to the Site are of Common Toad and GCN recorded in 1988. The desk study also returned records of Smooth newt and Palmate newt.

3.12 A number of the ponds surveyed by Ecology Solutions in 2018 and 2020 were subject to detailed surveys in respect to the Hinkley Point C connection project in 2013 and 2014. As part of the project a large study area, which includes eastern and south parts of the Site was subject to suitability assessments and detailed surveys. The results of these surveys on relevant ponds are detailed below.

3.13 During 2013 and 2014, detailed surveys were undertaken on ponds P10, P11, P12, P23, P31, P32, P35, P36, P37 and P38 (see Plan ECO1 and Plan ECO2), to inform the Hinkley Point C connection project. Of these ponds the presence of GCN was found in ponds P31, P35, P36 and P37.

3.14 During the surveys of P31 undertaken across 2013 and 2014 no adult GCN were recorded, however an unspecified number of GCN eggs were present. During the surveys undertaken at P35 across 2013 and 2014 a peak count of four individuals were recorded. During the surveys undertaken at both P36 and P37 across 2013 and 2014 a peak count of a single individual was recorded in each pond.

3.15 Additional ponds to the east and south of ponds P10 and P11 were found to support GCN in 2013 and 2013. However, both ponds are over 500 metres from the site and as such were not subject to detailed survey by Ecology Solutions.

4. SUMMARY

3.16 Ecology Solutions Ltd was commissioned on behalf of This Is Gravity in April 2020 to undertake a suite of ecology survey work at the site known as the Gravity Smart Campus, Puriton, Somerset.

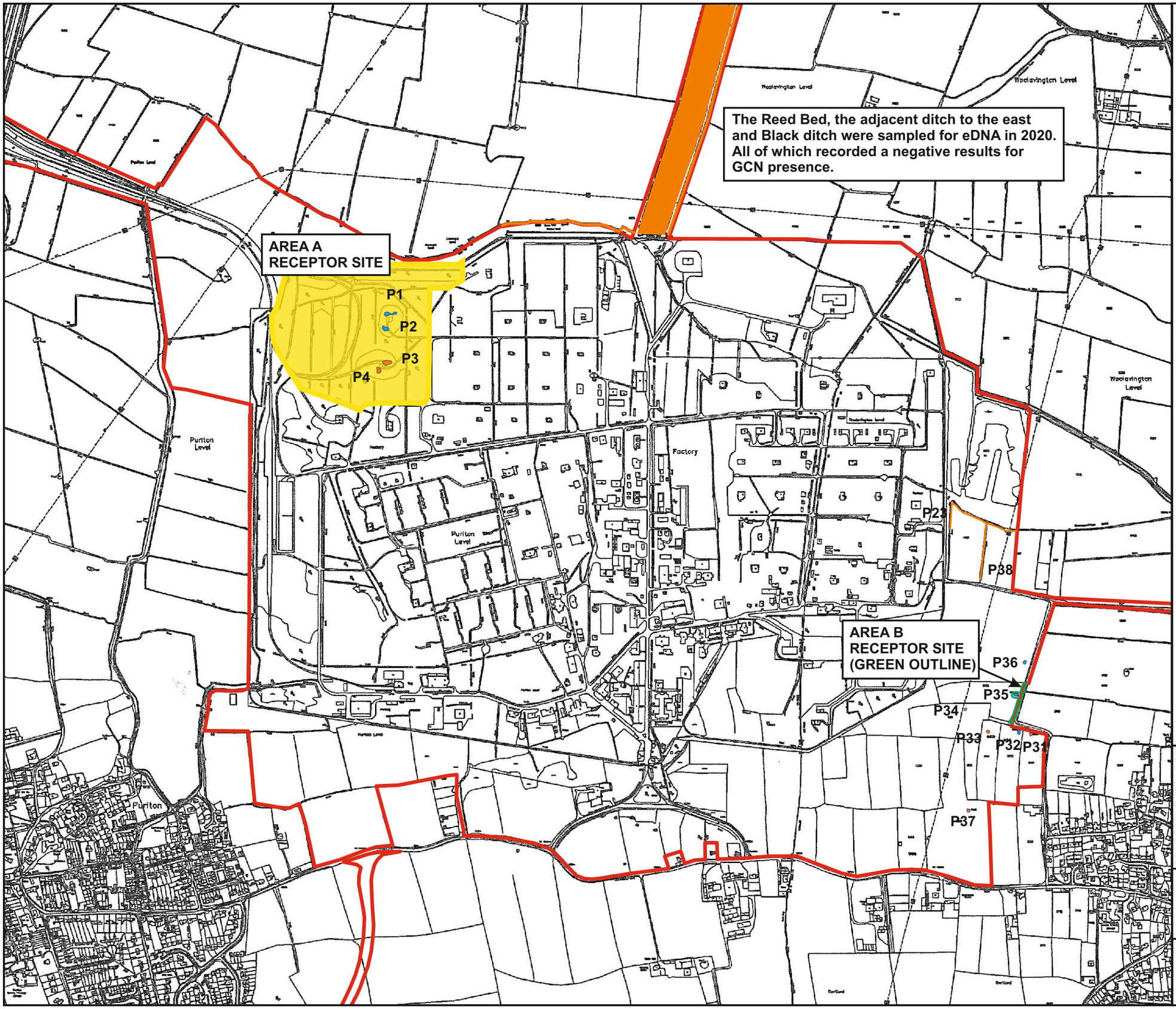
3.17 The results of the survey work undertaken are present within this report and it is considered that an extensive ecological baseline for Great Crested Newts has been established that can fully inform any assessment / evaluation of the Site in ecological terms.

3.18 The survey work has informed the LDO process and the related Environmental assessment process.

PLANS

PLAN ECO1

Detailed Aquatic GCN Survey Results 2020



KEY:

- BOUNDARY OF SITE
- WATERBODY WITH GCN PRESENT DURING 2020 SURVEYS
- WATERBODY WITH NO GCN PRESENT DURING 2020 SURVEYS

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7761: GRAVITY

PLAN ECO1: DETAILED AQUATIC GCN SURVEY RESULTS 2020

Rev: C

Aug 2021

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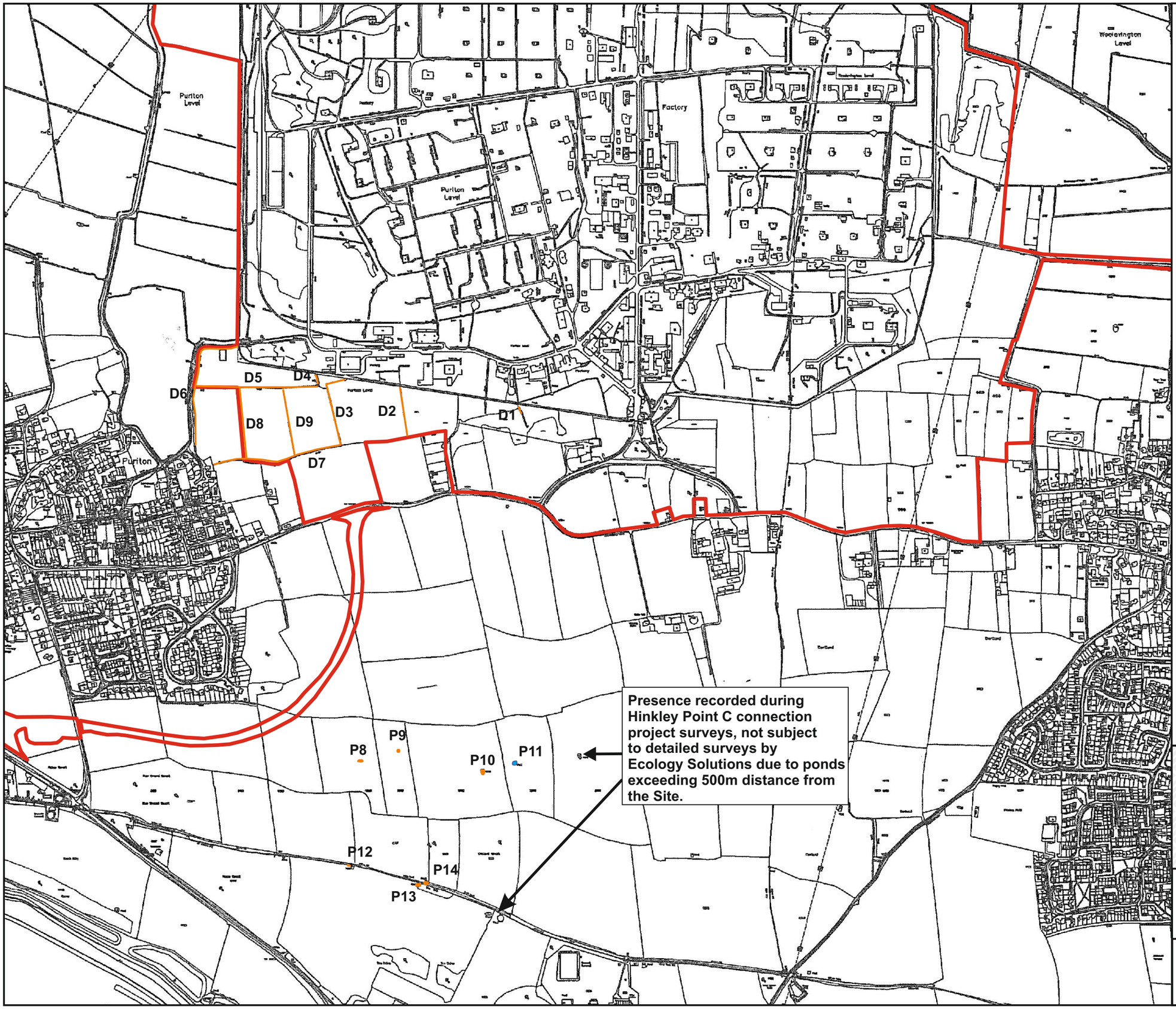
PLAN ECO2

GCN Survey Results (South) 2018



KEY:

- BOUNDARY OF SITE
- WATERBODY WITH GCN PRESENT DURING 2018 SURVEYS
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PLAN ECO2: GCN SURVEY RESULTS (SOUTH) 2018

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APPENDICES

APPENDIX 12.6A

Great Crested Newts Survey Results Tables

Great Crested Newts Survey Results Tables

Survey Results for Pond P1		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
12/05/2020	0	1 Smooth Newt, 1 Common Frog
14/05/2020	1	8 Smooth Newt
27/05/2020	0	0
02/06/2020	0	0
09/06/2020	0	0
11/06/2020	0	1 Common Frog

Table 1: Survey dates and results for GCN surveys of P1

Survey Results for Pond P2		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
12/05/2020	0	1 Smooth Newt
14/05/2020	0	3 Smooth Newt
27/05/2020	0	0
02/06/2020	1	1 Smooth Newt, 1 Common Frog
09/06/2020	0	1 Smooth Newt
11/06/2020	0	0

Table 2: Survey dates and results for GCN surveys of P2

Survey Results for Pond P3		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
12/05/2020	0	0
14/05/2020	0	1 Smooth Newt
27/05/2020	0	1 Smooth Newt
02/06/2020	0	1 Smooth Newt
09/06/2020	0	2 Common Frog
11/06/2020	0	0

Table 3: Survey dates and results for GCN surveys of P3

Survey Results for Pond P4		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
12/05/2020	0	1 Smooth Newt
14/05/2020	0	8 Smooth Newt
27/05/2020	0	5 Smooth Newt
02/06/2020	0	0
09/06/2020	0	0
11/06/2020	0	1 Smooth Newt, 2 Common Frog

Table 4: Survey dates and results for GCN surveys of P4

Survey Results for Pond P23		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
05/05/2020	0	0
08/05/2020	0	0
14/05/2020	0	0
25/05/2020	0	0
03/06/2020	0	0
09/06/2020	0	0
11/06/2020	0	0

Table 5: Survey dates and results for GCN surveys of P23

Survey Results for Pond 31		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
05/05/2020	0	0
08/05/2020	0	0
13/05/2020	Pond Dry	Pond Dry
25/05/2020	Pond Dry	Pond Dry
03/06/2020	Pond Dry	Pond Dry
09/06/2020	0	0
11/06/2020	Pond Dry	Pond Dry

Table 6: Survey dates and results for GCN surveys of P31

Survey Results for Pond P32		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
05/05/2020	0	1 Smooth Newt
08/05/2020	1	1 Smooth Newt
13/05/2020	1	0
25/05/2020	0	1 Smooth Newt
03/06/2020	Pond Dry	Pond Dry
09/06/2020	Pond Dry	Pond Dry
11/06/2020	Pond Dry	Pond Dry

Table 7: Survey dates and results for GCN surveys of P32

Survey Results for Pond 33		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
05/05/2020	0	0
08/05/2020	0	0
13/05/2020	0	0
25/05/2020	Pond Dry	Pond Dry
03/06/2020	Pond Dry	Pond Dry
09/06/2020	Pond Dry	Pond Dry
11/06/2020	Pond Dry	Pond Dry

Table 8: Survey dates and results for GCN surveys of P33

Survey Results for Pond 34		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
05/05/2020	0	0
08/05/2020	0	1 Smooth Newt
14/05/2020	Pond Dry	Pond Dry
25/05/2020	Pond Dry	Pond Dry
03/06/2020	Pond Dry	Pond Dry
09/06/2020	Pond Dry	Pond Dry
11/06/2020	Pond Dry	Pond Dry

Table 9: Survey dates and results for GCN surveys of P34

Survey Results for Pond 35		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
05/05/2020	9	0
08/05/2020	1	0
13/05/2020	0	1 Smooth Newt
25/05/2020	6	0
03/06/2020	4	2 Smooth Newt
09/06/2020	13	5 Smooth Newt
11/06/2020	1	14 Smooth Newt, 1 Common Frog

Table 10: Survey dates and results for GCN surveys of P35

Survey Results for Pond P36		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
05/05/2020	0	0
08/05/2020	0	0
13/05/2020	2	1 Palmate Newt
25/05/2020	0	0
03/06/2020	0	1 Smooth Newt
09/06/2020	16	0
11/06/2020	1	3 Smooth Newt

Table 11: Survey dates and results for GCN surveys of P36

Survey Results for Pond P37		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
05/05/2020	0	0
08/05/2020	0	0
14/05/2020	Pond Dry	Pond Dry
25/05/2020	0	0
03/06/2020	Pond Dry	Pond Dry
09/06/2020	Pond Dry	Pond Dry
11/06/2020	Pond Dry	Pond Dry

Table 12: Survey dates and results for GCN surveys of P37

Survey Results for Pond P38		
Survey Date	GCN recorded (Peak Count)	Other Amphibians Recorded
05/05/2020	0	0
08/05/2020	0	0
14/05/2020	0	0
25/05/2020	0	0
03/06/2020	0	0
09/06/2020	Pond Dry	Pond Dry
11/06/2020	0	1 Common Frog

Table 13: Survey dates and results for GCN surveys of P38