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Bellcross Homes

South West Milton Keynes

GREAT CRESTED NEWTS

March 2014

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Rev	Issue Status	Prepared / Date	Approved/Date
-	Draft 1	MMB / 24.09.13	RJS / 04.03.14

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1.0 INTRODUCTION

- 1.1 This report has been prepared by FPCR Environment and Design Ltd on behalf of Hallam Land Management Ltd for a proposed development site at Salden Chase, southwest Milton Keynes.
- 1.2 Surveys were commissioned to assess the presence/absence of great crested newts (GCN) *Triturus cristatus* and evaluate any potential constraints to the proposed development from this species.

Site Context

- 1.3 The site is located to the southwest of Milton Keynes (central grid reference SP 83437 32514). and located to the south west edge is the residential development of Bletchley. The site boundary lies between Newton Longville to the south and the A421 Standing Way and B4034 Buckingham Road at its north boundary.
- 1.4 The development area was dominated by arable fields compartmentalised by hedgerows. A single pond was situated within the proposed development site with a further two, identified in previous surveys in 2008 by Aspect Ecology, were noted to be dry throughout the 2013 survey period. A further five off-site ponds are located within 500m of the site boundary (closest being within 10m (refer to Figure 2 Pond Plan)).

Previous Ecology Reports

- 1.5 The Salden Chase Consortium commissioned Aspect Ecology to undertake an ecological assessment of the proposed development site in April 2006 and 2010 to support an outline planning application. The Aspect Ecology¹ report surveyed the site and further land to the west to support a larger development scheme. Data from this previous report is referred to within the following document where appropriate.

2.0 METHODOLOGY

Habitat Suitability Index

- 2.1 A habitat suitability index (HSI) assessment was undertaken on all waterbodies within the site and up to 500m from its boundaries. In total three on-site ponds and five off-site ponds were assessed. This assessment provides a measure of the likely suitability that a waterbody has for supporting newts (evaluating the suitability for the great crested newt, herpetological journal 10(4); Oldham et al., October 2000). Whilst not a direct indication of whether or not a pond will support great crested newts, generally, those with a higher score are more likely to support great crested newts (GCN) than those with a lower score and there is a positive correlation between HSI scores and ponds in which GCN are recorded. Ten separate attributes are assessed for each pond to calculate the suitability of the ponds to support GCN:
 - Geographic location
 - Pond area
 - Pond drying

¹ Aspect Ecology (2010) *Salden Chase North East Aylesbury Vale Environmental Statement*, David Lock Associates

- Water quality
- Shade
- Presence of water-fowl
- Presence of fish
- Number of linked ponds
- Terrestrial habitat
- Macrophytic coverage

- 2.2 A score is assigned according to the most appropriate criteria level set within each attribute and a total score calculated of between 0 and 1. Pond suitability is then determined according to the scale set out in Table 2 below. Using the index score the predicted presence of GCN being found within a pond can be made, based on the proportion of ponds typically occupied at that suitability level.

Table 1: HSI score and suitability for supporting great crested newts

HSI score	Pond Suitability
<0.5	Poor
0.5 - 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

- 2.3 An assessment of the suitability of the terrestrial habitats to support great crested newts was completed within the subject site. Suitable terrestrial habitat includes shelter habitat such as scrub and rank vegetation and habitat that could provide suitable hibernation sites such as rubble piles or tussock grassland.

Presence/Absence Surveys

- 2.4 Presence/absence survey's following Natural England guideline as detailed in the Great Crested Newt Mitigation Guidelines (English Nature, 2001) were undertaken in April and May 2013 by suitably licensed ecologists (including Natural England Class Licence holders). This included a minimum of three of the following methods: bottle trapping, sweep-netting and torch surveys and a search for eggs laid on vegetation. A summary of each survey method is provided below:

Bottle Trapping

- 2.5 Bottle traps were set within the waterbody in the evening at densities of one trap per two metres of shoreline (where feasible) and left overnight for inspection in the morning. Traps were partially submerged in the water leaving an air bubble in the bottle and secured by a cane marked with a high visibility tape to ensure relocation the following day. Care was taken to ensure that trapping did not occur during excessively warm weather, when the temperature inside the trap could rise considerably, reducing oxygen levels and potentially suffocating the newts.

Sweep Netting

- 2.6 Long handled sweep-nets were used to sample the margins of the pond for great crested newts, with approximately 15 minutes of netting per 50 m of shoreline.

Torching

- 2.7 Torching involved searching the water-bodies after dusk, using high-powered torches and scanning the margins for newts. The perimeter of the pond was walked slowly recording any newts observed. Torch surveys are unsuitable within heavily vegetated and/or turbid ponds or after periods of heavy rain as visibility is diminished.

Egg Searching

- 2.8 Newts lay single eggs on leaves of aquatic plants or other suitable pliable material, after which the material is folded over the egg to protect it. Great crested newt eggs can be distinguished from those of the other newts by their size, shape and colour. Submerged vegetation was examined for newt eggs and folded leaves gently opened to check for eggs. Once a great crested newt egg is identified, no further leaves need to be examined to minimise any further potential disturbance.
- 2.9 Appropriately Licensed ecologists completed during suitable conditions i.e. when the ambient air temperature exceeded 5°C, with little/no wind and no rain.

3.0 RESULTS

- 3.1 As part of a larger development scheme Aspect Ecology surveyed six ponds P1-P3, P9, PA and PB (Figure 1). All of these were subject to further survey; P1, PA, PB and P9 during June 2006; and P2 and P3 in March-June 2007. P1 was noted to be dry throughout the survey period. With the exception of P9 in which a maximum of 3 GCN were recorded no GCN were recorded in ponds surveyed by Aspect Ecology.
- 3.2 A table summary of their survey findings is shown below:

Table 2: 2013 GCN Summary Results

Pond Number	GCN Count	GCN Eggs Found?
1	0	No
A	0	No
B	0	No
2	0	No
3	0	No
4	0	No
5	0	No
6	0	No
7	0	No
8	11	Yes
9	0	No

- 3.3 All of these water-bodies (plus a further off-site pond (P8)) were re-assessed as part of the 2013 surveys. Ponds PA and PB comprised ditch sections which were dry during the 2013 surveys and aquatic surveys could not therefore be undertaken. A further four off-site ponds were discounted due to their separation from the subject site and these were: P4 comprising a heavily shaded and turbid pond associated with farm buildings; P5, flooded woodland adjacent Bletchley Road; P6, a large fishing pond; P7, a small field pond within grazed pasture.
- 3.4 The site was dominated by heavily-cultivated arable land considered to be largely unsuitable as terrestrial GCN habitat. Habitat with sub-optimal suitability for GCN was largely restricted to the boundaries including hedgerows, a coarse grass margin (along Weasel Lane and the north site boundary) and limited broad-leaved woodland considered to provide some shelter, foraging and dispersal opportunities.
- 3.5 Table 2 below provides further details of all ponds assessed within the subject site and its vicinity including HSI scores.
- 3.6 Habitat suitability indices calculated for all ponds in 2013 judged that no waterbodies within the site were considered suitable to support GCN. Ponds P4 –P7 were not subject to aquatic surveys because of separation from the subject site by a fast flowing brook and, in the case of P4, Whaddon Road as well.

Table 3: 2013 HSI Assessment Results

Pond Number	Distance from Site (m)	HSI Score	Pond Suitability	Predicted Presence	Pond Description
1	On Site	DRY	DRY	DRY	Small field boundary

Pond Number	Distance from Site (m)	HSI Score	Pond Suitability	Predicted Presence	Pond Description
					pond, scrubbed over and linked to wet ditch network
A	On Site	DRY	DRY	DRY	Heavily-shaded dry ditch section
B	On Site	DRY	DRY	DRY	Heavily-shaded dry ditch section
2	7m	0.63	Average	0.55	Small, lined ornamental pond with abundant duckweed
3	300m	0.68	Average	0.55	Moderately-sized field boundary pond heavily poached by horses
4	330m	0.56	Below Average	0.2	Heavily-shaded, associated with farm buildings
5	390m	0.59	Average	0.55	Flooded woodland adjacent Bletchley Road
6	280m	0.42	Poor	0.03	Large fishing pond
7	250m	0.60	Average	0.55	Small field pond
8	200m	0.80	Excellent	0.93	Large amenity pond, extensive marginal vegetation
9	5m	0.59	Below Average	0.2	Series of ponds including a drainage ditch and amenity pond fringed with reedbed

- 3.7 Aquatic surveys were undertaken during suitable weather conditions by suitably licenced ecologists during the optimal survey period on ponds P2, P3, P8 and P9. Ponds P1, PA and PB located on site were dry on all survey occasions. Table 4 below provides a summary of all the surveys.
- 3.8 For pond P9 a total of five surveys were undertaken to cover the series of waterbodies denoted as P9. All were surveyed at least four times and no GCN were recorded.
- 3.9 A summary of these results are shown in Table 3 below. Smooth newt *Lissotriton vulgaris*, common frog *Rana temporaria* and common toad *Bufo bufo* along with various aquatic invertebrates were also recorded during survey occasions.

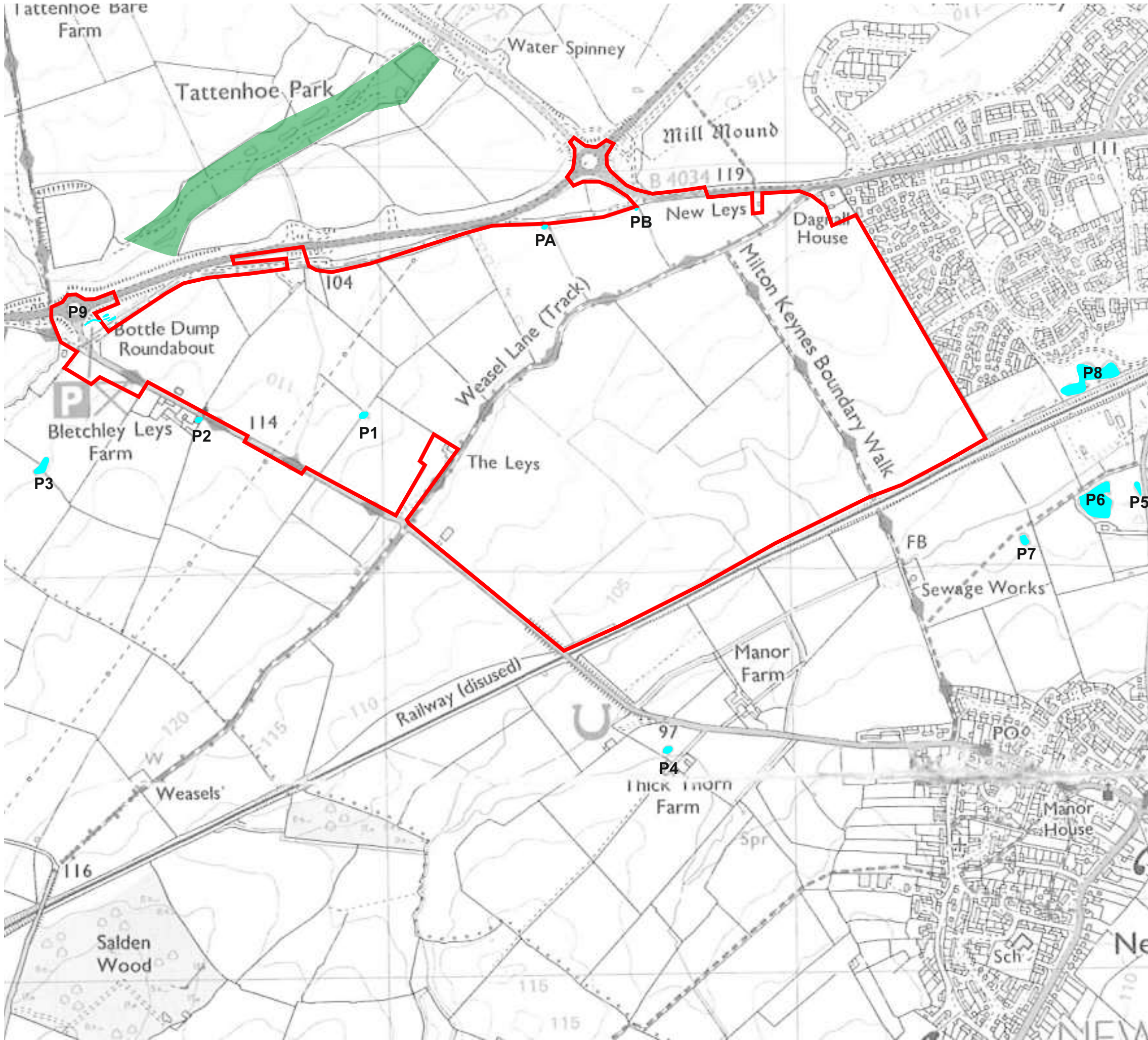
Table 4: Great Crested Newt Survey Results

Survey Date	Weather Conditions	Pond Number	GCN Count	Eggs Found?
10.04.13	9°C, no rain, light breeze	2	0	No
		3	0	No
		8	11	No
		9	0	No
18.04.13	12°C, no rain, strong wind	3	0	No
		8	24	No
		9	0	No
02.05.13	13°C, no rain, no wind	2	0	No
		3	0	No
		8	47	No
		9	0	No
15.05.13	12°C, no rain, no wind	2	0	No
		3	0	No
		8	93	Yes
23.05.13	8°C, no rain, slight breeze	9	0	No
25.05.13	12°C, no rain, light breeze	8	25	N/A
28.05.13	11°C, light rain, slight breeze	2	0	No
		8	122	N/A

4.0 DISCUSSION

- 4.1 GCN are afforded full protection at a European and UK level under the Conservation of Habitats and Species Regulations 2010 (as amended) and the Wildlife & Countryside Act 1981 (as amended). This protection covers harm to the animals themselves and their places of rest or shelter. They are listed as a priority species under S41 of the Natural Environment and Rural Communities Act 2006 (NERC). They are not a priority species under the Buckinghamshire and Milton Keynes Local Biodiversity Action Plan.
- 4.2 No waterbodies within the site were considered suitable to support GCN as all were dry during the 2013 survey season. Ponds 2 and 3 had average suitability to support GCN according to HSI criteria and Pond 9 had below average suitability. No GCN were recorded in these ponds during the 2013 surveys.
- 4.3 Pond 8 supports a large population of GCN with a peak count of 122 and lies approximately 200m from the site boundary. Habitat within the sections of site within a distance of 500m from Pond 8 comprised cultivated arable with GCN-suitable habitat limited to site boundary hedgerow and scrub adjacent the site within the disused railway line.
- 4.4 Research conducted by English Nature (now Natural England) in 2004 (English Nature Research Report Number 576) to assess the value of different habitats for GCN states in the non-technical summary that:
- 4.5 'By far the most captures were recorded within 50m of ponds and few animals were captured at distances greater than 100m.'
- 4.6 It also goes on to say:
- 4.7 'Captures on fences (and by other methods) at distances between 100m and 200m – 250m from breeding ponds tended to be so low as to raise serious doubts about the efficacy of this as an approach, although a small number of projects did report captures on significant linear features at distances approximately 150m – 200m from ponds.'
- 4.8 No suitable breeding ponds are present within the site and the nearest pond (with below average suitability) is Pond 9 (detailed below) over 2km to the north-west. This is predominantly separated by cultivated arable land and as illustrated by the above research GCN are highly unlikely to be dispersing this far over largely unsuitable habitat.
- 4.9 The research suggests linear habitat such as that within disused railway line 200m from Pond 8 is likely to be used by GCN, and it is considered likely that this GCN-suitable terrestrial habitat will be most frequently used by GCN for foraging/commuting and as a place of rest or shelter and that only small numbers of GCN will be present within the regularly cultivated arable land of the proposed development site.
- 4.10 Proposed development of the site will be undertaken in four phases with the final phase (Phase 3b) requiring development of land 200m-500m from Pond 8. No other works associated with any other phases are proposed within 500 m of Pond P8.
- 4.11 It is therefore considered that the large population of GCN present within Pond P8 will pose no statutory constraints to the proposed development of Phases 1 to 3A. However, a Natural England European Protected Species Licence (EPSL) will be required in order to derogate from the relevant legislation for the proposed development of Phase 3B.

- 4.12 In order to ensure the Favourable Conservation Status (FCS) of GCN is maintained/enhanced as part of the proposals a mitigation strategy for this species will be provided (this strategy will subsequently form the basis of any Natural England EPSL application. Such a strategy is likely to entail the following aspects:
- Trapping of on-site habitats to be impacted by the proposals within 500m of Pond P8 with translocation of GCN to an appropriate receptor site to prevent killing/injury of GCN
 - Provision of extensive on site GCN-optimal terrestrial habitat to mitigate for the loss of sub-optimal on-site GCN habitat
 - Enhancements to include scrub, rank grassland, log piles and hibernacula to maintain connectivity to off-site P8 and the disused railway line to the south
 - Detailed management and monitoring of the on-site habitats to ensure the maintenance of the population in the long-term
 - Off-set gullies and dropped kerbs throughout this phase of the development to minimise any impacts to GCN during the operational phase of the development.
- 4.13 Phase 3A of the proposals will require development approximately 30m from Pond P9 in the north. No GCN were recorded within this pond during 2013 surveys, however surveys undertaken by Aspect Ecology in 2006 recorded a maximum count of three GCN in this water-body. Following the historically low numbers of GCN in this pond and complete absence during the 2013 surveys, which followed best practice survey methods, it is considered that GCN are not currently present in Pond P9 or the adjacent terrestrial habitat. Furthermore, in the unlikely event that small numbers are present in the terrestrial habitat it is considered extremely unlikely that they would be utilising habitat more than 50 m from P9 (as detailed by Natural England's Research Report). It is therefore considered that GCN do not represent a constraint to development of Phase 1, (which will include construction of flood attenuation approximately 200 m from Pond P9
- 4.14 The above recommendations are considered to ensure the provision of appropriate compensation to mitigate for the potential impact on GCN resulting from the proposed development. It is considered that as a result of the proposals both the overall habitat availability in the local area as well as the Favourable Conservation Status for this species will be greatly enhanced.



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- Site Boundary
- Pond with reference #
- Tattenhoe Park Ponds

Hallam Land Management,
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South West Milton Keynes,
Buckinghamshire
Pond Plan



Not to scale @ A3 AWB / ph 04.03.2014

Figure 1