

A Contents

B	Introduction	2
C	Survey and site assessment	8
D	Impact assessment	19
E	Mitigation and compensation	20
F	Summary	25
G	References	25

B Introduction

B1 Background to activity/development

Ms Angela Richardson has planning permission to convert Mill House; a brick built former farm building, into a residential dwelling, at Newton Morrell, Barton, Richmond, DL10 6HN. Barrett Environmental Ltd was commissioned by Ms Richardson to carry out a great crested newt (*Triturus cristatus*) survey of the application site which has a permanent pond in close proximity to the south. The survey was required as a condition of the planning consent.

The site is freehold (Title number NYK208107) and is situated to the east of Newton Morrell village within the District of Richmondshire. It is located within an agricultural area at grid reference NZ247093 at an altitude of 66m AOD.

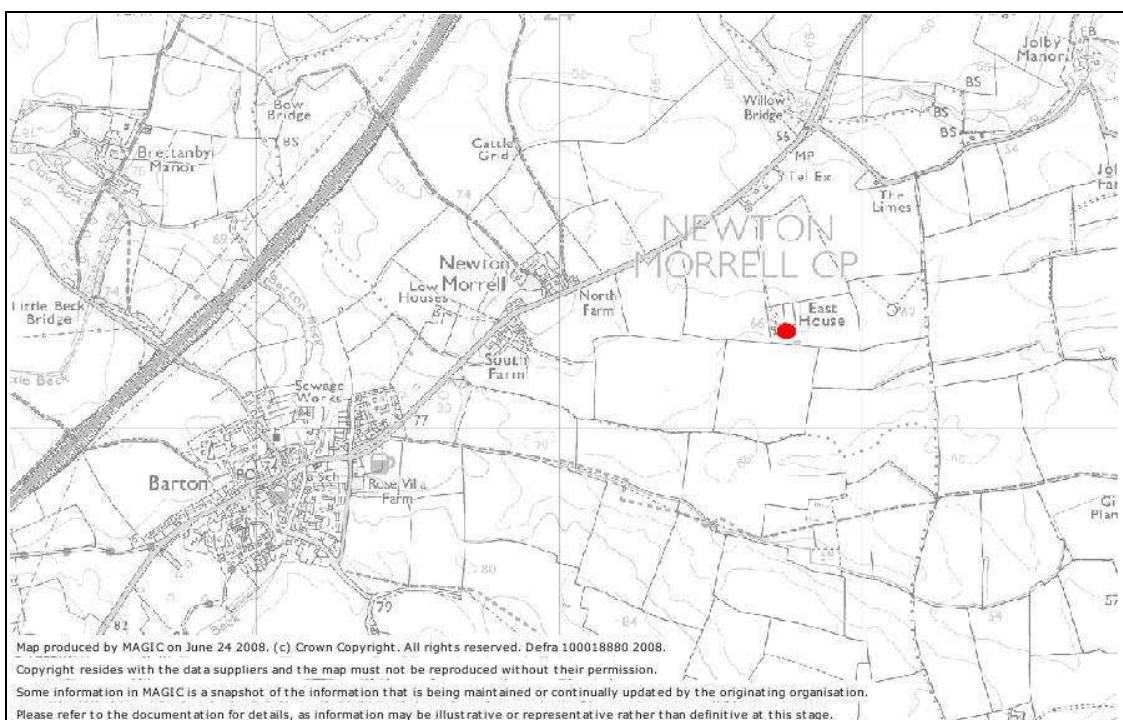


Figure 1: Location of Mill House, Newton Morrell (adapted from MAGIC)

B2 Full details of proposed works on site that are to be covered by the licence

Ms Richardson has planning permission to convert the existing structure, comprising former agricultural buildings (single-storey stables and barn area), into a four-bedroom residential dwelling with a garage and paved yard. The proposed development will utilise the footprint of the existing structure and will also reflect the existing single and double storey structure. The proposed single-storey sections will be 2.5m high at the eaves and have a pitched roof rising to 3.4m at the ridge, whilst the proposed double-storey will be 3.7m high at the eaves and have a pitched roof rising to 6.9m high at the ridge. The proposed development includes the retention of existing external walls which will be repaired using salvaged bricks from existing brick columns. All other spoil is to be removed from the site. No work to the pond is proposed. Plans

and elevations of the existing and proposed structure are shown in Figures 2 to 7.

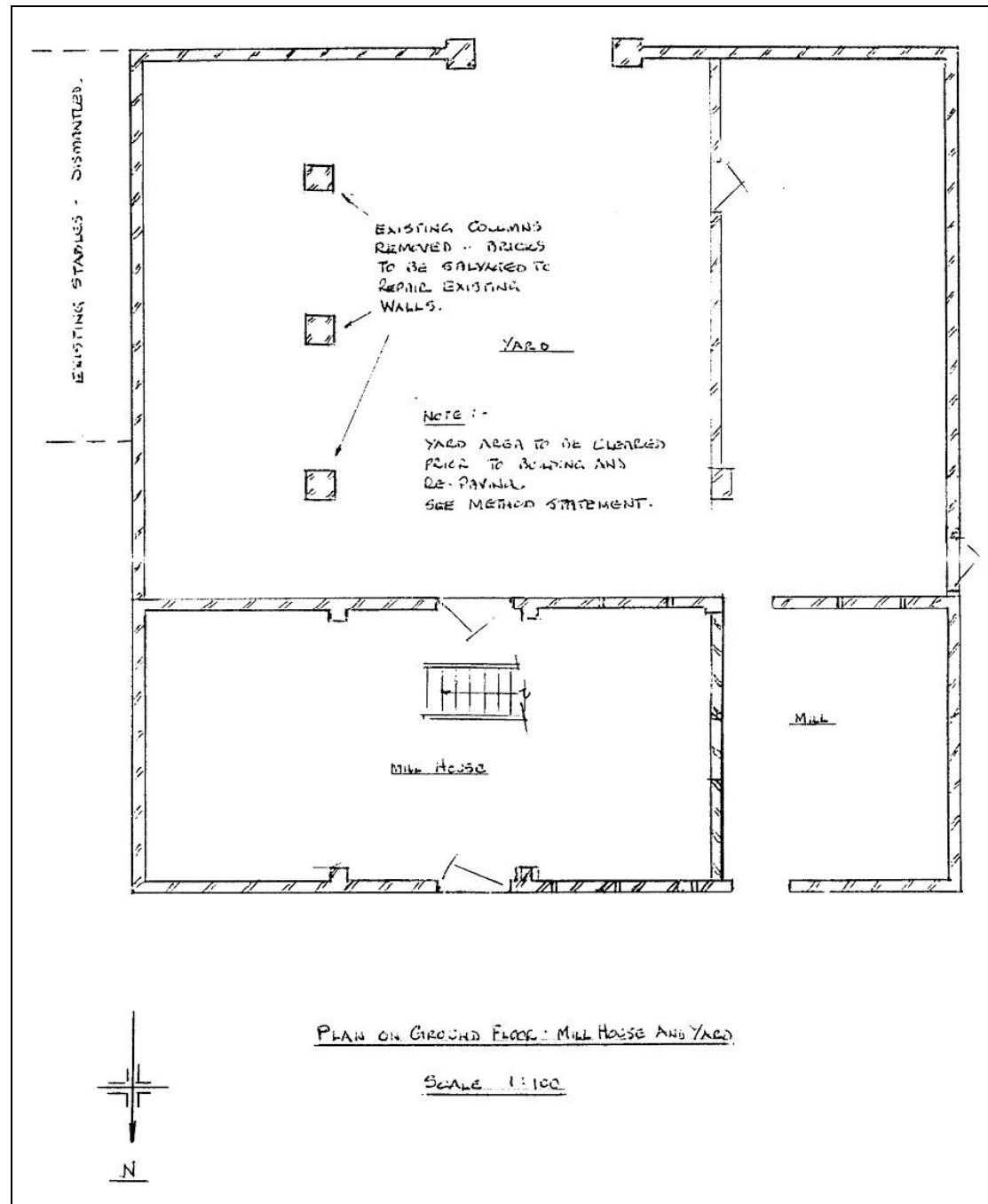


Figure 2: Plan of the existing ground floor layout (supplied by client)

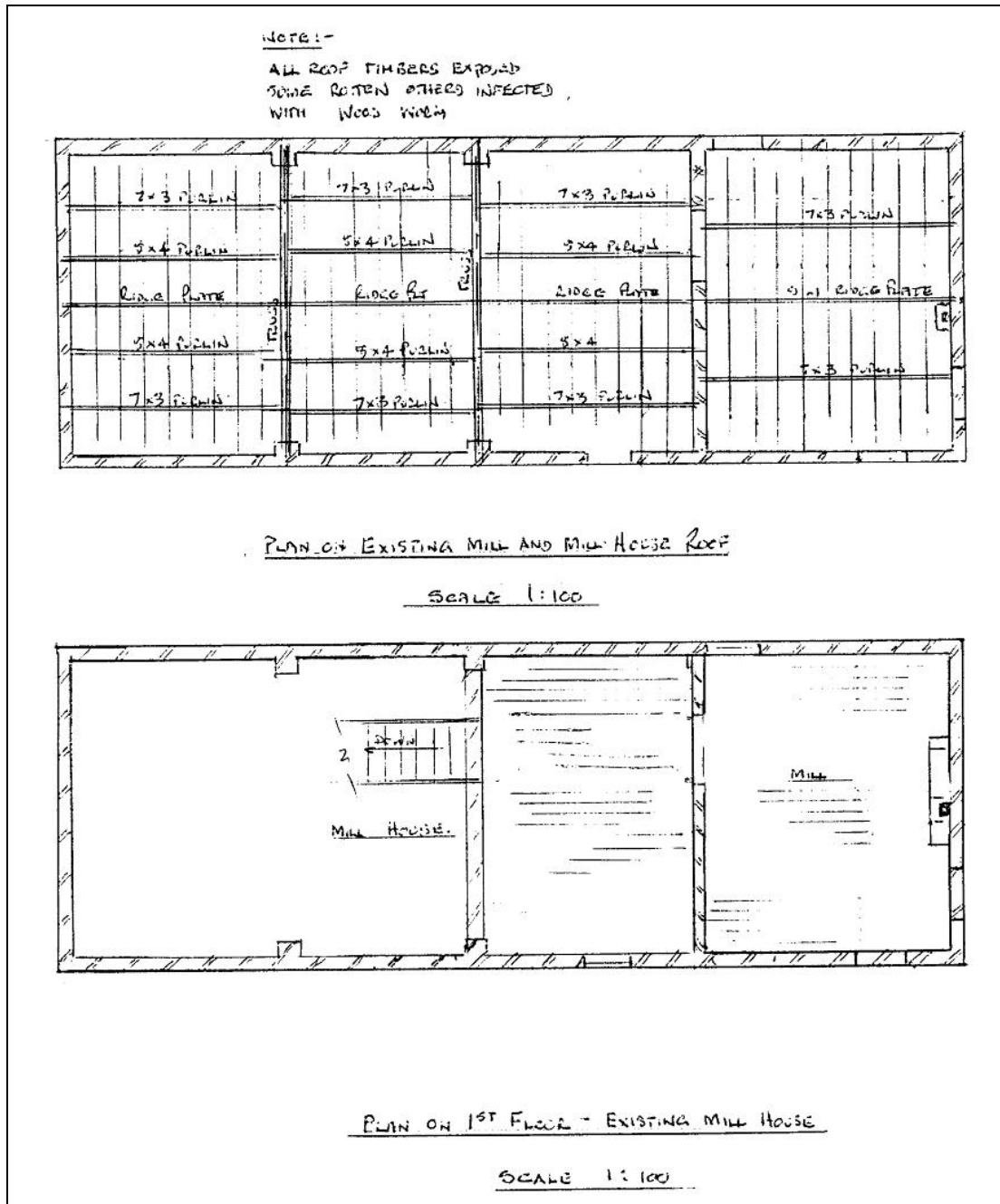


Figure 3: Plan of the existing first floor & roof (supplied by client)

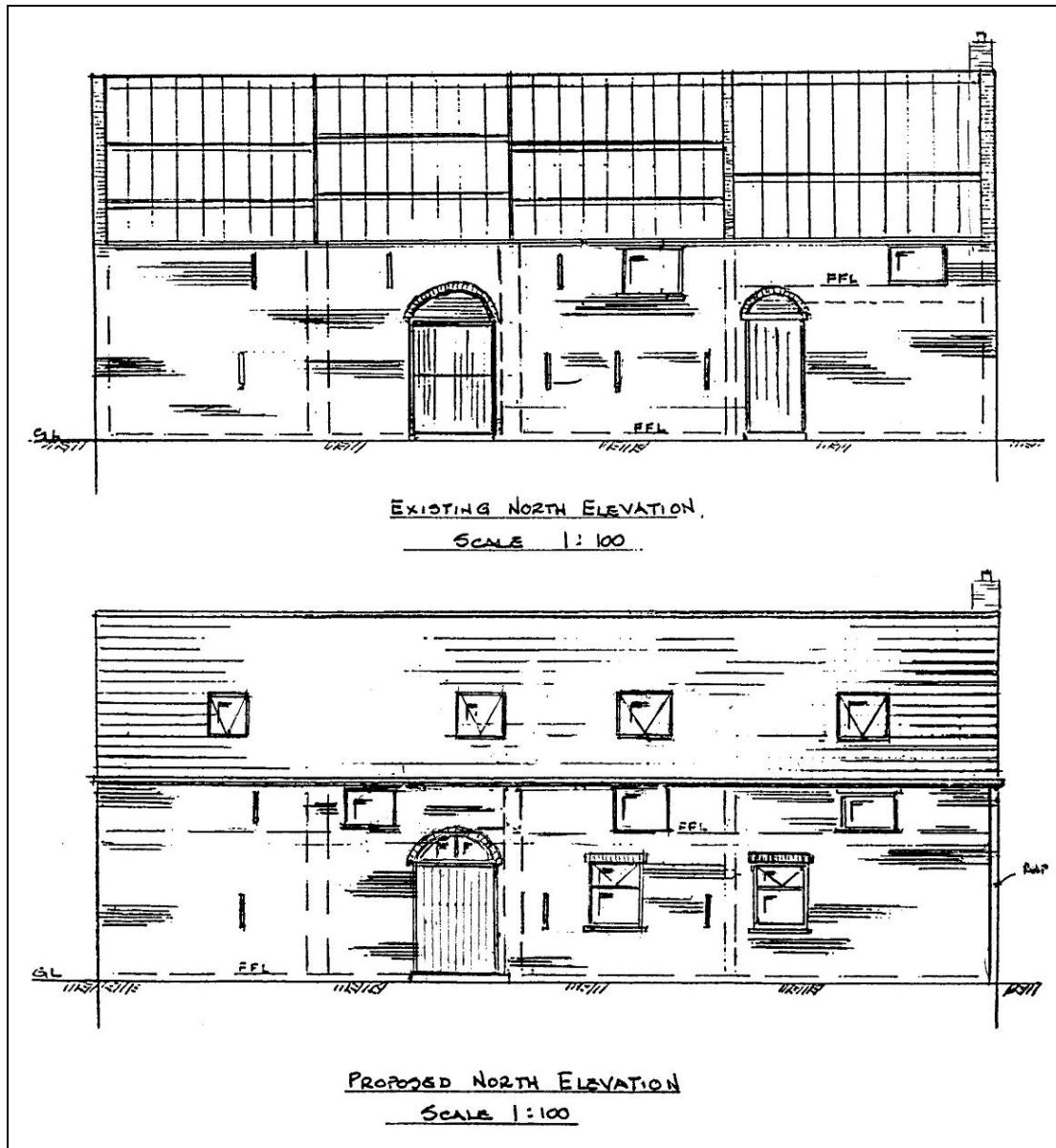


Figure 4: Plan of the existing & proposed north elevation (supplied by client)

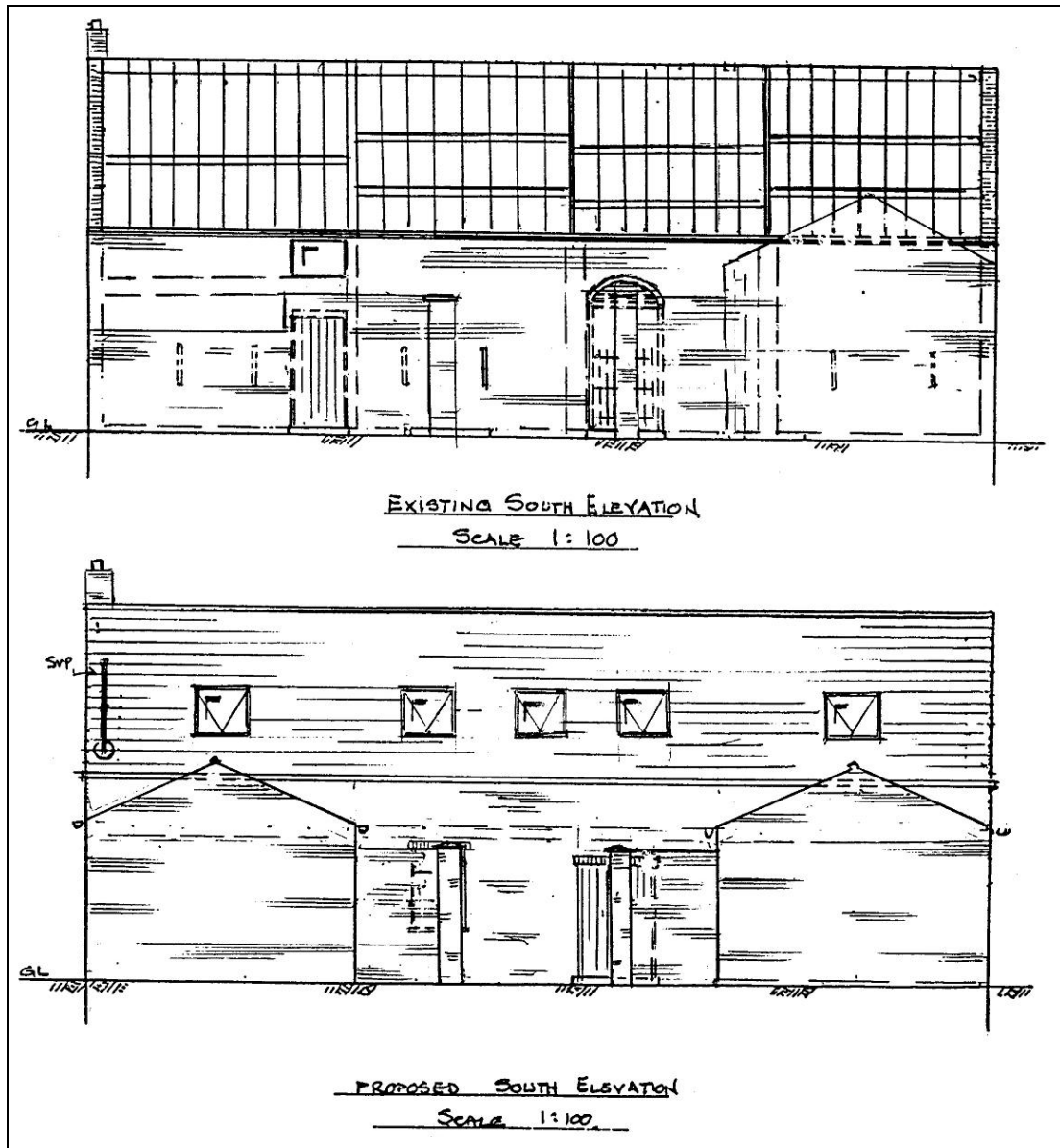


Figure 5: Plan of the existing & proposed south elevation (supplied by client)

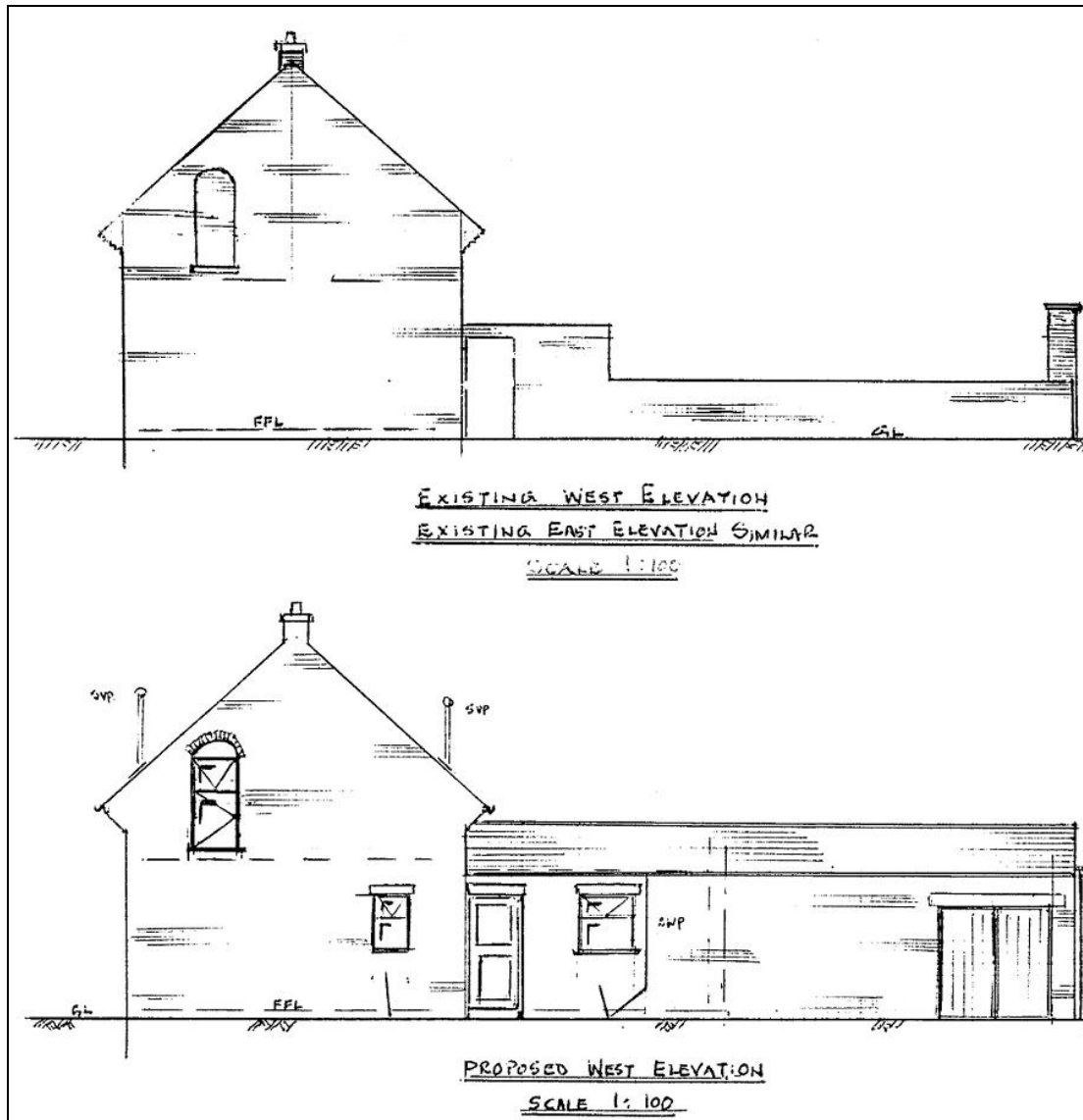


Figure 6: Plan of the existing & proposed west elevation (supplied by client)

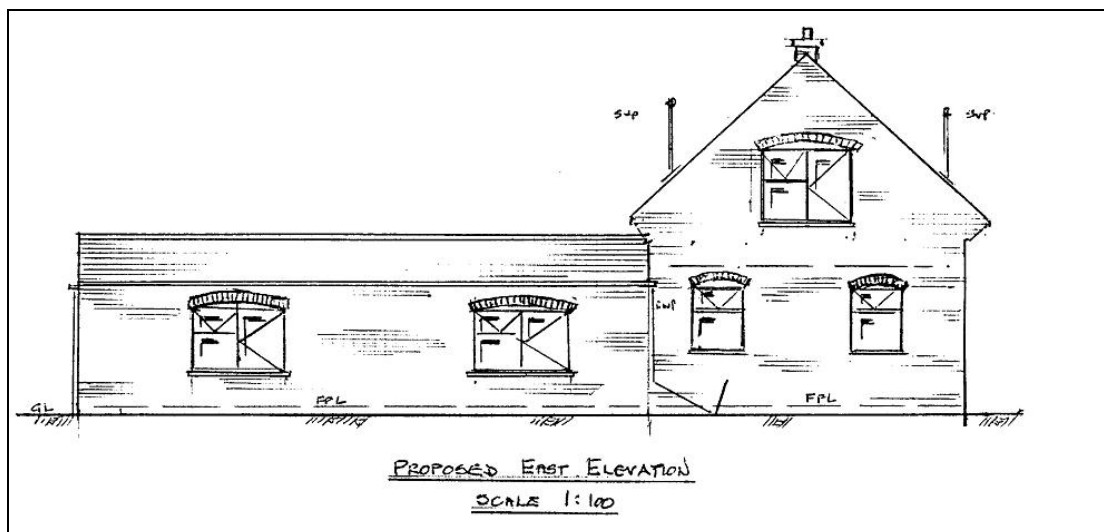


Figure 7: Plan of the existing & proposed east elevation (supplied by client)

C Survey and site assessment

C1 Pre-existing information on great crested newts at survey site

The North and East Yorkshire Ecological Data Centre (NEYEDC) hold records for great crested newts in Richmondshire. There are no records of the species within a 3km radius of the site. A large population of great crested newts is present at Broken Scar Water Treatment Works, located 5km north on the far side of the River Tees.

C2 Status of great crested newts in the local/regional area

The great crested newt is listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which affords them protection under Section 9, and is included in Annexes II and IV of the European Union Habitats Directive. The legislation makes it an offence to:

- Intentionally (or recklessly in Scotland) kill, injure, take or possess these animals;
- Intentionally or recklessly damage, destroy, obstruct access to any structure or place used by a scheduled species for shelter or protection, or disturb any animal occupying such a structure or place;
- Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative) or advertise for buying or selling these animals.

There is an estimated adult great crested newt breeding population in the UK of 360,000 animals, spread between an estimated 18,000 populations. It is locally common (URL 1).

The great crested newt is an IUCN Lower Risk/Conservation dependent species (i.e. without conservation effort, it would become a high risk category species within 5 years). Local and national surveys have estimated rates of great crested newt colony loss in England at between 0.5% and 4% per year from the 1960's to the 1990's (English Nature 2001).

Richmondshire Biodiversity Action Plan (2005) identifies great crested newt as a priority species "occurring on MoD land within Richmondshire".

C3 Objective(s) of survey

The survey was carried out to determine great crested newt utilisation of the pond situated adjacent to the proposed development. Techniques to show presence/absence, evidence of breeding and population size class assessment, were utilised.

C4 Survey area

The pond surveyed is shown in Figure 8 and lies approximately 25m east of the development site.

C5 Habitat description

The pond at Mill House is approximately 25m in diameter and is up to 3m deep. Whilst a permanent feature, it has been known to completely dry out at least once in living memory. The pond edges have been reinforced on the north side with steel sheeting, which has created a 50cm vertical drop, behind which has developed a shallow water, marginal community with emergent vegetation dominated by soft rush (*Juncus effusus*). There is occasional brooklime (*Veronica beccabunga*) and water mint (*Mentha aquatica*). Immature willow (*Salix sp.*) scrub is present along the shoreline and a line of mature willow overhangs the southern shore. Aquatic plants are largely absent, and the main body of the pond was gradually colonised by extensive mats of blanket weed (filamentous algae).

The centre of the pond contains an island, although this was submerged during the surveys.

The pond was stocked with coarse fish in the 1980's, although this was prior to it drying out. No fish were observed during the surveys in 2008.

The nearest known pond is situated 1.5km to the south east. All other ponds are more than 2km distant across arable farmland.

An outdoor horse-riding arena was constructed several years ago, adjacent to the pond. This is formed from a fine aggregate laid over a stone base. The edges of the base are exposed and provide refugia and a potential (although unproven) hibernaculum.

The building, which currently has no roof covering, has a concrete floor which in the former yard area to the south (see Figure 2 and Images 7,11 and 12), is strewn with small amounts of rubble, where the lack of a roof has allowed the development of vegetation, particularly clump-forming grasses and nettles (*Urtica dioica*).

C6 Field survey

C6.1 Methods

The great crested newt survey followed methodologies prescribed in the Great Crested Newt Mitigation Guidelines (English Nature, 2001) and included a combination of torch survey and egg search. However only 4 visits were carried out as the growth of blanket weed was excessive and great crested newt counts were dramatically reduced as the season progressed.

C6.2 Timing

All the visits were conducted within the recommended survey period for the species (English Nature, 2001). The surveys were implemented on 3rd April, 17th April, 1st May and 14th May.

C6.3 Weather conditions 2008

Weather conditions during each of the surveys are shown in Table 1 below.

Date (2008)	Cloud (%)	Rain	Temp start (°C)	Temp finish (°C)	Wind
3 April	0	Dry	10	9	Still
17 April	100	Damp	9	9	East f2
1 May	10	Dry	10	10	South west f1
14 May	0	Dry	10	10	East f1

Table 1: Weather conditions during surveys

C6.4 Personnel

The surveys were carried out by Trina Barrett MSc, CEnv, MIEEM and David Long MSc, CEnv, MIEEM, both are experienced and licensed great crested newt surveyors.

C7 Results

Date	GCN m	GCN f	GCN egg	SN m	SN f	CF	CT	Notes
03.04.08	54	10	Yes	4	11		25	Egg plants: brooklime & willowherb
17.04.08	31	8	Yes	3	2	1	1	Egg plants: brooklime & willowherb
01.05.08	26	31	Yes	3	12			Egg plants: brooklime & willowherb
14.05.08	28	15	Yes		3	1		Egg plants: brooklime & willowherb

Table 2: Torch survey results (GCN great crested newt; SN smooth newt; CF common frog; CT common toad; m male; f female)

C8 Interpretation and evaluation

C8.1 Presence/absence

Great crested newts were found to be present in the pond adjacent to the proposed development. Breeding was also proven by the presence of eggs recorded during each survey.

C8.2 Population size class assessment

The survey pond had a maximum count of 64 which is classified as a medium population. However the visibility in the main area of the pond became more and more restricted by excessive blanket weed growth, and the population is considered likely to be large.

C8.3 Site status assessment

The pond at Mill House holds a large breeding population of great crested newts. The pond is isolated and sits in an arable farmland landscape. It is connected to the wider countryside by a single hedgerow along the south side. The nearest pond is 1.5km away and the population is isolated.

There are no records of great crested newts from the vicinity and the lack of ponds in the area makes this site important at a District level.

C8.4 Constraints

The torch survey was constrained by steadily increasing densities of blanket weed throughout the survey period. This growth would have precluded access by amphibians into bottle traps, and the method was considered unsuitable for the site.

C9 Maps of survey area

Figure 8 shows the location (in blue) of the pond at Mill House.



Figure 8: Map of survey area showing pond area (blue), proposed development area of Mill House (green) & the site boundary (red) (adapted from MAGIC).

C10 Photographs of key habitat features



Image 1: View east across the pond



Image 2: View south showing marginal vegetation



Image 3: View east along the north shore



Image 4: View south towards the pond



Image 5: View north west towards the proposed development



Image 6: Outside riding area on the south side of the proposed development



Image 7: South side of buildings to be converted



Image 8: East side of development



Image 9: North east corner of development



Image 10: North side of building showing hardstanding



Image 11: Interior of the dilapidated building on the south side of the building (shown as the Yard in Figure 2) with vegetation growth



Image 12: Plants growing on the concrete floor of the dilapidated area of the building

D Impact assessment

D1 Pre and mid activity impacts

The pond will not be directly impacted by the proposed development. However the development lies 30m to the north east, and it is possible that amphibians are present under refugia on the hardstanding surrounding the building, or in the vegetation growing on the concrete floor of the dilapidated southern section (shown as the Yard in Figure 2 and in Image 11). Movement of these refugia could disturb, injure or kill adult or juvenile great crested newts, which is regarded as a major negative impact for the individual animal, but a minor negative impact on the isolated population. The temporary storage of equipment, machinery and building materials would similarly create refugia, the movement of which poses a threat to the protected species.

The rubble piles are considered unlikely to be suitable hibernaculae as they are small, located above a concrete floor, and exposed to the elements.

D2 Long term impacts

The proposed conversion of a redundant agricultural building and adjacent stable (active) to a dwelling will have a minor negative impact upon great crested newts in the long term, as some of the rubble in the south side of the building may be used as terrestrial refugia, and these will be lost.

D3 Post activity interference impacts

The proposed development will utilise the existing footprint of the building, which is surrounded by hard standing. There will be no loss of terrestrial habitat, nor severance of migration routes. The use of the outdoor riding arena will continue, as will the cutting of the grassed area between the pond and building. Post activity impacts associated with the development are therefore considered to be neutral.

D4 Other impacts

No other impacts will arise from the proposed development.

D5 Summary of impacts at site level

Impacts on great crested newts from the proposed development are associated with the site clearance and construction activities, which are assessed as a minor negative impact upon an isolated, but large breeding population.

D6 Summary of impacts in a wider context

The population of great crested newts at Mill House is considered to be important at a District level, due to its size and isolation. The anticipated impacts of the proposed development are determined as minor negative at a local level, and neutral/minor negative in the wider context.

D7 Map to show impacts



Figure 9: Impact area (minor negative in immediate vicinity of existing building). Plan adapted from MAGIC.

E Mitigation and compensation

E1 Mitigation strategy

The predicted impacts are associated with the potential disturbance, injury or death of great crested newts using refugia immediately around the development site, if those refugia are moved.

The proposed mitigation strategy will therefore be to install a temporary amphibian exclusion barrier around the building and working area, and remove, by hand, all refugia from inside the barrier. The barrier will be installed on/into the hard standing and equipped with artificial refugia. It is not possible to install pitfall traps into the hard standing, much of which is reinforced concrete. Any amphibians found will be relocated to a new hibernaculum constructed on the south west corner of the pond, adjacent to the riding area and hedgerow. A 10m wide buffer strip on the north side of the pond will also be managed for amphibians.

E1.1 Location of development away from wetland

The proposed development is the conversion of a former agricultural building into a dwelling. It is not possible to relocate the development further away from the pond.

E1.2 Habitat creation and enhancement

A new hibernaculum of standard design as shown in the Mitigation Guidelines (2001) will be constructed above ground, to avoid flooding, near the south west corner of the pond, adjacent to the riding arena and hedgerow. This will be 2m in diameter and 1m high.

The grass area to the north of the pond is currently strimmed. The area will be used as the garden for the renovated building, but a 10m wide buffer strip from the top water level will be managed for amphibians. The buffer strip will be strimmed to 150mm above ground level if necessary, once per year, during the winter, to ensure adequate cover is maintained for foraging amphibians.

E1.3 Avoidance of disturbance and physical harm

The translocation will be timed for the period when great crested newt adults are active and adults most likely to be in the breeding pond (April/May). A temporary amphibian barrier will be placed tight on the concrete on the south and east sides of the site and dug in the compacted hardstanding on the northern and western sides. Artificial refugia will be used to capture the amphibians and will be placed along the barrier and around the Yard area (as shown in Figure 2 and in Image 11). Amphibians will be relocated to the artificial hibernaculum.

The barrier will remain *in situ* for the duration of the translocation and conversion works. The removal of the barrier will be supervised by a licensed great crested newt worker.

E1.4 Timing

The hibernaculum will be constructed during the spring of 2009. The revised cutting regime, to create the 10m wide buffer zone, will commence immediately such that the zone will not be cut until the winter of 2009/10 or later.

E1.5 Long term habitat management and maintenance

The buffer zone between the pond and the regularly cut grassland area will be managed for amphibians as described in section E1.2. No other specific management is proposed.

E2 Receptor site selection

E2.1 Existing great crested newt status

The population of great crested newts at the receptor site is the same as that described in this report.

E2.2 Location, ownership and status

The receptor area is owned by the applicant.

E2.3 Habitat description, size, boundaries

The habitat is that described in section C5 of this report.

E3 Habitat creation, restoration and/or enhancement

E3.1 Aquatic habitats

No aquatic habitats will be created, restored or enhanced in association with this application.

E3.2 Terrestrial habitats

A hibernaculum of standard design will be constructed to the south west of the pond, adjacent to the hedgerow and riding arena. It will be 2m in diameter and 1m high.

A buffer zone 10m wide will be created, where vegetation management will only be undertaken during the amphibian hibernation season.

E3.3 Integration with roads and other hard landscapes

The hibernaculum has been located away from the site roads and is adjacent to the main hedgerow at the site, which is considered likely to be a corridor for amphibian movements. It could not be created near the north east corner of the pond, as this area is waterlogged in the winter.

E3.4 Integration with other species/habitat requirements

The pond is isolated in an arable landscape. The hedgerow provides the most obvious corridor and will be used by most amphibian species present. No other protected species are likely to be present.

E4 Capture, exclusion and translocation

E4.1 Timing, effort, methods, layout of capture/exclusion methods, translocation

A temporary amphibian barrier will be installed around the building, fixed on to/in the hard standing, in April 2009. Artificial refugia (50cm x 50cm squares of roofing felt, partially raised by stones beneath to create an accessible void), will be positioned around the inside of the barrier and around the Yard area at 5m centres. Each refugia will then be checked every morning for a period of 90 days (due to the size of the population of great crested newts thought to be present) and all amphibians relocated to the hibernaculum.

After 10 days of "trapping", all other (currently *in situ*) refugia will be removed by hand and stored on raised pallets, and the vegetation in the former yard area strimmed to 150mm with the arisings being removed by hand. The vegetation will then be hand-searched after 24 hours and amphibians relocated to the artificial hibernaculum. The vegetation will then be strimmed to ground level and the remaining soil and mats of plant root systems will then be cleared by hand, searching for amphibians as it is done.

Following these works no pre-existing refugia will remain and few great crested newts will be present within the hard landscape inside the barrier. Trapping will continue until there have been 5 consecutive days with no great crested newt captures at which point Natural England will be contacted to discuss if further trapping out of the (bare ground) site is required.

E5 Post development site safeguardE5.1 Habitat management and maintenance

No habitat management for amphibians, other than that previously described, will be carried out.

E5.2 Population monitoring

The proposed development is considered, without mitigation, to have a minor negative impact on the isolated population of great crested newts. Following the Guidelines (2001), 2 years post project population size class assessment monitoring will be undertaken.

E5.3 Mechanism for ensuring delivery

A Natural England development licence in respect of great crested newts will be required for this development. Mitigation described here will be a condition of that licence.

E6 Timetable of works

Activity	2008	2009			2011	2012
	Sept	Jan	Mar	Apr	Mar	April
Apply for Natural England great crested newt licence						
Construct artificial hibernaculum						
Install temporary amphibian barrier						
Commence "trapping out"						
Commence building works						
Remove amphibian barrier						

Table 3: Timetable of works

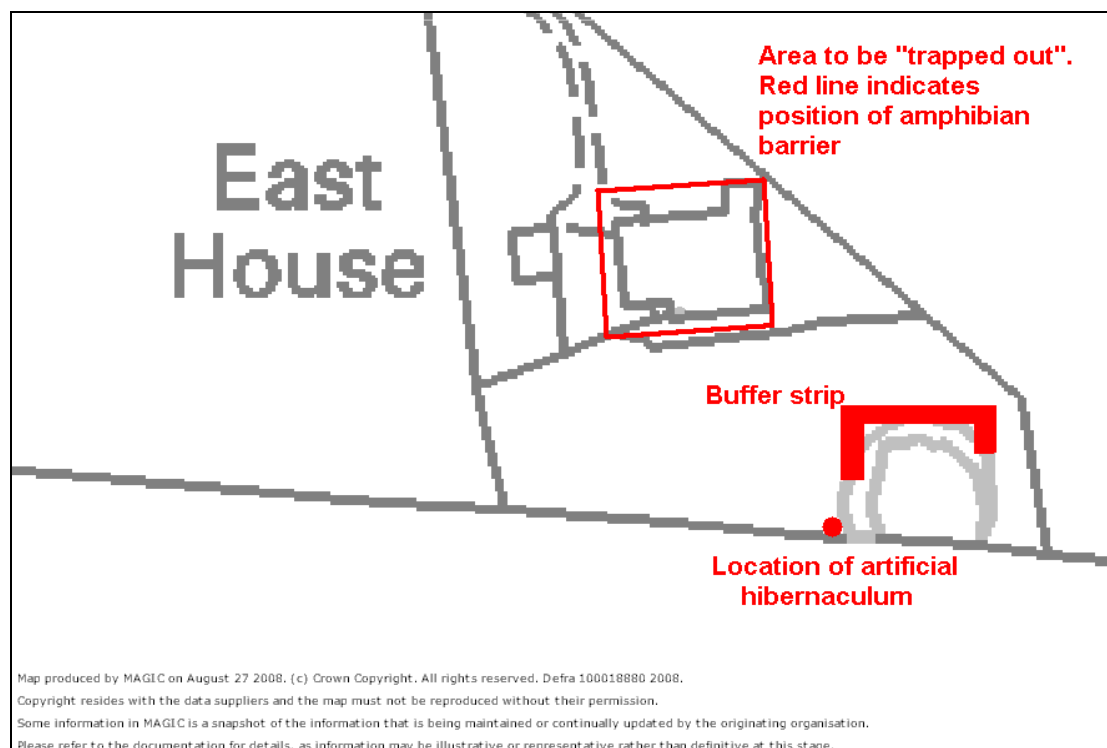
E7 Site plan to show all work covered by the licence

Figure 10: Area of work to be covered by licence (adapted from MAGIC).

E8 Map to show the extent of each party's interest on site

The site, as depicted by the red line boundary on Figure 8, in section C9, is owned by the applicant.

E9 Map to show location of receptor site in relation to development site

See Figure 10 in section E7.

E10 Map to show capture and exclusion works

See Figure 10 in section E7.

E11 Map to show habitat creation, restoration and/or enhancement

See Figure 10 in section E7.

E12 Map to show post activity management

See buffer strip on Figure 10 in section E7.

F Summary

Ms Angela Richardson proposes to convert a redundant and dilapidated brick farm building known as Mill House, Newton Morrell, Barton, Richmond, into a residential dwelling. The converted structure will utilise the same footprint, which is surrounded by hard standing.

A pond lies within the site boundary, approximately 25m from the proposed development. A population size class assessment survey recorded a medium breeding population of great crested newts in the pond, although the survey was constrained by extensive areas of blanket weed. The assessment was revised in light of the constraints to a large breeding population. There are no other records of great crested newts in the area, and the population is considered to be isolated.

The proposed development will have a minor negative impact upon great crested newts, but its close proximity to a large population necessitates the acquisition of a Natural England licence in respect of the species in advance of works commencing.

Mitigation including the construction of an artificial hibernaculum, installation of temporary amphibian barriers and “trapping out” of the development site to remove all amphibians is proposed.

G References

English Nature (2001), '*Great Crested Newt Mitigation Guidelines*', English Nature, Peterborough.

MAGiC (2008), Interactive Map <http://www.magic.gov.uk/website/magic/> [Accessed 20 June 2008].

Richmondshire Biodiversity Action Plan Steering Group (2005), '*Richmondshire Biodiversity Action Plan*', North Yorkshire County Council, North Yorkshire.