

**METHOD STATEMENT FOR
DISCHARGE OF PLANNING
CONDITION 8; BRN P/2009/0541:
CRABMILL FARM
LITTLE GREEN
BRONINGTON
WHITCHURCH
SY13 3HH**

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Author: **Val Cooper**
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Prepared for:	Author:
Mr J. Stevenson Crabmill Farm Little Green Bronington Whitchurch SY13 3HH	Val Cooper MSc MIEEM Tel: 07947808853 Member of EVR ecology, an informal co-operative of consultant ecologists with over 75 year's collective experience in surveying and conservation work.
Date of Issue: 21 st November 2013	val.rose54@btinternet.com

CONTENTS

1	INTRODUCTION	3
1.1	Background	3
1.2	Scope of the statements.....	3
2	RESULTS AND ASSESSMENT 2009/2013.....	4
2.1	Bats.....	4
2.2	Great crested newts.....	6
3	ASSESSMENTS.....	7
3.1	Bats.....	7
3.2	Great crested newts.....	7
4	STRATEGY AND SPECIES STATEMENTS.....	9
4.1	Bats: licensing requirement.....	9
4.2	Bats: mitigation measures	9
4.3	Great crested newts (GCN): licensing requirements	11
4.4	GCN: mitigation and compensation measures	11
5	CONSERVATION AND ENHANCEMENT MEASURES	14
6	TIMETABLE OF WORKS.....	14
7	REFERENCES	15
8	APPENDICES.....	15

1 INTRODUCTION

1.1 BACKGROUND

Ecological surveys were undertaken at Crabmill Farm in 2009 (Ecologically Bats, 2009) and further visits were undertaken in 2013. The 2009 surveys found that

- There were bats active on site in small numbers
- A few old bat droppings were found indicating some use
- It was not confirmed that bats were roosting in any of the barns
- The evidence then indicated a small number of night-foraging bats
- It was established that bats in small numbers were feeding in the large metal barns on site
- Pond 1 (the closest pond at 35m from the edge of the proposed development site) had good potential for great crested newts (GCN) and smooth newts were breeding in the pond
- Other ponds were more distant and the connectivity was only fair to Pond 1
- Certain sheds on the complex had potential as refuge areas for GCN and presence on site could not be discounted
- There was some potential for short-term impacts on GCN if present in Pond 1

It was recommended that further survey work was undertaken for bats and great crested newts (GCN) prior to the start of the development. The recommendation was for

- bat activity surveys in the period May to August
- One night's recording inside the brick barns using a remote ANABAT recorder
- Presence absence surveys on Pond 1, extending to 6 visits if GCN were found to establish populations if required.

1.2 SCOPE OF THE STATEMENTS

This document addresses planning condition 8 of the planning consent BRN P/2009/0541, granted on 23rd April 2010, which states

"Prior to commencement of development further bat and great crested newt surveys shall be undertaken in accordance with the recommendations of the submitted 'Protected species survey report' dated 20th September 2009, with the results of these surveys together with revised reasonable avoidance measures, shall be submitted to and approved by the LPA. Any reasonable avoidance and mitigation measures, including timescales for various works, as approved in connection with this condition shall be fully implemented as part of the development."

The statement in this document provides

- Results from 2013 surveys with current assessment on bats and GCN
- Evaluation of position in respect of licensing requirements for bats and GCN
- the mitigation and compensation to be undertaken to ensure that all impacts on protected species are minimised or removed
- revised reasonable avoidance measures for minimising impacts
- a timetable of site activities, which will be designed to minimise any potential impacts. It may be subject to revision due to circumstances in which instances all potential changes will be discussed and agreed between the client and the appointed ecologist.

All mitigation and compensation measures made in reference to works to be undertaken under licence will be subject to agreement with the statutory licensing authority (Natural Resource Wales) and may be subject to revision under its instruction.

2 RESULTS AND ASSESSMENT 2009/2013

2.1 BATS

- 2.1.1 Small numbers of bat droppings were found in the upper storey of Barn B and scattered close to the doorway in Barn B in 2009 (**Figure 1** below). No accumulations were found.

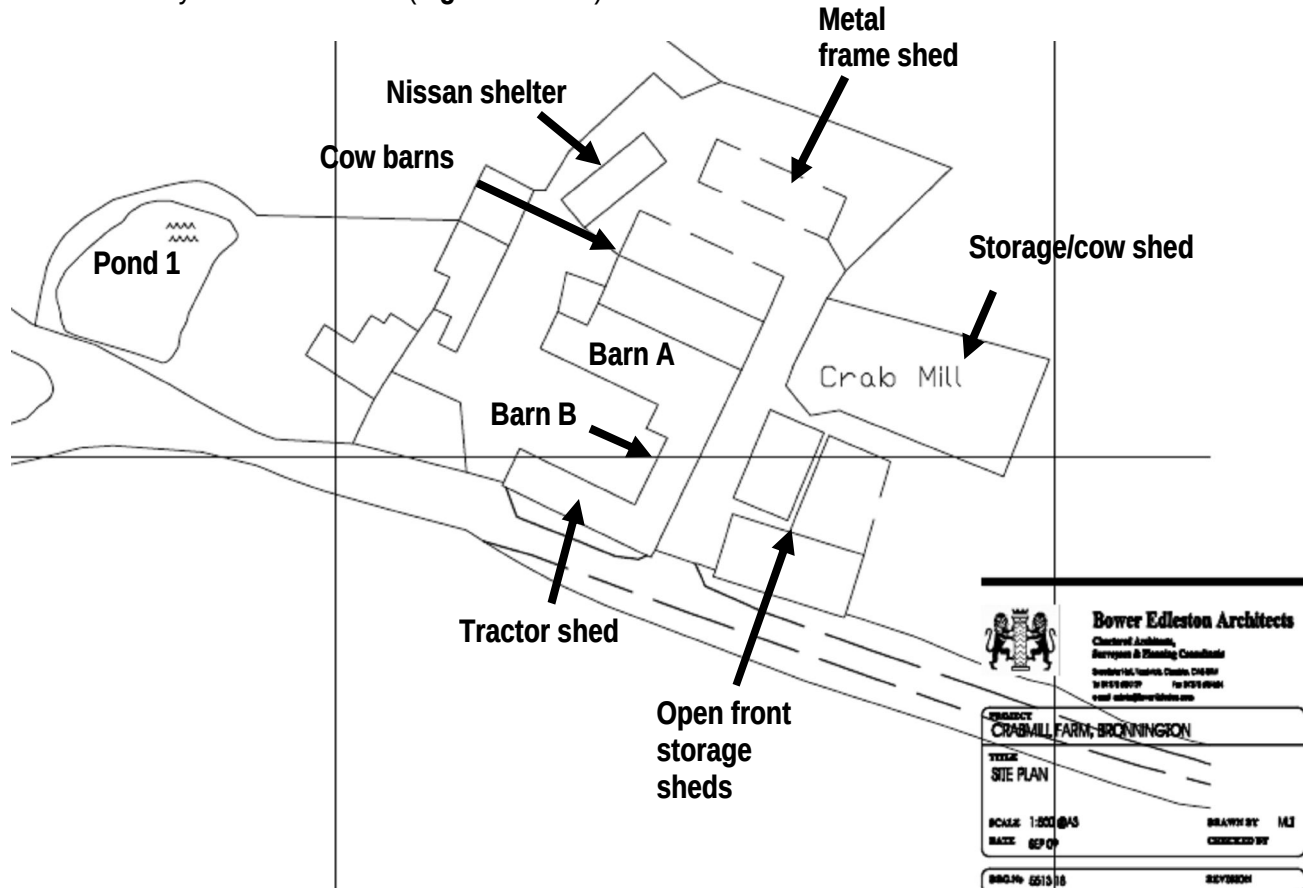


Figure 1: Site plan with annotated barns

- 2.1.2 Small numbers of common pipistrelle and whiskered bats were recorded on site during the 2009 on 12th August. No bats were confirmed as roosting in the barns. They were feeding around the site.
- 2.1.3 In 2013 an inspection and bat emergence was carried out on 8th May 2013. An ANABAT was placed in the upper barn from 8th May to 13th May 2013. Following the analysis of the results it was considered unnecessary to complete a dawn survey.
- 2.1.4 A few additional droppings were found in Barns A and B in 2013, but very few considering the time separating the 2 surveys. No accumulations were found.
- 2.1.5 Very few contacts were made over the emergence period. Common pipistrelle, soprano pipistrelle and Myotis (data indicate whiskered) bats were recorded. None emerged from the barns. One common pipistrelle was recorded foraging in the cow barns at the north side of the site.
- 2.1.6 The ANABAT made very few recordings over the 5 days. None were made close to an expected emergence time and none within 2 hours of dawn. Species recorded were the same as those recorded during the emergence. **Tables 1-3** below (with key) provide the survey data.

2.1.7 **Table 1:** Timing and conditions for emergence survey on 8th May 2013

	Time	Temperature	Wind	Cloud cover	Precipitation
Start	20.30	12°C	Light breeze	100%	Short spell of rain towards end of survey- light
End	22.15	9.5°C		100%	
Sunset	20.49				

Table 2: Emergence survey on 8th May 2013

Observer (east side)		
time	species	activity
21.15	<i>Pip 45</i>	Brief contact at roadside
21.35	<i>Pip 45/55</i>	2 x bats up and down road feeding in trees
21.59	<i>Pip 55</i>	Brief visit to the shed by side of the road – in and out during short rain shower
22.05	<i>Myotis</i>	CP. HNS. Appeared to be from the road
22.10	<i>Pip 45</i>	Single bat seen foraging in cow shed at north end of yard

Observer (west in courtyard)		
time	species	activity
21:20	<i>Pip 45</i>	Foraging near arch of the barn
21:28-36	<i>Pip 45</i>	Foraging in courtyard

Table 3: ANABAT survey 8th May to 13th May 2013

Date	species	Call analysis
8 th May 2013	-----	No calls recorded
9 th May 2013	Pip 55	One call recorded at ¾ hour after sunset
10 th May 2013	Pip 55	One call recorded 35 minutes after sunset
11 th May 2013	Pip 55/Myotis	One call 42 minutes after sunset/ One call 45 minutes after sunset
12 th May 2013	Pip 55/Myotis	One call 20 minutes after sunset/ 2 calls at 45 minutes and 1 hour and 40 minutes after sunset.
13 th May 2013	-----	No calls

Key: Pip spp = pipistrelle species
Pip 45 = Common pipistrelle (*Pipistrellus pipistrellus*)
Pip 55 = soprano pipistrelle (*Pipistrellus pygmaeus*)
BLE = brown long-eared (*Plecotus auritus*)
Myotis = one of Myotis genera of bats
Noctule = noctule bat (*Nyctalus noctula*)
HNS = heard not seen
CP = commuting pass

Bold type indicates emergence/entry by bat(s)

Bold italic indicates potential emergence/entry by bat(s)

2.1.8 In summary, very little activity was recorded in the 2013 survey. No bats were seen emerging from the brick barns or metal sheds. Common pipistrelle and soprano pipistrelles were recorded commuting past the site along the road. A single common pipistrelle was recorded feeding in the cow barns at the north end. A single Myotis call was recorded 1½ hours after sunset.

2.2 GREAT CRESTED NEWTS

2.2.1 The great crested newt (GCN) surveys found GCN were present in Pond 1. Egg searches found eggs on all visits from 17th April to 15th May 2013. Numbers of GCN found began to drop from a peak count of 23 adults on 23/4/13 to 4 on the final survey on 15th May 2013. Conditions and raw data are given in **Tables 4** and **5** below.

2.2.2 **Table 4:** Conditions during survey visits to Crab Mill Farm, Bronington 2013

Date	Temperature (start)	Temperature (end)	precipitation	Cloud cover	wind
17/4/2013	0°C	0°C	Dry	50%	Strong – force 3-4
18/4/2013	7°C	8°C	Damp but no rain	10%	still
23/4/13	15°C	0°C	Dry	0%	still
8/5/13	12°C	9.5°C	Dry	0%	light
14/5/13	14°C	10°C	Light drizzle	100%	Light to still
15/5/13	8°C	0°C		0%	Not noted

Table 5: Data from Pond 1 surveys 2013

Date (Note 2)	Trap no.	Bottle trap results	Torch results	Egg search	Refugia (note 1)
17/4/13 (1)	22		9 female GCN	yes	None found
18/4/13	22	5 female GCN (1 gravid) 2 male GCN		yes	None found
23/4/13 (1)	-		12 female GCN (adult) 11 male GCN (adult)	yes	None found
8/5/13 (1)	-		9 female GCN (adult) 7 male GCN (adult)	yes	None found
14/5/13 (2)	19		6 female GCN (adult) 1 male GCN (adult)	yes	None found
15/5/13	19	3 female GCN 1 male GCN			None found

Notes:

1. Refugia searches included a torch survey round grounds
2. Turbidity scores for ponds are given in brackets next to pond numbers in column 1. The scale is 1 for clear to 5 for extreme turbidity. The score indicates degree of visible water depth and can be affected by the amount of submerged and floating vegetation.

2.2.3 Small numbers (<5) of smooth newts were also found on 2 occasions.

3 ASSESSMENTS

3.1 BATS

- 3.1.1 It is concluded that on present evidence the site does not support roosting bats. This is concluded because no bats were seen exiting during the emergence survey, the ANABAT recordings had none recorded over the expected emergence and re-entry times, activity was low despite good conditions and there were very few additional bat droppings present in the barns.
- 3.1.3 The brick barns do have some potential for roosting bats and there are potential access points into the barn. Also very small numbers of bats are active on site and using the large cow barns to forage in the night. Therefore it will be recommended that best practice measures will be used on all work on the structures on the site and some enhancement measures will be installed in the new development to improve the site for use by bat species.
- 3.1.4 Bats change roosting sites through the year and sites where bats are active may show to new persistent or opportunistic use at any time during the active season. **It is therefore strongly recommended that a watching brief is observed during the works and if any bats or signs of bats are found that work will stop and advice taken from a licensed ecologist or Natural England.**

3.2 GREAT CRESTED NEWTS

- 3.2.1 It is concluded that a medium population of great crested newts is present in Pond 1. This is a breeding population.
- 3.2.2 **Area A:** The brick barns do not provide suitable refuge areas for GCN and they are unlikely to be using them for this purpose. GCN may be crossing these areas to more suitable habitat to the north and east.
- 3.2.3 **Area B:** The large metal cow sheds and other outbuildings have a mixture of earth and concrete bases. Those on the north side have open areas in the bases and grass surrounding them (**Figures 2 and 3**). These areas have greater potential as refuge areas for GCN, which may use the areas underneath the block foundations, under stored materials and in areas of long, rough vegetation.



Figure 2: Large cow barns



Figure 3: Nissan hut

- 3.2.4 The area described in 3.2.2 and 3.2.3 and illustrated in **Figure 4, page 8** constitute approximately 0.8 hectares loss of potential habitat within 100m of a breeding pond. This flags an amber warning of an offence in respect of the legislation protecting GCN (Natural England, 2012). There are potential short-term and long-term impacts on GCN. These are given in 3.2.5 and 3.2.6 respectively. Clearance of this area will require a European Protected Species Licence to proceed.

3.2.5 Short-term impacts

- Site clearance may result in the disturbance, injury and/or death of GCN
- Site activities may provide short-term refuge areas due to storage of materials and waste products, which when cleared may result in the above
- Site activities may result in the interruption of GCN movements across and around the site area
- Movements of vehicles and machinery may result in the disturbance, injury and/or death of GCN.

These impacts are assessed as medium. The population numbers and the proximity of the barns indicate it is very likely GCN will be moving onto the site and into areas

3.2.6 Long-term impacts

- There will be a small loss of potential GCN refuge and foraging habitat. This is limited to the large barn areas. The brick barns are on concrete and, while GCN may be moving across that part of the site, there are no suitable refuge areas for them to use and it is unsuitable foraging habitat. There is no loss of ponds and surrounding habitat to the ponds and land loss is relatively small. This will be compensated for as part of the licence measures
- Post development conditions will not result in the fragmentation of GCN habitat as the gardens of the refurbished residences will provide connective habitat around the site
- Post development conditions will not result in isolation of the population as no hedges and other connective features are to be destroyed and the refurbished site will not pose an insurmountable barrier to GCN.

Long-term impacts are assessed as low and may be negated by mitigation measures of the licence.



Figure 4: Site plan with areas 3.2.2 (Area A) and 3.2.3 (Area B) marked

4 STRATEGY AND SPECIES STATEMENTS

4.1 BATS: LICENSING REQUIREMENT

There are no licensing requirements at the present time. **If bats are found during the proposed development work then work must stop and the licensing position reviewed by a licensed, qualified consultant ecologist.**

4.2 BATS: MITIGATION MEASURES

As bats are active in small numbers and there is some potential in the barn complex for roosting, this loss of potential roosting area is addressed in the recommended enhancement measures.

The position of the site is rural and some bat activity was recorded during the survey. There has been some casual use of the site by bat species. It is advised that work undertaken follows best practice measures to ensure no impact on bats. These are detailed below:

1. *Timing of works*

Bats are highly mobile and colonise different places throughout the year. Bats are generally less or not active around buildings during the period of September to April, depending on weather conditions.

Timing work to begin in the period September to April will reduce the potential for disturbance to bats and the risk of injury to undetected bats within a building. Roof stripping and other external works should be undertaken and completed as far as possible within this window. Any work undertaken outside this window will be done in the presence of a licensed bat consultant.

If it is suspected that hibernating bats are using the building, then no work should be undertaken between December and early March, depending on weather conditions. If it is suspected that hibernating bats are using the building, then no work should be undertaken between December and early March, depending on weather conditions. The buildings at Crabmill Farm are not considered to be conducive for hibernating bats as they are too open and exposed, so work will not be restricted through this period.

2. *Demolition/deconstruction and other building works*

- Removal of any roof coverings will be done using a soft protocol method which involves the removal of tiles using both hands to lift each tile clear thus avoiding rolling them, which might squash any roosting bats that may be present but undetected. In the case of sheeting sheets are removed by lifting off, not sliding down the roof pitch. Bats are often found between the upper surfaces of internal divisions and the roof cover and can be crushed if care is not taken.
- Similarly any demolition work on sheds will be done by removing top roof sheets by hand and inspection on any timbers beneath. This is not necessary of metal frame buildings, where there are no opportunities for roosting bats, but will be done where there are wooden supports present.
- Deconstruction of any internal double-skin walls will be done by hand with care and materials examined on removal for bats and signs of bats. This will account for a small possibility of bats being present and undetected.

3. *Reconstruction/new building*

- If new refurbishment is being undertaken during the active season for bats between April and November, it may offer new roosting opportunities for bats that are active on site. It is therefore preferable to complete roofing **and** all external work to seal the building prior to

starting the installation of internal fixings. If this is not possible then any cavities created by installation of plaster-boarding and so forth are covered at night to prevent entry and potential of entombing bats in the works.

- Any replacement/insertion of windows and other fills to apertures that are required should be done by completing the removal and replacement in a day to prevent any crevices being left open overnight. All reveals should be sealed (temporarily if necessary) overnight to avoid bats entering into exposed crevices in walls.
- Further advice on measures to prevent entrapment of bats and methods of preventing entry can be provided on request by a qualified consultant bat specialist.

If bats or signs of bats are found at any time when any demolition, deconstruction, renovation or alteration work is being undertaken then work should stop and advice sought from a qualified bat specialist or representative of Natural England. On no account should bat(s) be handled by anyone other than a licensed bat worker. Failure to do so may result in an offence being committed under the legislation, as detailed in Appendix 1.

4. Site enhancement for bats

It is recommended on sites where there is bat activity and bats are using site features as foraging areas and/or commuting pathways. The following enhancements will be installed on site prior to **Phase 2** of the development:

- 2 Schwegler 1FF bat boxes will be erected on trees at the periphery of the site prior to the commencement of the refurbishment of the buildings. **This will be done before the roof areas are stripped from the brick barns.**
- 4 Schwegler 1FE bat panels will be installed in agreed positions, advised by the appointed consultant, on the refurbished buildings on site. These panels are attractive and discrete and are set into the building fabric. Suggested positions are given in **Appendix 2, Figure 2.2: Proposed site plan.**
- Installation will be done at a height of at least 3m and the boxes will face any orientation apart from directly north. Erection of bat boxes will provide a positive contribution to bat conservation. Examples of appropriate boxes can be found at <http://www.bioquip.net/> and <http://www.alanaecology.com/>.
- It is also recommended that insect attracting shrubs be incorporated into any future planting scheme to encourage the presence of insects and thereby provide suitable foraging sites for local bats which have been observed to use the site for foraging (see **Appendix 3**).
- Any additional lighting around the site should be designed to point downwards and away from any potential roosting sites such as the trees, bat boxes. It is recommended that specific types of lighting and use of cowls or hoods is made to minimise potential disturbance. Recommendations and best practice are given in **Appendix 4**.

4.3 GREAT CRESTED NEWTS (GCN): LICENSING REQUIREMENTS

- 4.3.1 Great crested newts are breeding in a pond at less than 100m from the proposed development site. There is potential for impacts on GCN through the development works and all works on site that have potential to impact on GCN must be undertaken under a European Protected Species licence (EPSL) for great crested newts. Licences are issued by the statutory authority of the country. Crabmill Farm is within Wales and the authority is Natural Resources Wales (NRW).
- 4.3.2 The work is to be undertaken under 2 phases, described in 4.4. **Phase 1 does not require licensing.** For Phase 2, which incorporates all remaining work after Phase 1 on **Areas A** and **B**, a licence will be required for all work on **Area B**.
- 4.3.3 Certain works on **Area A** may not require licensing but all work undertaken for Phase 2 outside of licence must be agreed with the appointed ecologist for the licence and all undertaken under a method of works, which will include the reasonable avoidance measures (RAMS) given in **Section 4.4** below.
- 4.3.4 **If GCN are found in Area A and no licence is in place then work will have to stop and an EPS licence will then be required for work to proceed. It is therefore recommended that all Phase 2 work is undertaken under licence.**

4.4 GCN: MITIGATION AND COMPENSATION MEASURES

4.4.1 Phasing of works

There will be 2 phases. These are illustrated in **Figure 5** below.

- 4.4.2 **PHASE 1:** The concrete floor in the marked area of Barn B (**Appendix 1**) in **Figure 5** will be removed and a new concrete floor installed. Clearance of the interior and relaying of the floor will be done under reasonable avoidance measures (Section 4.4.5)

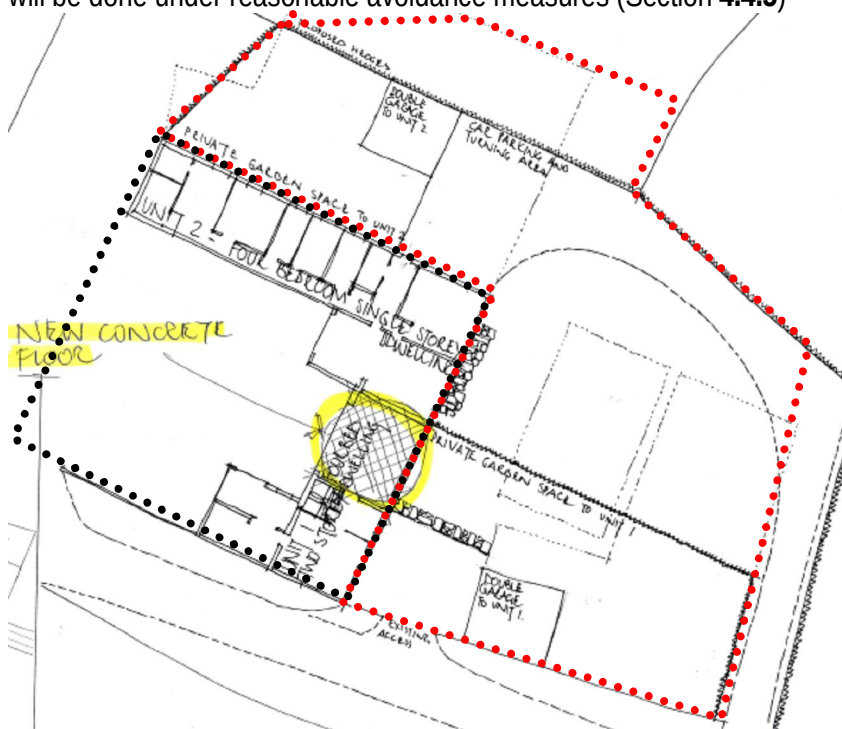


Figure 5

- 4.4.3 **PHASE 2:** This incorporates all ground clearance, demolition of structures, refurbishment of the brick barns and landscaping of the gardens of the new dwellings. The site areas are **Area A** outlined in black (the brick barns) and **Area B** outlined in red (the grounds around the large agricultural sheds and the sheds themselves) as shown in **Figure 5**.
- 4.4.4 **All works in Area B will be done under licence.** Any works in **Area A** during **Phase 2** that may potentially be done outside the licence will be agreed and subject to a method of works, which will be drawn up as required for that element of work. **If GCN are found in area with no licence in place then allow work will stop and the licensing position reviewed by the ecologist.**
- 4.4.5 It is recommended that reasonable avoidance measures (RAMs) are implemented to minimise the potential for any harm to great crested newts and other amphibians during the development. This is particularly important on **Area A**, which will not have exclusion fencing. Although **Area B** will be fenced to exclude GCN, these measures will be implemented across the whole site and provide precautionary measures and good site housekeeping
- ground clearance of the site and any drainage and services installation should be completed between March and August, when most GCN are in ponds. This will further minimize any risk of finding undetected amphibians
 - Piles of materials on the site must be removed with care to avoid injury or death to any newts present. Any areas such as stone and brick piles, wood piles and clearance of materials presently on the ground around the site must be hand-lifted with care to avoid crushing any animals that may be beneath
 - All building materials (bricks, tiles, concrete blocks etc) etc should be delivered and stored off the ground on pallets or timber baulks, preferably on the hard-standing areas
 - All loose materials should be delivered to and stored on site in bulk bags, and not be loose tipped on site
 - Excavations should, wherever possible, be back-filled at the end of each working day. Where trenches are excavated for services, the trench should be excavated in the morning, the services laid and the trenches back-filled in the afternoon. Where this is not possible, the trenches should be covered over with sheet plywood and the edges sealed with topsoil to prevent amphibians falling into the trenches.
- 4.4.6 **Mitigation measures for the on-site works will be formally agreed with NRW during the licensing process.** They are summarised here but may be subject to alteration.
- Prior to the start of works and once the licence is in place **Area B** will be surrounded by GCN exclusion fencing (along red line as in **Figure 5**)
 - **Area A** will be subjected to destructive searches through all barns during the clearance of the barn interiors.
 - Pitfall traps will be set at 5-10m intervals along the line of fence
 - A period of 30 (minimum) – 60 (maximum) trapping days will be undertaken to clear the site of GCN
 - Timing of the clearance will begin no earlier than late February and no later than early September in any given year
 - These timings are subject to weather conditions, which may extend the trapping period
 - After 30 days the trapping programme will be reassessed and adjusted accordingly
 - 5 clear days with no catches and good conditions must elapse prior to the end of the trapping period
 - Catches will be relocated to hibernaculae (**Figure 6**) at 3 points round the site.

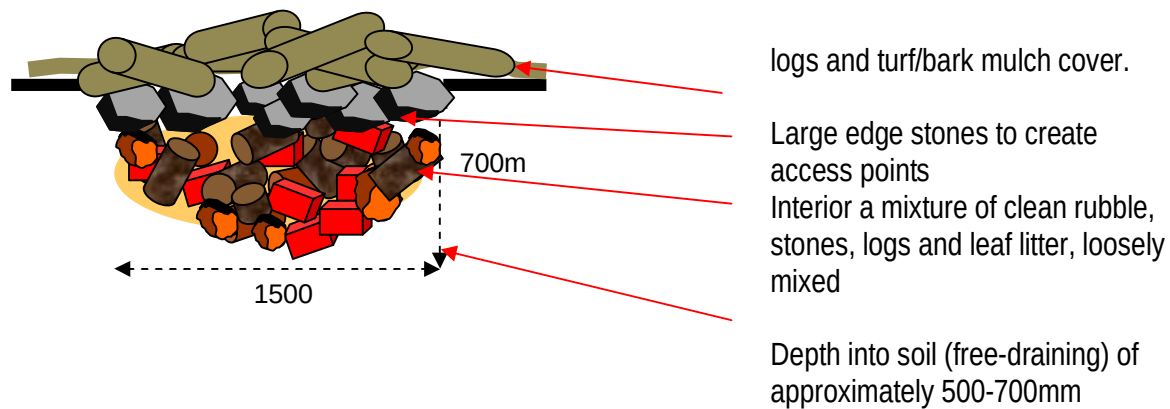


Figure 6: Hibernaculum

4.4.7 All compensation measures for loss of habitat will be formally agreed with NRW during the licensing process. They are summarised here but may be subject to alteration.

- There is no loss of ponds and so no ponds are to be constructed
- 3 hibernaculae will be constructed at points around the site. These are shown in **Figure 7**. They will compensate for the loss of refuge places in the clearance area
- Additional compensation measures will be through the hedge planting that is proposed along the north and east boundaries and within the site (150m approximately - **Figure 5**), shrub beds with mulch or bark around the shrubs and an area of rough grasses, which is left uncut through the autumn and spring periods while newts are active on land.
- Creation of some elevated planting beds with wall surrounds built from stone or similar material, leaving gaps in the stonework to allow use by GCN.

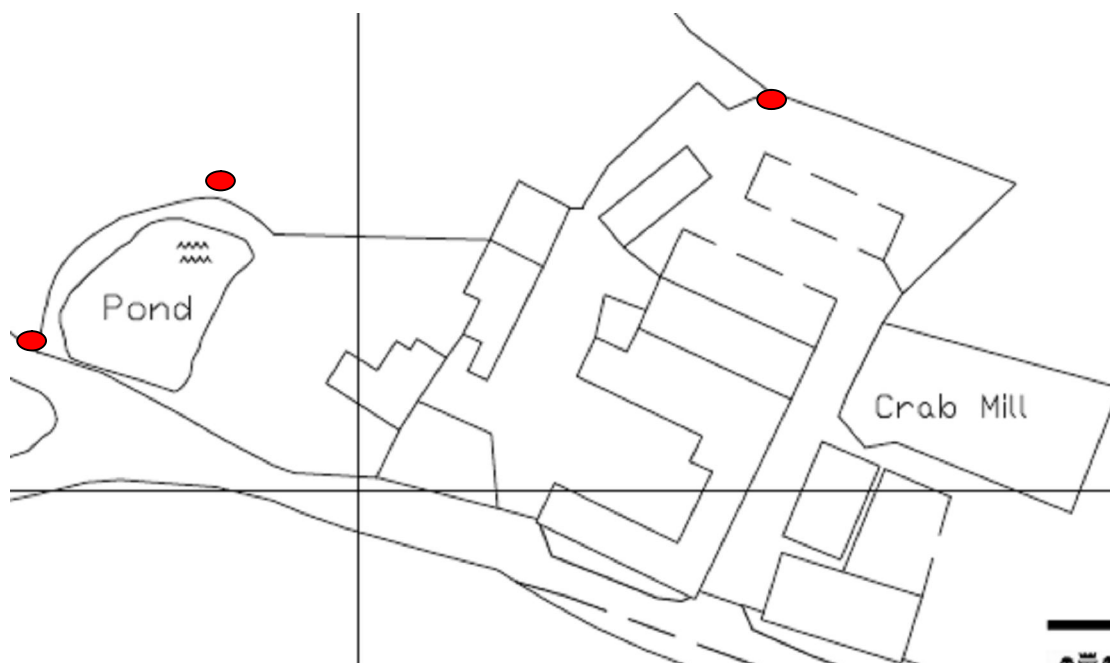


Figure 6: Hibernaculae positions (provisional)

5 CONSERVATION AND ENHANCEMENT MEASURES

A redevelopment provides opportunities to enhance a site for wildlife and so it is also recommended:

- Where possible, the mature trees and hedgerows on around and near the site should be retained. These have potential to develop into natural roosting sites.
- **Removal of any large mature trees should only be done following an inspection for potential roost holes for bats.**
- **Any loss of trees or hedge rows will be replaced by new planting at the edges of the new boundaries to maintain connectivity of habitat features round the site**
- **Appendix 2, Figure 2.2 indicates the planting of new boundary hedges. These will use a mixture of native species to create species rich hedges. Examples are given in Appendix 3. At least 5 different species should be used.**
- It is recommended that insect attracting shrubs be incorporated into any future planting (for example the planting for the gardens of the new residential units) scheme to encourage the presence of insects and thereby provide suitable foraging sites for local bats which have been observed to use the site for foraging (see **Appendix 3**).
- Any additional lighting around the site should be designed to point downwards and away from any potential roosting sites for bats such as the trees. Low-wattage lights are most suitable as these will attract insects for feeding bats. No lighting will be installed or directed towards the positions of the bat boxes. Lighting advice is given in **Appendix 4**.

6 TIMETABLE OF WORKS

5.1 The timetable as proposed may be subject to changes during the licence application process.

5.2: **Provisional timetable of actions.** Timing is month of proposed year of development (YD).

Timing	Actions	Mitigation/comment
2013-2014	Phase 1 measures undertaken No licence required	No specified timing. RAMS will be observed
	Agreement on any works outside licence in Area A Preparation of method of works as required	If GCN are found all work must stop and proceed only once licence is in place
At least 4 months prior to proposed start date of development	Application for GCN EPS licence Agreement on any works outside licence in Area A Hibernaculae installed	
March – September YD	Site clearance of receipt of licence	Trapping days in conditions of at least 50C overnight. 5 days no catches before stop 30 days minimum (60 maximum providing 5 no catch days achieved)
October onwards YD	Site development work undertaken.	GCN exclusion fence remains in place throughout
ASAP	Landscaping – hedges, mulch beds, walls	
1 year post development	Monitoring of site	Ensure all mitigation is in place
2 years PD	Population count on Pond 1	Trapping/torching programme

7 REFERENCES

1. BCT (2007) *Bat Surveys Good Practice Guidelines* Bat Conservation Trust
2. English Nature (2004) *Bat Mitigation Guidelines* Version January 2004
3. English Nature (2001) *Great Crested Newt Mitigation Guidelines* Version August 2001
4. Ecologically Bats (2009) *Protected Species report for Crabmill Farm, Bronington* Report number 2009/BE/38 Issued 20th September 2009
5. JNCC (2004) *Bat Workers Manual* Third Edition.
6. JNCC (2001) *Habitat management for bats*
7. Langton, T.E.S., Beckett, C.L. and Foster, J.P. (2001) *Great Crested Newt Conservation Handbook* Froglife.
8. Natural England (2012) *Template for Method Statement to support application for licence under regulation 53(2)(e) in respect of GCN Form WML-A14-2* (August 2012)

8 APPENDICES

Appendix 1: Protected species legislation and policy guidance

Appendix 2: Proposed site plan and enhancements

Appendix 3: Habitat enhancements for wildlife

Appendix 4: BCT lighting advice 2011

APPENDICES

Appendix 1: Legislation and policy guidance

BATS

Bats are offered special protection under the following legislation:

- **The Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9.** This Act transposes into UK law the **Convention on the Conservation of European Wildlife and Natural Habitats** (commonly referred to as the “Bern Convention”. The WCA was recently amended by the **Countryside and Rights of Way [CroW] Act 2000**. This makes it is an offence to:
 - o intentionally kill, injure or take any species of bat [Section 9(1)]
 - o possess or control any live or dead specimens or anything derived from a bat [Section 9(2)]
 - o intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat [Section 9(4)(a)]
 - o intentionally or recklessly disturb a bat while it is occupying a place or structure which it uses for that purpose [Section 9(4)(b)].
- **“The Conservation of Habitats and Species Regulations 2010 (as amended)”** (The Habitats Directive) transposes into UK law **Council Directive 92/43/EEC** of 21st May 1992 on the **Conservation of Natural Habitats of Wild Fauna and Flora (2010 revised)** (referred to as the Habitats [and Species] Directive). Bats are listed on Annex II and Annex IV of the Directive. Inclusion in Annex II serves to underline their (the bats’) conservation significance; inclusion in Annex IV (European Protected Species) means that member states are required to put into place a system of strict protection as outlined in Article 12. This is done through inclusion in Schedule 2 (Annex IV) of the Regulations. Regulation 41 makes it an offence to:
 - o deliberately capture or kill a bat [Regulation 41 (1)(a)]
 - o deliberately disturb a bat [Regulation 41(1)(b)]
 - o deliberately damage or destroy a breeding site or resting place of a bat [Regulation 41(1)(d)].

GREAT CRESTED NEWTS

Great crested newts, *Triturus cristatus*, are offered special protection under the following legislation:

- **The Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9.** This Act transposes into UK law the **Convention on the Conservation of European Wildlife and Natural Habitats** (commonly referred to as the “Bern Convention”. The WCA was recently amended by the **Countryside and Rights of Way [CroW] Act 2000**. This makes it is an offence to:
 - o intentionally kill, injure or take a great-crested newt [Section 9(1)]
 - o possess or control any live or dead specimens or anything derived from a great-crested newt [Section 9(2)]
 - o intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great-crested newt [Section 9(4)(a)]
 - o intentionally or recklessly disturb a great-crested newt while it is occupying a place or structure which it uses for that purpose [Section 9(4)(b)].
- **“The Conservation of Habitats and Species Regulations 2010 (as amended)”** (The Habitats Directive) transposes into UK law **Council Directive 92/43/EEC** of 21st May 1992 on the **Conservation of Natural Habitats of Wild Fauna and Flora** (referred to

as the Habitats [and Species] Directive). The great-crested newt is listed on Annex II and Annex IV of the Directive. Inclusion in Annex II serves to underline the animal's conservation significance; inclusion in Annex IV (European Protected Species) means that member states are required to put into place a system of strict protection as outlined in Article 12. This is done through inclusion in Schedule 2 of the Regulations. Regulation 41 makes it an offence to:

- o deliberately capture or kill a great crested newt [Regulation 41 (1)(a)]
- o deliberately disturb a great crested newt [Regulation 41(1)(b)]
- o deliberately take or destroy the eggs of a great crested newt [Regulation 41(1)(c)]
- o deliberately damage or destroy a breeding site or resting place of a great crested newt [Regulation 41(1)(d)].

This legislation applies to all life stages of great crested newts.

EXCEPTIONS FOR LICENSING

There are several exceptions to the provisions listed above under Regulation 44(2)(e). The Wildlife Licensing Unit of Natural England issues licences for a number of purposes, including *"preserving public health or 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"*. Licences permit unlawful activities under and in accordance with the terms of a licence granted by the appropriate authority.

Regulations 41 does not apply to anything done (under appropriate licence) for any of the following purposes

- o scientific or educational purposes;
- o ringing or marking, or examining any ring or mark on, wild animals;
- o conserving wild animals or wild plants or introducing them to particular areas;
- o protecting any zoological or botanical collection;
- o 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;
- o preventing the spread of disease; or
- o preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries.

The appropriate authority shall not grant a licence under this regulation unless they are satisfied-

- (a) that there is no satisfactory alternative, and
- (b) 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.

Appendix 2: Proposed plan for Crab Mill 2013

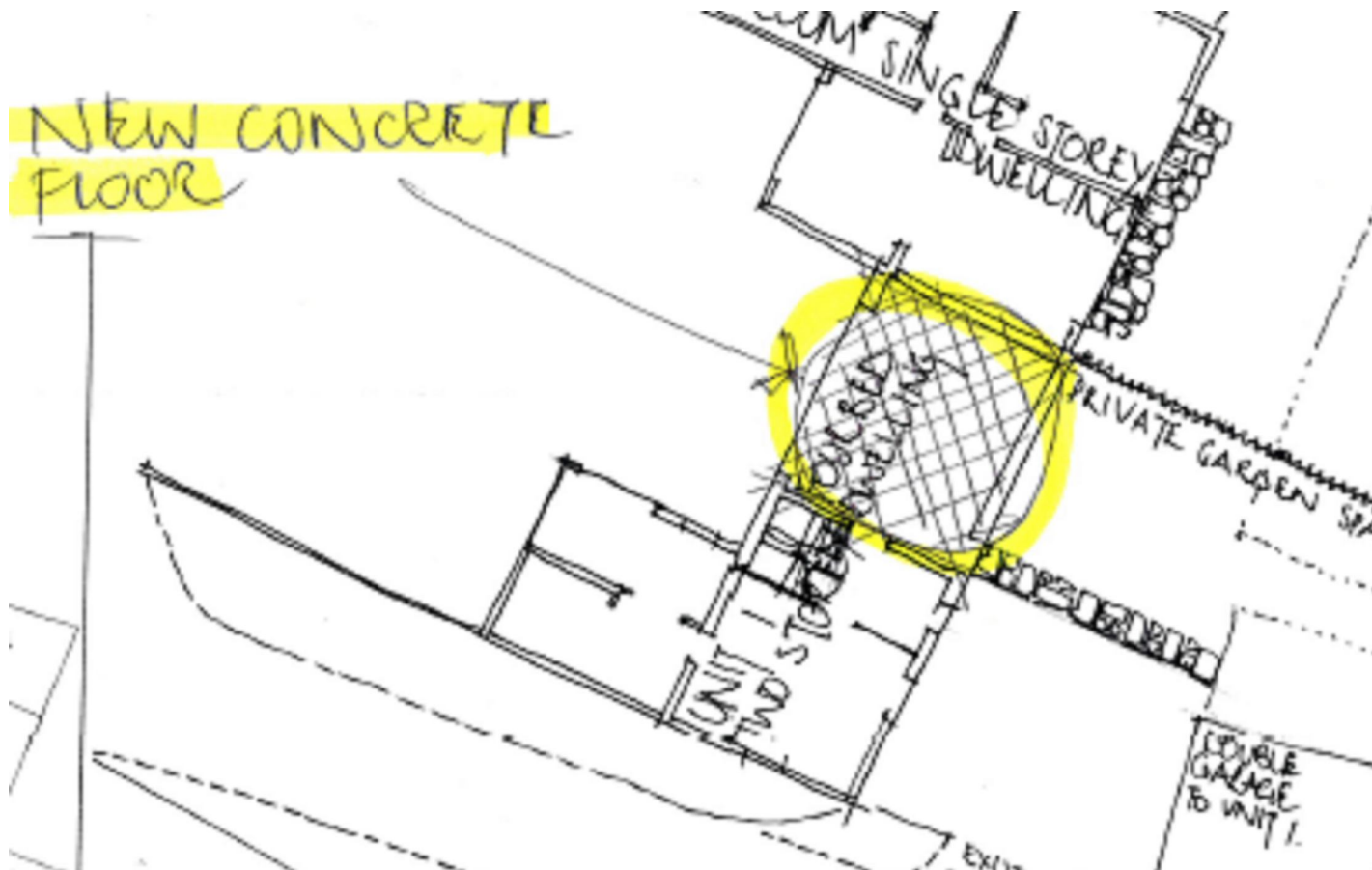
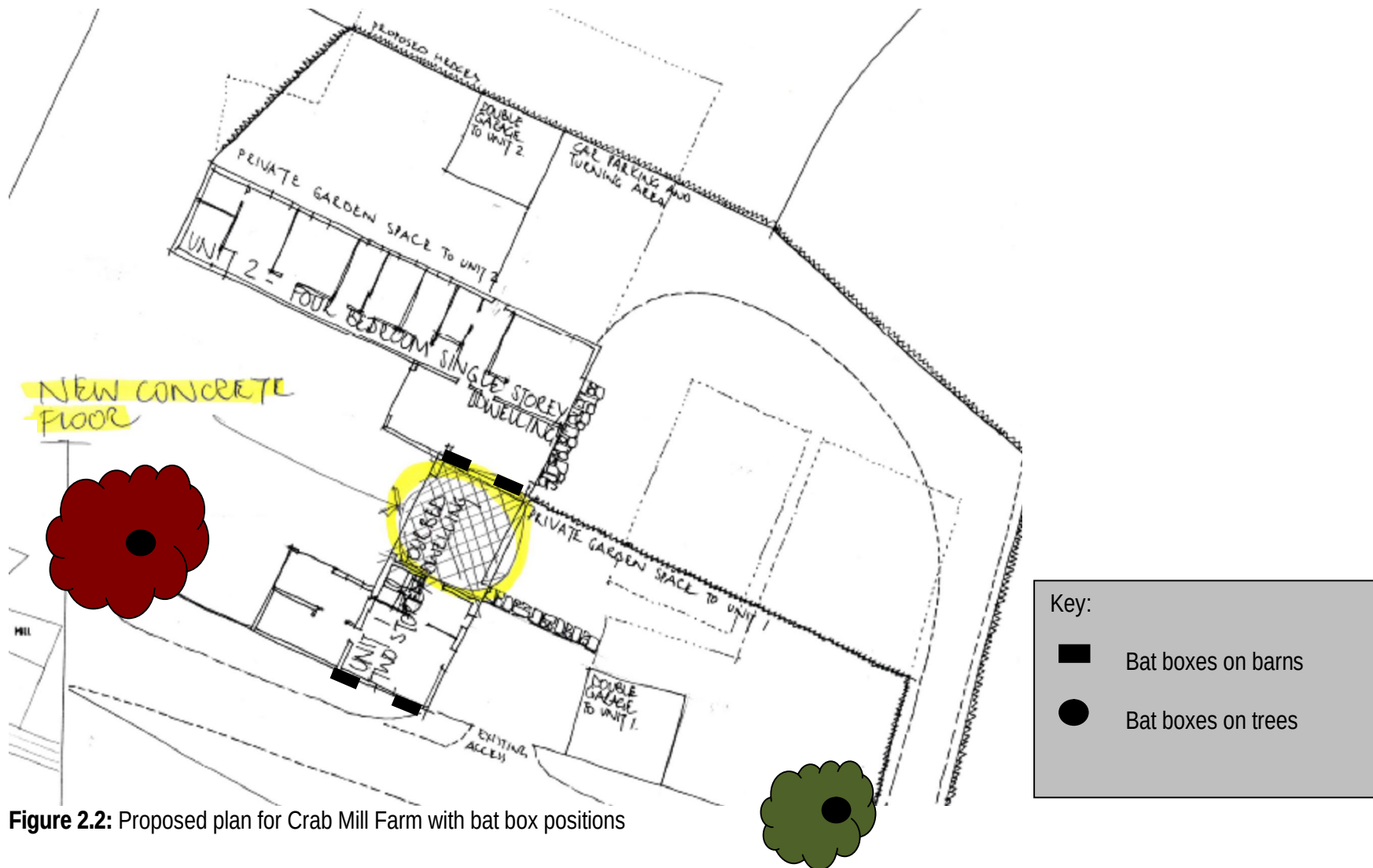


Figure 1.2: Section of barn to be re-floored in **Phase 1** of works

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Appendix 3: Habitat enhancements: planting for bat and other species

Planting to enhance a site should aim to provide a habitat rich in insects, and with the potential for alternative roosting, refuges foraging and commuting between areas of enhancement. The following are examples of plant species, which can be used where appropriate, to enhance a landscape for wildlife.

TREES AND SHRUBS (OF LOCAL PROVENANCE WHERE POSSIBLE)

Oak	<i>Quercus robur</i>
Ash	<i>Fraxinus excelsior</i>
Silver Birch	<i>Betula pendula</i>
Field Maple	<i>Acer campestre</i>
Hawthorn	<i>Crataegus monogyna</i>
Alder	<i>Alnus glutinosa</i>
Goat Willow	<i>Salix caprea</i>
Guelder Rose	<i>Viburnum opulus</i>
Hazel	<i>Coryllus avellana</i>
Blackthorn	<i>Prunus spinosa</i>
Elder	<i>Sambucus nigra</i>

Night-scented flowers

As for example, bats usually feed at dusk and dawn it is advantageous to use night-scented flowers which will attract moths and other night-flying insects.

Nottingham Catchfly	<i>Silene nutans</i>
Night-flowering Catchfly	<i>S. noctiflora</i>
Bladder Campion	<i>S. vulgaris</i>
Night-scented Stock	<i>Matthiola bicornis</i>
Dame's-violet	<i>Hesperis matronalis</i>
Common Evening-primrose	<i>Oenothera biennis</i>
Soapwort	<i>Saponaria officinalis</i>

Scented herbs

Chives	<i>Allium schoenoprasum</i>
Sage	<i>Salvia officinalis</i>
Marjoram	<i>Origanum vulgare</i>
Borage	<i>Borago officinalis</i>
Mint	<i>Mentha</i> sp.

Climbers

Honeysuckle (native)	<i>L. periclymenum</i>
Traveller's-joys	<i>Clematis vitalba</i>
Dog-rose	<i>Rosa canina</i>
Sweet-briar	<i>R. rubiginosa</i>
Field-rose	<i>R. arvensis</i>
Ivy	<i>Hedera helix</i>
Bramble	<i>Rubus fruticosos</i> agg.

Where reseeding is to take place the choice of a 'conservation mix' of grass seed would be preferential. The management of grassland areas as hay meadows, without use of herbicides/fertilisers and allowing the grass to go to seed prior to cutting is beneficial allowing larval stages of the insects to develop.

Source:

Bats in the garden by Shirley Thompson, 1989. School Garden Company. Spalding, Lincolnshire
Bat Conservation Trust leaflet 'Garden for Bats':

- Garden plants
- Native species

Bat Conservation Trust



Appendix 4: Statement on the impact and design of artificial light on bats:

Artificial night lighting is disturbing to many bat species, including some of our rarest and most vulnerable bat species. Some fast-flying bats, such as common and soprano pipistrelle bats, are more tolerant of light and feed on the insect congregations around street lamps. However, this exposes the bats to predation. For the bats that are repelled by light such as horseshoe bats and brown long-eared bats, insect food becomes scarcer and more difficult to find and hunt.

We know that some bat species will not cross lines of light, such as street lighting. The light acts as a barrier, disrupting flight paths and fragmenting and restricting habitats. In addition, lighting close to roost access points disturb bats within a roost, delay emergence time and may result in the abandonment of a roost.

Smarter lighting, rather than less lighting, is key to mitigating the effects of light pollution. Light should only be erected where it is needed, illuminated during the time period it will be used, and at the levels that enhance visibility.

Mitigation must be guided by an understanding of the particular species that might be affected. For example, some bat species may be more sensitive than others.

Design recommendations for wildlife-friendly lighting include:

1. Do not "over" light. This is a major cause of obtrusive light and is a waste of energy. Use only the minimum amount of light needed for safety. There are published standards for most lighting tasks, adherence to which will help minimise upward reflected light.
2. Eliminate any bare bulbs and any light pointing upwards. The spread of light should be kept near to or below the horizontal.
3. Use narrow spectrum bulbs to lower the range of species affected by lighting.
4. Use light sources that emit minimal ultra-violet light. Insects are attracted to light sources that emit ultra-violet radiation.
5. Reduce light-spill so that light reaches only areas needing illumination. Shielding or cutting light can be achieved through the design of the luminaire or with accessories, such as hoods, cowls, louvers and shields to direct the light.
6. Reduce the height of lighting columns. Light at a low level reduces ecological impact. However, higher mounting heights allow lower main beam angles, which can assist in reducing glare.
7. For pedestrian lighting, use low level lighting that is directional as possible and below 3 lux at ground level.
8. Use embedded road lights to illuminate the roadway and light only high-risk stretches of roads, such as crossings and merges, allowing headlights to take up the slack at other times.
9. Limit the times that lights are on to provide some dark periods for wildlife.
10. Use lighting design computer programs and professional lighting designers to predict where light spill will occur.

Bat Conservation Trust May 2011