PROPOSED DEVELOPMENT OF BARNS AT CHURCH FARM, FRING, NORFOLK

ECOLOGICAL APPRAISAL

FINAL

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DOCUMENT HISTORY				
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Rev. 1	Initial report	Karl Charters	Rebecca Easter	01.11.19
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Rev. 3	Update draft 2	Rebecca Easter	Philip Parker	05.11.21
Rev. 4	Final draft	Rebecca Easter	Philip Parker	23.11.21

1.0 EXECUTIVE SUMMARY

1.1 Tidswell Childs are in the process of preparing development plans on behalf of Mr F G C Brun to convert the barn complex at Church Farm into holiday accommodation. It is anticipated that the Local Planning Authority (the Borough Council of King's Lynn and West Norfolk) will require an ecological assessment to any planning application. Philip Parker Associates Ltd have been instructed to undertake this assessment.

1.2 A preliminary report was issued on the 7th April 2020 following the 2019 preliminary survey and 2019 bat activity surveys. Updated surveys were undertaken in 2020. An updated walkover survey of the Main Barn Complex was undertaken on the 23rd November 2021 to confirm there is no material change to the site in accordance with Natural England Guidelines for Local Planning Applications.
(https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications).

1.3 **Site description**

The survey site itself comprised of a total of 14 barns (three separate barns and a complex of 11 smaller barns within a large barn complex surrounding a courtyard). Only the courtyard complex is included in the planning application.

1.4 **Setting**

The site was situated within arable farmland with rough grassland centrally (between the barn complex and separate barns), with large pockets of woodland on all sides. All Saints Church, Fring was located 60m south-west.

1.5 **Fauna**

The main species considered within this assessment are bats, badger, breeding birds, reptiles and amphibians.

1.6 **Bat Survey**

A summary of bat evidence/potential is shown in the following table. The gradings are based on the 2016 Bat Survey Guidelines. 2019 survey results are shown in black typeface, 2020 information is shown in red typeface and 2021 information shown in a green typeface.

Table 1 Summary of bat evidence and features

Barn	Features	Evidence	Bats	Grade
Main Barn 4 Complex	Under ridge tiles and in multiple mortar cavities both internally and externally throughout the barn complex. No	35 Pipistrelle type droppings in an external cavity (Barn C). 60 droppings in 2020. 1 brown long-eared type dropping, and 50	1 common pipistrelle was noted externally roosting in Barn E and Barn I.	High

Barn	Features	Evidence	Bats	Grade
	change except Barn J appeared to have further deteriorated. In 2021 large holes had been drilled into the eastern elevation of Barn C (north of the double doors). Internally the grain silos and associated features had been removed. No change was noted to any of the remaining barns in the main barn complex. The barn attached to the west of Barn G (previously inaccessible) had been made accessible by the clearance of scrub to the north-west.	natterers type droppings were noted in Barn C. 2 cavities on the northern side of Barn E contained a single pipistrelle type dropping. 44 pipistrelle type droppings (with 30+ in one cavity towards the north-west end of the barn), whilst 2 cavities on the southern side contained 1 and 20 pipistrelle type droppings. A pipistrelle type dropping was found on the floor of Barn J with 3 pipistrelle type droppings in a cavity on the northern wall. Two cavities on the external western elevation of Barn I (where a common pipistrelle was found roosting in the 2019 survey) contained 13 pipistrelle type droppings. Approximately 50 myotis type droppings were noted in an internal cavity on the eastern wall of Barn C in common with the original preliminary. In addition, 5 pipistrelle type droppings were noted between the door frame and wall of the large doors on the western elevation of Barn C (same location as a common pipistrelle).	A common pipistrelle was noted roosting externally in a mortar cavity in the western wall of Barn I. 10 large yellow-underwing wings (indicative of foraging brown long-eared bats) were noted in Barn J. A common pipistrelle was roosting between the door frame and wall of the large doors on the western elevation of Barn C. A common pipistrelle was noted roosting in a cavity on the south-western elevation of Barn E. A barbastelle bat was noted roosting between the lintels of the large vehicle doors on the eastern elevation of Barn C.	
Field Barn 1	Potential between the pantiles and roofing felt (where present), beneath the clay ridge tiles, within mortar cavities, within slots and gaps where beams, guttering brackets and lintels entered the walls. No change in 2020.	No bat evidence noted externally. Internally a light scattering of brown long-eared type droppings and natterer's type droppings was noted on the floor beneath the ridge with a concentration in excess of 200 mixed age droppings at the eastern gable (mostly brown long-eared type with c20 natterer's type droppings). Small numbers (reduced from 2019) of brown long-eared type and pipistrelle	No bats present. No change in 2020.	High

Barn	Features	Evidence	Bats	Grade
		type droppings were noted on the floor.		
Field Barn 2	Potential between the pantiles and roofing felt (where present), beneath the clay ridge tiles, within mortar cavities, within slots between the lintels of Field Barn 2 and gaps where beams, guttering brackets and lintels entered the walls. No change in 2020.	Field Barn 2 a single pipistrelle type dropping was located internally on a window lintel towards the southern end on the western wall. No change in 2020.	No bats present. No change in 2020.	High
Field Barn 3	Potential between the pantiles and roofing felt (where present), beneath the clay ridge tiles, within mortar cavities and where lintels and joists enter the wall. No change in 2020.	8 pipistrelle type droppings and 4 brown long-eared type droppings were noted on stored goods within the northern part of the barn. As with the previous survey there were a small number of brown long-eared and pipistrelle type droppings in the east part of the barn (2 and 2 respectively).	No bats present. No change in 2020.	Moderate

1.7 4 beech trees on the site were considered to have low bat roosting potential as were some of the taller conifers to the west of the Barn Complex. The scrub in the courtyard, willow tree and low scrub to the west of the Barn Complex was considered to have negligible bat roosting potential. Much of the scrub to the east of Barn G had been removed as had almost all of the scrub to the west of Barn F.

1.8 On the basis of the roosting potential, activity surveys were undertaken on 25/06/19, 23/07/19, 22/08/19 and 20/09/19. An update emergence survey of Field Barns 1 and 2 was undertaken on the 20/08/20 and of the Main Barn Complex on the 1/09/20. A summary of the surveys is as follows:

Main Barn Complex 4

25/06/19

- 1 common pipistrelle emerged from southern elevation of Barn A;
- 1 common pipistrelle emerged from north-western elevation of Barn C;
- 4 common pipistrelles emerged from southern elevation of Barn C.

23/07/19

- 1 brown long-eared emerged from the eastern end of elevation of Barn J;

22/08/19

- 1 common pipistrelle emerged from western elevation of Barn I;
- 3 common pipistrelles emerged from Barn C (2 south-east and 1 western elevation);
- 3 common pipistrelles emerged from Barn E;
- 1 brown long-eared emerged from the eastern elevation of Barn E;
- 1 natterer's entered eastern elevation of Barn J.

10/09/19

- 1 common pipistrelle emerged from under a tile on the south-east of Barn C;
- 1 common pipistrelle emerged from western elevation of Barn C;
- 1 soprano pipistrelle emerged from north-west elevation of Barn C;
- 1 brown long-eared perched up in Barn E.

01/09/20

- 6 common pipistrelles emerged from the open southern elevation of Barn C;
- A single common pipistrelle emerged from Barn C south-east elevation of the roof;
- A single soprano pipistrelle emerged from behind the water tank on the west elevation of Barn C;
- A single soprano pipistrelle emerged from the right of the door on the west elevation of Barn C;
- 4 pipistrelle species emerged from the right of the door on the west elevation of Barn C and 1 re-entered;
- 1 pipistrelle species entered the wall of Barn C centrally towards the south of the west elevation;
- 1 pipistrelle species entered a crack in the north-west corner of Barn C (west elevation);
- A single common pipistrelle and soprano pipistrelle emerged from the southern elevation (north-east end) of Barn J.

Field Barn 1

25/06/19

- 1 brown long-eared perched along the ridge (feeding);
- 1 brown long-eared re-entered a hole at eaves level on eastern elevation;

23/07/19

- 2 possible bat emergences (south-east corner).

20/08/20

- 1 brown long-eared recorded flying internally (emerged from tarpaulin draped over a beam).

Field Barn 2

23/07/19

- 1 common pipistrelle species re-entered between internal window lintel.

20/08/20

- 2 brown long-eared recorded foraging up and down the ridge (one was seen to emerge via the south-west corner and the other hung-up when the torch was shone on them);
- 1 common pipistrelle entered the barn via the open doorway on the eastern elevation.

Field Barn 3

10/09/19

- 1 pipistrelle species emerged from western elevation of southern barn (roof tile);

1.9 **Breeding birds**

Bird nesting evidence is shown in the following table:

1.10 **Table 2 Summary of nesting bird evidence**

Barn	Evidence
Main Barn 4 Complex	Swallow nest – F, G, I, J, K Wren nest – G Pigeon nest – D, E, F, G x2, J Barn owl – In Barn C, barn owl pellets were noted within barns– C, D, E, F, G, I, J 1 barn owl was seen to emerge during the bat activity survey on the 1st September 2020 and on the update walk over survey 30th October 2020 – no indication of breeding was obtained. 1 barn owl was seen within the barn backing onto Barn G.
Field Barn 1	Pigeon nest Jackdaw nest
Field Barn 2	Swallow nest Wren nest Robin nest Barn owl pellets (70) Barn owl pellets (150) Large quantities of pigeon faeces.
Field Barn 3	Swallow nest Wren nest Blackbird nest 7 Wood Pigeon/Stock Dove nests, egg fragments Barn Owl, 36 pellets noted in the southern part of the barn. 2 inactive wood pigeon nests in the western part of the barn.

1.11 The majority of the site has potential to support foraging hedgehog, reptiles and amphibians given the proximity to suitable habitat.

1.12 **Amphibians**

A habitat suitability index of the closest wet pond to the development site, (180m south-east of the barn complex) scored as poor, making it unlikely to support a population of great crested newts. 2 other ponds were noted to the south of the road, 70m east and 85m south-east of Field Barn 2. These were dry at the time of survey and were reported as remaining dry by the landowner.

1.13 **Badger**

No evidence of badger has been noted within proximity of the barns, during the suite of surveys undertaken.

1.14 **Reptiles**

The rough grassland to the south of the Main Barn Complex and within the courtyard of the Main Barn Complex has some (but limited) potential to support common reptiles e.g. slow-worms and would benefit from the survey as part of a development and mitigation proposal. Phase 2 reptile surveys were undertaken in 2019. No reptiles were recorded during the surveys.

1.15 The impacts from the proposed development on protected species recorded are as follows:

- The loss of bird nesting habitat through the conversion of the barns;
- The loss of barn owl roosting areas and potential breeding sites – none proven (seen to emerge from Barn C of the main Barn Complex in both 2019 and 2020);
- The loss of several confirmed bat roosting areas and other potential bat roosting areas in the Main Barn 4 Complex (proven roost sites - 1 on the western elevation of Barn I, 1 on the eastern end of Barn J (internal), one on the southern elevation of Barn A, one of the north-west elevation of Barn C, 5 on the western elevation, 1 on the eastern elevation, two on the south-eastern elevation of Barn C, 1 on the southern elevation of Barn C, 3 internally within Barn E and one externally on the south-west elevation of Barn E).
- The loss of reptile potential habitat though the development of the barns and surrounding land, although no reptiles were found during the surveys;
- The possible loss of amphibian habitat and habitat for small mammals and hedgehogs.

1.16 **MITIGATION/ENHANCEMENT**

It is important that the impacts of the proposed development are adequately mitigated to comply with guidance and ensure no net biodiversity loss. However, current guidelines also require biodiversity net gain and this is provided at Fring through a series of enhancements.

Mitigation for the impact will require the following:

- Derogation licence for bats as appropriate for the Main Barn Complex (given the loss of a roost sites for up to 11 common pipistrelles in 2019 and 8 in 2020, 1 soprano pipistrelle in 2019 and 3 in 2020, 6 pipistrelle species in 2020, 1 brown long-eared in 2019 and 1

natterers in 2019, 2 common pipistrelle and 1 barbastelle were also noted during the update 2020 walkover survey) the full European Protected Species licence should be appropriate given the loss of a total of 19 roost sites;

- Timing of any disturbance works to avoid summer roosting and winter hibernation period (refer to mitigation section 7.4);
- Provision of bat boxes/access tiles on trees or buildings as replacement for the roost sites to be lost (refer to mitigation section 7.6);
- Use of 1F bitumen felt under tiles as part of any re-roofing works as it is likely that bats would be able to re-access under tiles on completion of any works (refer to mitigation section 7.6);
- Provision of a bat loft over the courtyard entrance as an enhancement (refer to mitigation section 7.7);
- Limitations on external lighting (refer to mitigation section 7.8);
- Landscaping to include plants to attract insects that bats can feed on (refer to mitigation section 7.10);
- Timing of disturbance works to avoid impacts on nesting birds (nesting period March-August included) refer to mitigation section 7.11;
- Provision of alternative bird nesting and roosting habitat on surrounding trees and on the building (refer to mitigation section 7.12 – 7.13);
- Careful clearance of the site to avoid impacts on amphibians and small mammals (refer to mitigation section 7.14).

1.17 **LICENCING**

As a number of bat roosts and bat species will be impacted by the proposed development works, an appropriate derogation licence will be required. Based on the results of the four 2019 surveys and the subsequent 2020 update surveys, the development of the Main Barn Complex will require a full European Protected Species Licence prior to any works being undertaken.

1.18 Although the surveys undertaken are considered adequate to determine the planning application, due to the time limitations, 2 further activity surveys will be required to assist with the licence application.

2.0 INTRODUCTION

2.1 Tidswell Childs are in the process of preparing development plans on behalf of Mr F G C Brun

to convert the barn complex at Church Farm to holiday accommodation. It is anticipated that the Local Planning Authority (the Borough Council of King's Lynn and West Norfolk) will require an ecological assessment with any planning application. Philip Parker Associates Ltd have been instructed to undertake this assessment.

2.2 The Ecological Assessment of the Barn Complex (which forms the application), Field Barn 1 and Field Barn 2 (which were in relatively close proximity) was undertaken by bat ecologist Karl Charters and assistant ecologist Rebecca Easter, on the 25th April 2019, Field Barn 3 was assessed on the 12th September 2019 by Karl Charters. An update walk over survey of Field Barn 1 and Field Barn 2 was undertaken on 20th August 2020. An update walk over survey of the Main Barn Complex and Field Barn 3 was also undertaken on 30th October 2020 by Karl Charters. A further walkover survey has been undertaken by principal ecologist Philip Parker, prior to completion of this report to comply with Natural England's Guidelines to Local Planning Authorities. An update walkover survey of the Main Barn Complex was undertaken on 23rd November 2021, by assistant ecologist Rebecca Easter. The development site is located off Docking Road, Norfolk at Ordnance Survey Grid Reference TF 73633 34933.

Figure 1 – Ordnance Survey location plan Crown copyright and database right 2021

Figure 2 – Aerial photograph location plan Imagery C 2021 DigitalGlobe, Getmapping plc, Intorfera Ltd & Bluesky

2.3 The site falls within the North West Norfolk Character Area.

2.4 This Character Area has a very open, rolling topography which contrasts with the surrounding coastal, fenland and other lowland NCAs. It extends from Downham Market on the edge of the Fens east towards Castle Acre, and skirts Fakenham before sweeping eastwards into a narrowing triangular area abutting the western edge of the Cromer Ridge.

2.5 This NCA is very important for agriculture with a large-scale arable and grassland landscape comprising extensive arable cropping and some areas of mixed farming, – the dominant livestock type is pigs. The name 'Good Sands', often applied to the eastern half of this area, derives from the fertility of the versatile light soils which distinguish the area from the low-fertility sands of Breckland to the south. Many of the villages are centred on greens or ponds and built from local vernacular materials – carstone and chalk in the west with flint becoming characteristic further east, reflecting the underlying geology. Aquifers underlying the NCA and extending well beyond its boundaries provide water both locally and regionally.

3.0 DATA SEARCH

3.1 In order to assess whether there are any protected species records for the development site (grid reference TF 73636 34933) and the surrounding area (2km radius), a data search was undertaken with the Norfolk Biodiversity Information Service (NBIS) on the 2nd May 2019.

3.2 They have provided the following information:

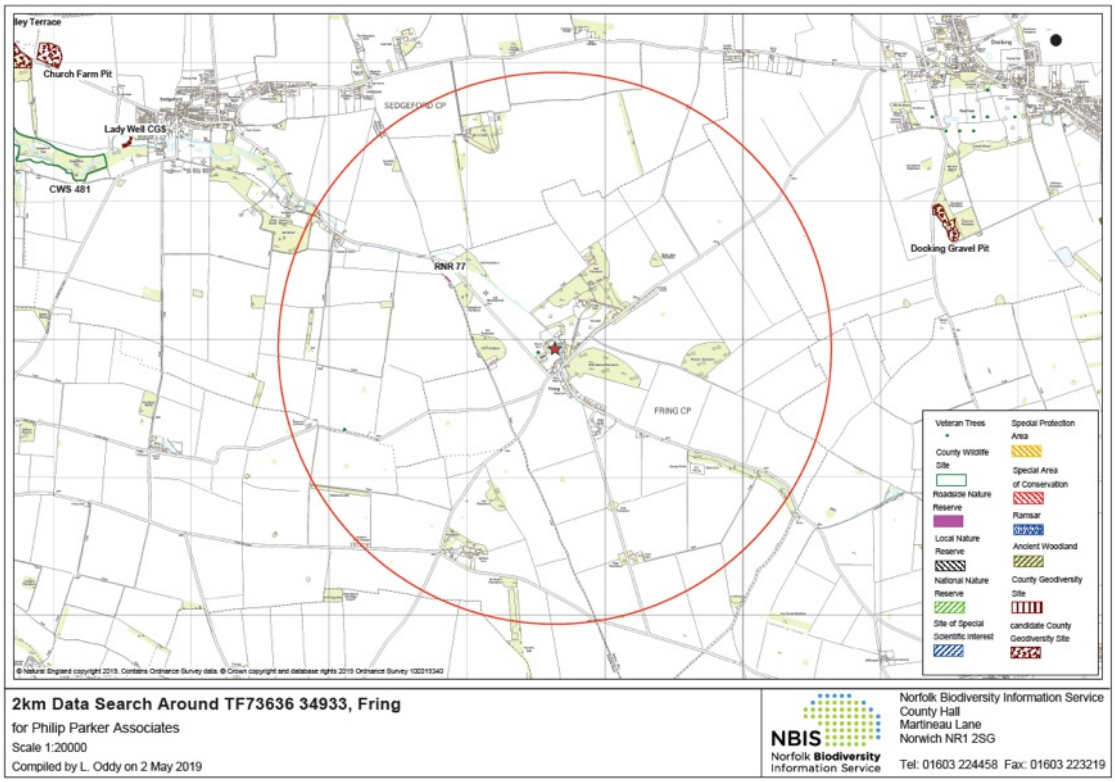


Figure 3 – NBIS data search for the site.

3.3 **PROTECTED SITES**

No protected sites (SSSI, RAMSAR, SPA, SAC, CWS) were noted within the 2km NBIS data search. The closest protected site is Snettisham Carstone Quarry (SSSI) which is located 5.5km west of the survey site. Please note that there is one Roadside Nature Reserve (RNR) on the map as follows.

3.4 **Peddars Way Roadside Nature Reserve (designated for Chalk flora)**

Lowland calcareous grassland (BAP habitat) – Chalk underlies around 60% of Norfolk, although calcareous grassland is only found in northwest Norfolk and Breckland. Lowland calcareous grasslands are developed on shallow lime-rich soils generally overlying limestone rocks,

including chalk. In Norfolk most sites occur within existing SSSIs or CWS, except for rides within Thetford Forest, which are largely not notified, plus isolated churchyards and road verges. Management of RNR may contribute towards the Local BAP target to restore 50ha of lowland calcareous grassland by 2015. Threats: - Lack of management leading to sward becoming coarse and rank and eventually to scrub. - Spray and fertiliser drift from adjacent farmland. - Grip digging and road widening. Fly tipping (includes introduction of noxious weeds). Soil Type: Shallow lime-rich soil over chalk or limestone. Natural Area: North Norfolk.

3.5 PROTECTED SPECIES

Bats

- Western Barbastelle *Barbastella barbastellus*– 2 records, Sedgeford, latest 2013
- Common pipistrelle *Pipistrellus pipistrellus* – 2 records, Sedgeford, latest 2013
- Soprano pipistrelle *Pipistrellus pygmaeus* – 3 records, Sedgeford, latest 2013
- Brown long-eared *Plecotus auritus* – 2 records, Sedgeford, latest 2013

Birds

- Barn owl *Tyto alba* – 14 records, Fring, latest 2012
- Short-eared owl *Asio flammeus* – 1 record, Surlingham, latest 2016
- Tawny owl *Strix aluco* – 5 records, Fring latest, 2019
- Little owl *Athene noctua* – 2 records, Fring, latest 2019
- Barnacle goose *Branta leucopsis* – 8 records, Fring, latest 2002
- Brent goose *Branta bernicla* – 1 record, Fring, latest 2016
- Light-bellied brent goose *Branta bernicla subsp. Hrota* – 4 records, Fring, latest 2014
- Bean goose *Anser fabalis* – 4 records, Fring latest, 2016
- Tundra bean goose *Anser fabalis subsp. rossicus* – 3 records, Sedgeford, latest 2014
- Pink-footed goose *Anser brachyrhynchus* – 13 records, Fring, latest 2016
- European greater white-fronted goose *Anser albifrons subsp. Albifrons* – 1 record, Fring, latest 2011
- Greenland greater white-fronted goose *Anser albifrons subsp. Flavirostris* – 2 records, Sedgeford, latest 2004
- Greylag goose *Anser anser* – 1 record, Fring, latest 2008
- Scaup *Aythya marila* – 1 record, Fring, latest 2016
- Grey partridge *Perdix perdix* – 17 records, Fring, latest 2014
- Quail *Coturnix coturnix* – 2 records, Fring, latest 2009
- Gannet *Morus bassanus* – 1 record, Fring, latest 2007
- Marsh harrier *Circus aeruginosus* – 6 records, Fring, latest 2009
- Hen harrier *Circus cyaneus* – 4 records, Fring, latest 2015

- Circus cyaneus subsp. cyaneus *Circus cyaneus subsp. Cyaneus* – 6 records, Fring, latest 2014
- Montagu's harrier *Circus pygargus* – 3 records, Fring, latest 2004
- Osprey *Pandion haliaetus* – 1 record, Sedgeford, latest 2003
- Merlin *Falco columbarius* – 6 records, Fring, latest 2012
- Crane *Grus grus* – 1 record, Sedgeford, latest 2016
- Oystercatcher *Haematopus ostralegus* – 3 records, Fring, latest 2011
- Lapwing *Vanellus vanellus* – 3 records, Fring, latest 2011
- Whimbrel *Numenius phaeopus* – 1 record, Sedgeford, latest 2003
- Woodcock *Scolopax rusticola* – 1 record, Sedgeford, latest 2004
- Mediterranean gull *Larus melanocephalus* – 3 records, Fring, latest 2003
- Swift *Apus apus* – 3 records, Fring, latest 2009
- Willow warbler *Phylloscopus trochilus* – 1 record, Fring, latest 2011
- Skylark *Alauda arvensis* – 1 record, Sedgeford, latest 2012
- House martin *Delichon urbicum* – 1 record, Sedgeford, latest 2012
- Meadow pipit *Anthus pratensis* – 1 record, Fring, latest 2005
- Fieldfare *Turdus pilaris* – 1 record, Fring, latest 2009
- Redwing *Turdus iliacus* – 2 records, Fring, latest 2011
- Spotted flycatcher *Muscicapa striata* – 2 records, Fring, latest 2003
- Marsh tit *Poecile palustris* – 3 records, Fring, latest 2009
- Linnet *Linaria cannabina* – 6 records, Fring, latest 2011
- Yellowhammer *Emberiza citronella* – 2 records, Fring, latest 2014

3.6 There were no records of reptiles, amphibians or badger noted within the 2km NBIS data search.

4.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT SITE

4.1 **General**

The following description is based on a preliminary site visit, undertaken by Karl Charters and assisted by Rebecca Easter on the 25th April 2019. The survey commenced at 11:30 and took approximately 5.5 hours. Further survey of the interior of Field Barn 1 and the whole of Field Barn 3 was undertaken by Karl Charters on the 12th September 2019. The survey commenced at 11:00 and lasted for 2.5 hours. An update walk over survey of Field Barn 1 and Field Barn 2 was undertaken on 20th August 2020 by bat worker Karl Charters. The survey commenced at 19:00 and was completed by 19:45. An update walk over survey of the Main Barn Complex and Field Barn 3 was undertaken on the 30th October 2020 by bat worker Karl Charters. The survey commenced at 09:00 and was completed by 13:00. A final update walkover survey of the Main Barn Complex was undertaken on 23rd November 2021, by experienced ecologist Rebecca Easter to confirm that no significant changes to the structures had taken place.

4.2 The survey site relates to 4 sets of barns (the Main Barn Complex, Field Barn 1, Field Barn 2 and Field Barn 3) set within the grounds of Church Farm. In addition to the barns which were surveyed, the overall complex included a farmhouse, several dwellings and further barns. Fring church was located to the west. Only the main barn complex is included in the planning application.

4.3 The general layout of the barns is shown in the key plan below (Figure 4). Descriptions from 2019 are shown in black typeface, 2020 updates to the survey are shown in red a typeface whilst 2021 updates to the survey are shown in a green typeface.

Figure 4 – Location of the barns, pond, and beech trees (red circles)

4.4 **Main Barn 4 Complex**

The barn complex was a large structure consisting of 11 sections referred to as A - K. The majority of the complex was constructed of mixed brick, flint and carstone (to a much lesser extent) walls, the exception being the north and southern elevations of J which were brick and K which consisted of corrugated metal sheet walls and timber slatted vents. Further deterioration to Barn J was noted in 2020. No change noted to any of the remaining barns in the Main Barn Complex. In 2021 large holes had been drilled into the eastern elevation of Barn C (north of the double doors). Internally the grain silos and associated features had been removed. Barn M (previously inaccessible) had been made accessible by the clearance of scrub towards the north-west. No change to the structure of the remaining barns in the Main Barn Complex was noted.

4.5 The majority of the roof was covered with clay pantiles and clay ridge tiles, the only exception being D and K which both had a corrugated metal sheet roof. Across the majority of the complex no roofing felt or sarking boards were present beneath the tiles, the exception being C and H which had roofing felt beneath the tiles. Roof voids were present above section H (small) and above section I where the lath and plaster ceiling had large sections of the plaster missing,

effectively making the barn open to the roof. Gutters were either fixed directly to the wall via brackets or fixed to timber beams on the wall tops. No change in 2020 or 2021.

4.6 The barn complex was surrounded by short mown lawn to the east (which includes part of the dry pond), short mown lawn and large flowerbed to the north, scrub to the west (including elder *Sambucus nigra*, maple *Acer* sp and conifers) and improved grassland/paddock to the south. The central courtyard consisted of semi-improved grassland (including ribwort plantain *Plantago lanceolata*, shepherd's purse *Capsella bursa-pastoris*, stinging nettle *Urtica dioica*, white dead-nettle *Lamium album*, red dead-nettle *Lamium purpureum*, dock *Rumex* sp, daisy *Bellis perennis* and dandelion *Taraxacum officinale*) and a small patch of scrub (elder *Sambucus nigra*, maple *Acer* sp and dog rose *Rosa canina*). A compost heap of cut vegetation and stable sweepings was present within the courtyard. No change in 2020. The small section of scrub within the courtyards had partially been removed in 2021.

4.7 **Field Barn 1**

Field Barn 1 was constructed from brick, chalk, carstone and flint, with a brick buttress on the northern elevation. The roof was covered with clay pantiles and clay ridge tiles supported on a simple jointed timber frame. The gutters were attached directly to the northern and southern elevations via brackets (bargeboards, fascia's and soffits were not used). No roofing felt, sarking or lath and plaster was present beneath the tiles. At the time of the survey the building was in use as a workshop. No change in 2020.

4.8 Field Barn 1 was surrounded by short mown lawn to the north and east (which includes part of a dry pond, see farm complex below) and concrete yard to the south and west. Immediately to the southern elevation of the building was a scrap metal pile and fuel tank. No change in 2020.

Figure 5 – Southern elevation of Field Barn 1

Figure 6 – Northern elevation of Field Barn 1

4.9 **Field Barn 2**

Field Barn 2 was constructed of brick, chalk, carstone and flint. The roof was covered with clay pantiles and clay ridge tiles. The roof consisted of a timber king post structure with brace and principal rafter supports. The timber joints were simple. Modern breathable roofing felt was present beneath the tiles. Gutters were fixed to the western and eastern elevations via brackets. Evidence of recent pointing up of masonry was observed. At the time of the survey the building was empty. The barn was bordered by a well-maintained lawn to the south-east, paddock area to the north and west and an adjacent dwelling to the south. No change in 2020.

Figure 7 – Eastern view of Field Barn 2

Figure 8 – Internal view of Field Barn 2 looking north

Figure 9 – Southern elevation of Field barn 2

Figure 10 – Northern elevation of Field barn 2

4.10 **Field Barn 3**

The barn was divided into five sections with a large opening to the west southern pole barn, a large opening to the west northern pole barn and three smaller rooms centrally located (the northernmost being a chemical store with a garage door, the southernmost being an open fronted trailer store and the central room was a firewood store). Field Barn 3 was constructed from brick and flint. The roof was mostly covered with clay pantiles and clay ridge tiles; however, part of the eastern pitch was covered with ceramic tiles. No gutters were present on the building. No fascia, soffit or bargeboards were present. The building was being used to store goods and materials, including firewood. No change in 2020.

Figure 11 – Eastern view of Field Barn 3

Figure 12 – Eastern view of Field Barn 3

Figure 13 – Internal view of the northern barn of Field Barn 3

4.11 **Setting of the site**

A modern asbestos barn was situated between Field Barn 1 and Field Barn 2, this building does not form part of the proposed development. An extensive concrete yard was positioned between Field Barn 1 and the modern barn. To the east of the barn complex and Field Barn 1 was a dry stream which extended to the north and south of the plot. This stream contained no aquatic vegetation but was a well-maintained amenity lawn with a single willow tree *Salix* sp. A small area of the stream to the east of the Barn Complex was bare (no lawn) indicating that there is a likelihood of this section holding water on occasions, however given the vegetation present it was thought that the stream/pond would be dry for the majority of the time. Several beech *Fagus sylvatica* were located in the southern lawn near to Field Barn 2. In 2020, much of the scrub to the east of Barn G had been removed as had almost all of the scrub to the west of Barn F. No change was noted on the remainder of the site in 2020. Scrub towards the north-west of Barn F had been cleared in 2021.

4.12 Docking Road runs along the southern boundary of the site. Further to the south, the pond noted on the plot extends beneath the road, although it was found to be similarly dry and dominated by terrestrial vegetation rather than aquatic. To the south-east was an expanse of woodland containing a pond and to the south a dwelling and associated garden. To the west was an area of improved grassland which had the appearance of a paddock, further to the west the land use was agricultural with the exception of a church, churchyard and Fring Road. Agricultural land was present to the north of the farmhouse boundary. Woodland was present to the east.

Figure 14 – Eastern view of Main Barn 4 Complex (sections A,B,C,D and K) and the mown lawn towards the east of barns

Figure 15 – Western elevation of Main Barn 4 Complex showing a wooden access door where gaps were present

Figure 16 – North-west view of Main Barn 4 Complex (sections E, F and G) and the courtyard between them

Figure 17 – Southern view of Main Barn 4 Complex (section E), showing a mix of cut and longer grass

Figure 18 – Western elevation of Barn G, showing overgrown bushes covering the elevation

Figure 19 – Southern view of Main Barn 4 Complex (section J), showing the damaged doors and windows

Figure 20 – North-western view of Barn 4 Complex (section I)

Figure 21 – Eastern view of Main Barn 4 Complex (section G), showing the overgrown area to the east of the barn

Figure 22 – Southern view of Main Barn 4 Complex (section C), Barn Owl pellets were noted towards the entrance of the barn

Figure 23 – Internal view of Main Barn 4 Complex (section A)

Figure 24 – Internal view of Barn 4 Complex (section C) including stored farming machinery

Figure 25 – Internal view of Barn 4 Complex (section E), showing general use and the poor state of repair

Figure 26 – Internal view of Barn 4 Complex (section F), showing its poor state of repair

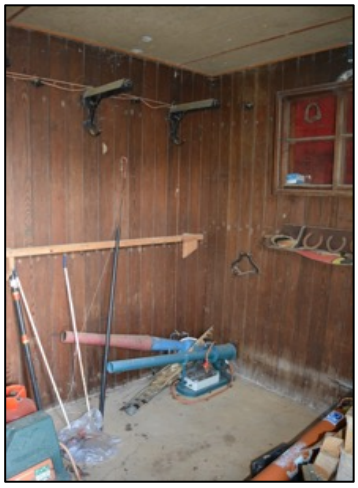


Figure 27 – Internal view of Main Barn 4 Complex (section H) showing its wooden cladded walls and plastered ceiling

Figure 28 – Internal view of Main Barn 4 Complex (Section I) showing the lath and plaster ceiling including gaps

Figure 29 – Internal view of Main Barn 4 Complex (section J)

5.0 SURVEY METHODOLOGY

5.1 GENERAL

The potential scope of works, data search and habitats within the site have informed the scope of the assessment. On this basis, the following protected and priority species have been considered further within this report:

- Bats
- Badger
- Breeding birds
- Reptiles
- Amphibians -The closest wet pond was 180m south-east of the site (As assessed from the Ordnance Survey plan).

5.2 BATS

Legislation

In Britain, all bat species and their roosts are legally protected, by both domestic and international legislation, namely:

- The Wildlife and Countryside Act (1981) (as amended);
- The Countryside and Rights of Way Act, 2000 and
- The Conservation of Habitats and Species Regulations (2017).

5.3 This legislation makes it an offence amongst others to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time)
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat
- Intentionally or recklessly obstruct access to a bat roost

5.4 A bat roost is regarded as “any structure or place which any wild animal….uses for shelter or protection” As bats tend to reuse the same roosts, legal opinion is that the roost is protected whether or not the bats are present at the time.

5.5 Bats are also listed under the Natural Environment and Rural Communities Act (NERC, 2006). This is a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The list (including 56 habitats and 943 species) has been drawn up in consultation with Natural England and draws upon the UK BAP List of Priority Species and

Habitats. The S41 list should be used to guide decision-makers such as local and regional authorities when implementing their duty: to have regard to the conservation of biodiversity in the exercise of their normal duties.

5.6 **Existing records**

Bat species: Western Barbastelle, Common pipistrelle, Soprano pipistrelle and Brown long-eared were recorded in the 2km data search (2019).

5.7 **Preliminary Survey Methodology**

In summer, bats typically roost in trees and buildings. They feed along hedgerows, woodland edge, old pasture and over water. In winter, hibernation sites can include trees and buildings but more usually underground structures such as caves and ice houses.

5.8 The Bat Mitigation Guidelines produced by English Nature (now Natural England) set out the timescales for survey work, as follows:

Table 3 Timescales for bat survey

SEASON	ROOST TYPE	INSPECTION	BAT DETECTOR AND EMERGENCE COUNTS
Spring (Mar – May)	Building	Suitable (Signs, perhaps bats)	Limited, weather dependent
	Trees	Suitable (Signs only)	Static detectors may be useful
	Underground	Suitable (signs only)	Static detectors may be useful
Summer (June – August)	Building	Suitable (signs and bats)	Suitable
	Trees	Difficult	Limited, use sunrise survey
	Underground	Suitable (signs only)	Rarely useful
Autumn (September – November)	Building	Suitable (signs and bats)	Limited, weather dependent
	Trees	Difficult	Rather limited, weather dependent; use sunrise survey
	Underground	Suitable (signs, perhaps bats)	Static detectors may be useful
Winter (December – February)	Building	Suitable (signs, perhaps bats)	Rarely useful
	Trees	Difficult (best for signs after leaves have gone)	Rarely useful
	Underground	Suitable (signs and bats)	Static detectors may be useful

5.9 **Preliminary survey Results**

The preliminary building inspection was undertaken on the 25th April 2019 by licensed bat worker Karl Charters (Bat licence 2015-13353-CLS-CLS) and assistant Rebecca Easter. The survey commenced at 11:30 and was completed by 17:00. The weather conditions were 50% light cloud with a temperature of 7ºC. The internal survey for Field Barn 1 and preliminary survey for

Field Barn 3 was undertaken by Karl Charters on the 12th September 2019 (lasting 2.5 hours), the weather conditions were 30% light cloud with a temperature of 15 degrees Celsius. An update walk over survey of Field Barn 1 and Field Barn 2 was undertaken on 20th August 2020 by Karl Charters. The survey commenced at 19:00 and was completed by 19:45. An update walk over survey of the Main Barn Complex and Field Barn 3 was undertaken on the 30th October 2020 by Karl Charters. The survey commenced at 09:00 and was completed by 13:00. An update walkover survey by Philip Parker was undertaken on 30th October 2020 but a detailed inspection was not made. An update walkover survey of the Main Barn Complex was undertaken by Rebecca Easter on 23rd November 2021 but a detailed inspection was not made.

5.10 The survey was conducted using an extending ladder to gain access to the upper levels, a pair of 8 x 42 binoculars and a powerful Clulite lamp (fitted with a red filter where appropriate to avoid disturbing any bats that might be present). A Rigid CA-100 endoscope was used to inspect cavities.

5.11 The survey concentrated on checking horizontal surfaces on which bat droppings and feeding remains could rest (including windowsills, beams, gutters, stored goods) as well as vertical surfaces such as walls. Potential access points to cavities and possible roost spaces were checked for urine staining and fur rubbings.

5.12 **Survey results**

The results of the preliminary bat surveys are shown on the following tables. Again, information from 2019 is shown in black typeface, 2020 survey information is shown in a red typeface whilst 2021 survey information is shown in a green typeface.

Table 4 External roosting potential and bat evidence within the Main Barn 4 Complex

Roosting Potential	Bat Evidence
Section A **Southern Elevation:** a mortar cavity was found to be clear to the west of the elevation. A crack was noted centrally as was a gap between the lintel and wall. Access was possible into the barn via a large opening in the wall. **Northern Elevation:** gaps were present between the door and the door frame potentially allowing access into the barn. **Eastern Elevation:** access was possible into the barn via a broken door. No change in 2020	No bat evidence was noted. No change in 2020. No notable change in 2021

Roosting Potential	Bat Evidence
No notable change in 2021	
Section B No external bat roosting features were identified. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021
Section C **Southern Elevation:** access was possible into the barn as the barn was open sided. **Western Elevation:** the lead located in the valley between C and E was lifted slightly on the southern side. A large crack was present through to the inside of the barn, this and an array of other cavities identified were associated with the internal damage mentioned in the following table. Several mortar cavities were identified at the northern end of the wall. A large clear crack was noted at the northern end of the elevation. **Eastern Elevation:** gaps were present around the door, potentially allowing access into the barn. No change in 2020. In 2021 large holes had been drilled into the eastern elevation (north of the double doors).	A mortar cavity in the north of the western elevation contained 35 pipistrelle type droppings. 60 pipistrelle type droppings in 2020. A common pipistrelle was roosting between the door frame and wall of the large doors on the western elevation of Barn C along with 5 pipistrelle type droppings. No notable change in 2021
Section D **Southern Elevation:** access was possible into the barn via gaps around the wooden door and the lifted bargeboard. **Northern Elevation:** access was possible around the wooden door. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021
Section E **Southern Elevation**: gaps were present at the eaves along the whole elevation allowing access to the wall top beneath the final tile. 6 mortar cavities were identified along the elevation, all of which were clear. A gap around the window of the central room was found to be cobwebbed. **Northern Elevation:** a large clear crack was noted at the eastern end of the elevation. A cavity was present between the guttering bracket and wall of the easternmost room. 2 mortar cavities were identified, one in the wall of the central room and the second in the wall of the room to the east. No change in 2020. No notable change in 2021	A common pipistrelle bat was located in a cavity where the guttering bracket entered the northern wall near to the eastern end. Mortar cavities on the southern elevation contained a pipistrelle type dropping and 20+ pipistrelle type droppings. Both mortar cavities identified in the northern elevation contained a single pipistrelle type dropping. A common pipistrelle was noted roosting in a cavity on the south-western elevation of Barn E. No notable change in 2021
Section F **Western Elevation:** no potential bat roosting features were identified. **Eastern Elevation:** two cavities were identified adjacent to the southernmost door. The feature	No bat evidence was noted. No change in 2020. No notable change in 2021 No bat evidence was noted. No change in 2020.

Roosting Potential	Bat Evidence
to the north of the door was lightly cobwebbed with the southern feature being clear. No change in 2020. No notable change in 2021	No notable change in 2021
Section G **Southern Elevation:** a clear cavity was identified. **Eastern Elevation**: open sided barn allowing access to the inside. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021 No bat evidence was noted. No change in 2020. No notable change in 2021
Section H **Northern Elevation:** access was possible into the barn via an open window. **Eastern Elevation**: no bat roosting features were identified. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021 No bat evidence was noted. No change in 2020. No notable change in 2021
Section I **Western Elevation:** Three mortar cavities and a crack were identified. All were found to be clear. The southern part of the barn was open sided allowing access. **Northern Elevation:** no bat roosting features were identified. **Eastern Elevation:** no bat roosting features were identified. No change in 2020. No notable change in 2021	One of the mortar cavities (situated centrally) contained a roosting common pipistrelle. Two cavities on the external western elevation of Barn I (where a common pipistrelle was found roosting in the previous survey) contained 13 pipistrelle type droppings. No notable change in 2021 No bat evidence was noted. No change in 2020. No notable change in 2021 No bat evidence was noted. No change in 2020. No notable change in 2021
Section J **Southern Elevation:** All of the windows and doors were either broken or sufficiently open to allow bats to access the building. Several gaps were noted associated with the door lintels and the timber beam above the wall top, all were found to be clear. A mortar cavity at the eastern end of the elevation was found to be clear. No features were found on the western gable. No features were found on the northern elevation. Gaps were present between the tiles and under some of the ridge tiles, however no roofing felt, or sarking was present. Further deterioration in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021
Section K No bat roosting features were identified, although access into the barn was possible via the timber vents and gaps between the door and door frame. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021

Table 5 Internal roosting potential and bat evidence within the Main Barn 4 Complex

Roosting Potential	Bat Evidence
Section A No internal features were identified. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021
Section B Several cavities were noted on the southern wall, all were found to be clear. A clear crack was located at the western end of the southern wall. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021
Section C Several mortar cavities were identified in the south-west corner of the barn where Barn E joins the building. These features were not possible to check. Lots of mortar cavities were associated with damage to the wall in the south-west corner. These were checked where possible with an endoscope from the ground, but the structure was deemed too unsafe to place ladders against. Several mortar cavities were identified near to the southern end of the eastern wall. No change in 2020. No notable change in 2021	A brown long-eared type dropping was identified on the floor near to the south-eastern end of the barn. One of the cavities near to the southern end of the eastern wall contained 50 old natterers type droppings. Approximately 50 myotis type droppings were noted in an internal cavity on the eastern wall of Barn C in common with the original preliminary survey. No notable change in 2021
Section D A crack in the north-east corner was found to be cobwebbed. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021
Section E No internal features were identified. No change in 2020. No notable change in 2021	The internal cavities noted on the northern wall of Barn E contained 44 pipistrelle type droppings (with 30+ in one cavity towards the north-west end of the barn). A barbastelle bat was noted roosting between the lintels of the large vehicle doors on the eastern elevation of Barn C. No notable change in 2021
Section F A crack was identified in the south-west corner of the barn, this was found to be covered with cobwebs. A clear cavity was located in the north-west corner of the barn. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021
Section G Two cracks were identified in the western wall and a single crack in the northern wall, all were clear. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021
Section H The ceiling was bordered out creating a small roof void to the roof. A hole was present into the roof void and it was possible to check a small section of the void using an endoscope. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021

Roosting Potential	Bat Evidence
Section I The ceiling was comprised of lath and plaster, much of the plaster was detached allowing access and viewing into the void. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021
Section J Rendered along the northern wall and to a height of 4 feet on the southern wall the amount of internal roosting features was small. A single cavity was noted in the northern wall. No change in 2020. No notable change in 2021	A pipistrelle type dropping was identified on the floor of the third room from the west. 3 pipistrelle type droppings were noted inside the cavity in the northern wall and 10 large yellow-underwing wings were noted on and close to the western wall (some of which were suspended in cobwebs). No change in 2020. No notable change in 2021
Section K No bat roosting features were identified. No change in 2020. No notable change in 2021	No bat evidence was noted. No change in 2020. No notable change in 2021

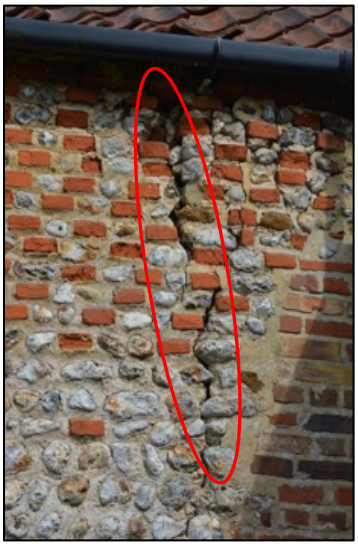


Figure 30 – External feature on the western elevation of Main Barn 4 Complex (section C)

Figure 31 – Features where a single common pipistrelle was found within a mortar cavity on Main Barn 4 Complex (Section I)

Figure 32 – External feature northern view of main Barn 4 Complex (section E) where a single common pipistrelle was found

Figure 33 – Natterers type droppings found in a cavity in the eastern wall of Barn C

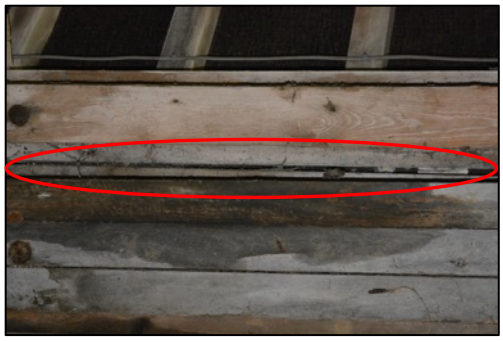


Figure 34 – Feature between the lintel and door frame that a barbastelle was found on the eastern elevation of Barn C

Figure 35 – Internal cavity in Barn E – made smooth by bat activity

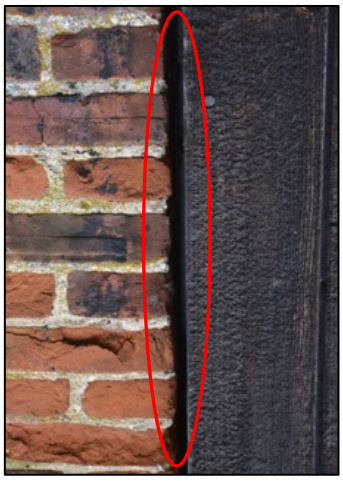


Figure 36 – Feature between the door frame and wall where a common pipistrelle was noted roosting on the west elevation of Barn C – external

Figure 37 – Lower cavity where a common pipistrelle was noted roosting on the south-western elevation of Barn E

Table 6 External roosting potential and bat evidence within Field Barn 1

Roosting Potential	Bat Evidence
Exterior- Southern elevation A gap was present around the light fitting at the western end of the elevation. The feature was not checked due to the presence of a fuel tank. No change in 2020.	**Exterior- Southern elevation** No bat evidence was noted. No change in 2020.
Exterior-Western elevation Gaps were present around the wooden doors of the western gable allowing access internally. No other features were identified. No change in 2020.	**Exterior- Western elevation** No bat evidence was noted. No change in 2020.
Exterior- Northern elevation 2 mortar cavities were noted, both were found to be clear. No change in 2020.	**Exterior- Northern elevation** No bat evidence was noted. No change in 2020.
Exterior- Eastern elevation A circular vent was present near to the apex on the eastern gable, allowing access to the inside. Gaps were present around the upper two wall ties. No change in 2020.	**Exterior- Eastern elevation** No bat evidence was noted. No change in 2020.
Roof Gaps were present between the roof tiles and under the tiles at eaves level. No change in 2020.	**Roof** No bat evidence was noted. No change in 2020.

Table 7 Internal roosting potential and bat evidence within Field Barn 1

Roosting Potential	Bat Evidence
Several mortar cavities and a crack were identified on the southern wall of the barn. These were found to be clear. A gap was noted at the apex and a gap was present between the last rafter and the western gable. On the northern wall gaps were noted between the window lintels and the wall and the double door lintel and wall. All were found to be clear. Several features were identified associated with the eastern gable window lintels, around the blocked central vent and a pipe cavity at the north-east corner. None of these features could be checked due to the presence of stored goods. No change in 2020.	Several hundred mixed aged droppings, predominantly brown long-eared type with c20 natterer's type droppings were noted in a concentration around beneath the apex at the eastern gable. In addition, a light scattering of brown long-eared type and natterer's type droppings was noted along beneath the ridge all the way along the building. 8 moth and butterfly wings were noted scattered on the floor of the building (indicative of brown long-eared bat foraging activity). A small number (reduced from 2019) of brown long-eared type and pipistrelle type droppings were noted on the floor.

Figure 38 – Large clear cavity on the external northern wall

Figure 39 – Feature around light to the south of the barn

Figure 40 – Hessian sack over the rafter where a brown long-eared was recorded roosting during the 2020 bat activity survey (20th August 2020)

Table 8 External roosting potential and bat evidence within Field Barn 2

Roosting Potential	Bat Evidence
Exterior - Southern elevation No access to the southern elevation was possible due to the gable being in an adjacent garden. No features were identified as viewed from the plot. No change in 2020.	No bat evidence was noted. No change in 2020.
Exterior - Western elevation Three mortar cavities were identified, the northernmost was found to be shallow with the other two being deeper and clear. Access was possible into the barn via the opening where the double doors would have been. No change in 2020.	No bat evidence was noted. No change in 2020.
Exterior - Northern elevation No features were identified on the northern gable. No change in 2020.	No bat evidence was noted. No change in 2020.
Exterior - Eastern elevation Four mortar cavities were identified, all were found to be clear. No change in 2020.	No bat evidence was noted. No change in 2020.
Roof Gaps were present between the roof tiles, allowing access to the upper surface of the roofing felt. No change in 2020.	No bat evidence was noted. No change in 2020.

Table 9 Internal roosting potential and bat evidence within Field Barn 2

Roosting Potential	Bat Evidence
The majority of the window slits had two timber lintels above them, these lintels were not flush creating a void between the two lintels which extended in either direction into the wall. Several gaps were present between the window lintel and the wall. No change in 2020.	A single pipistrelle type dropping was located on the window lintel towards the southern end of the western wall. No change in 2020.

Figure 41 – Internal view Field Barn 2

Figure 42 – Features between window lintels found on all windows

Table 10 External roosting potential and bat evidence within Field Barn 3

Roosting Potential	Bat Evidence
Exterior- Southern elevation The brickwork was all found to be in good order. No roosting features were identified. No change in 2020.	**Exterior- Southern elevation** No bat evidence was noted. No change in 2020.
Exterior-Western elevation Gaps were present between many of the timber frame joins on the western elevation of the northern barn, these were all clear and often through to the inside of the building. The double doors of the trailer store were open, allowing access to the inside. No change in 2020.	**Exterior- Western elevation** No bat evidence was noted. No change in 2020.
Exterior- Northern elevation A mortar cavity was noted centrally on the northern elevation. This feature was found to be clear. No change in 2020.	**Exterior- Northern elevation** No bat evidence was noted. No change in 2020.
Exterior- Eastern elevation The brickwork was all in good order, however much of the elevation was covered by stinging nettles, rosebay willowherb, elder and ivy. No change in 2020.	**Exterior- Eastern elevation** No bat evidence was noted. No change in 2020.
Roof Gaps were present between the roof tiles across the whole barn however roofing felt was present only beneath the tiles of the southern barn. Gaps were present underneath the pantiles at the eaves of the southern barn, north of the southern barn the tiles were mortared on. Many of the ridge tiles were broken or missing, however it appeared that there was no void beneath the ridge tiles. No change in 2020.	**Roof** No bat evidence was noted. No change in 2020.

Table 11 Internal roosting potential and bat evidence within Field Barn 3

Roosting Potential	Bat Evidence
Northern Barn No roosting potential was identified. The ridge was relatively clear of cobwebs. No change in 2020.	8 pipistrelle type droppings, 4 brown long-eared type droppings and several urine splashes were noted on stored goods throughout the northern barn. Reduction in number from previous survey (small numbers of brown long-eared type and pipistrelle species type droppings) – possibly due to clearance of stored goods.
Chemical Store No roosting potential was identified. No change in 2020.	No bat evidence was noted. No change in 2020.
Firewood Store No roosting potential was identified. No change in 2020.	No bat evidence was noted. No change in 2020.
Trailer Store Several mortar cavities were noted in the chalk southern wall. All of these were found to be clear. A crack was found to be cobwebbed at the western end of the southern wall. A gap was	No bat evidence was noted. No change in 2020.

Roosting Potential	Bat Evidence
present between the lintel and the northern wall, this was found to be clear. No change in 2020.	
Southern Barn Gaps were noted where beams and lintels enter the northern wall and where the south-west corner lintel entered the southern gable. These were found to be clear. The ridge was found to be heavily cobwebbed. Gaps were present over the southern wall top. No change in 2020.	No bat evidence was noted. No change in 2020.

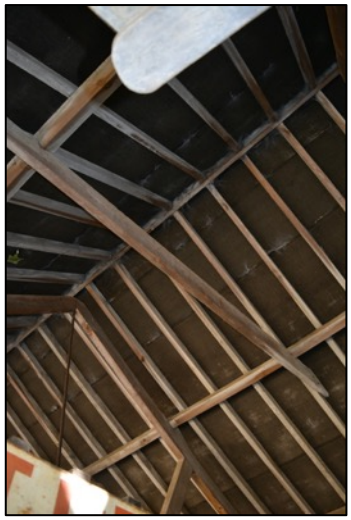


Figure 43 – View of the felt under the tiles of the southern barn

Figure 44 – Gaps in the timber joints of the northern barn

Figure 45 – Lightly mossed western elevation pantile roof, with gaps between the pantiles

Figure 46 – Cavities in the chalk wall of the trailer store

5.13 Trees

Four beech trees were identified within the lawn to the south of Field Barn 1 and Field Barn 2 (see figure 4). It is understood that the proposed development will not impact on these trees. The young maple and elder scrub present in the courtyard of the Barn Complex contained no bat roosting potential, it is anticipated that these trees will be removed as part of the proposed development. The willow tree to the south-east of the Barn Complex contained no obvious bat roosting potential. The low scrub to the west of the Barn Complex contained no bat roosting potential with low potential in the tall conifer trees. The close proximity of the low scrub to the barn may mean that some trees may have to be removed. The scrub towards the west of Barn F (Main Barn Complex) had been removed at the time of the 2021 walkover survey.

Figure 47 – Beech trees located to the south of field Barn 2

5.14 Summary of bat potential and evidence

Table 12 Summary of any bat evidence and features

Barn	Features	Evidence	Bats	Grade
Main Barn 4 Complex	Under ridge tiles and in multiple mortar cavities both internally and externally throughout the barn complex. No change except Barn J appeared to have further deteriorated. In 2021 no significant changes to the barns were recorded with the exception of large holes drilled into the	35 Pipistrelle type droppings in an external cavity (Barn C). 60 droppings in 2020. 1 brown long-eared type dropping, and 50 natterers type droppings were noted in Barn C. 2 cavities on the northern side of Barn E contained a single pipistrelle type dropping. 44 pipistrelle type droppings (with 30+ in one cavity towards the north-	1 common pipistrelle was noted externally roosting in Barn E and Barn I. A common pipistrelle was noted roosting externally in a mortar cavity in the western wall of Barn I. 10 large yellow-underwing wings	High

Barn	Features	Evidence	Bats	Grade
	eastern elevation of Barn C (north of the double doors).	west end of the barn), whilst 2 cavities on the southern side contained 1 and 20 pipistrelle type droppings. A pipistrelle type dropping was found on the floor of Barn J with 3 pipistrelle type droppings in a cavity on the northern wall. Two cavities on the external western elevation of Barn I (where a common pipistrelle was found roosting in the previous survey) contained 13 pipistrelle type droppings. Approximately 50 myotis type droppings were noted in an internal cavity on the eastern wall of Barn C in common with the original preliminary. In addition, 5 pipistrelle type droppings between the door frame and wall of the large doors on the western elevation of Barn C (same location as a common pipistrelle).	(indicative of foraging brown long-eared bats) were noted in Barn J. A common pipistrelle was roosting between the door frame and wall of the large doors on the western elevation of Barn C. A common pipistrelle was noted roosting in a cavity on the south-western elevation of Barn E. A barbastelle bat was noted roosting between the lintels of the large vehicle doors on the eastern elevation of Barn C.	
Field Barn 1	Potential between the pantiles and roofing felt (where present), beneath the clay ridge tiles, within mortar cavities, within slots and gaps where beams, guttering brackets and lintels entered the walls. No change in 2020.	No bat evidence noted externally. Internally a light scattering of brown long-eared type droppings and natterer's type droppings was noted on the floor beneath the ridge with a concentration in excess of 200 mixed age droppings at the eastern gable (mostly brown long-eared type with c20 natterer's type droppings). Small numbers (reduced from 2019) of brown long-eared type and pipistrelle type dropping were noted on the floor.	No bats present. No change in 2020.	High
Field Barn 2	Potential between the pantiles and roofing felt (where present), beneath the clay ridge tiles, within mortar cavities, within slots between the lintels of Field Barn 2 and gaps where beams, guttering brackets and lintels entered the	Field Barn 2 a single pipistrelle type dropping was located internally on a window lintel towards the southern end on the western wall. No change in 2020.	No bats present. No change in 2020.	High

Barn	Features	Evidence	Bats	Grade
	walls. No change in 2020.			
Field Barn 3	Potential between the pantiles and roofing felt (where present), beneath the clay ridge tiles, within mortar cavities and where lintels and joists enter the wall. No change in 2020.	8 pipistrelle type droppings and 4 brown long-eared type droppings were noted on stored goods within the northern part of the barn. As with the previous survey there were a small number of brown long-eared and pipistrelle type droppings in the east part of the barn (2 and 2 respectively).	No bats present. No change in 2020.	Moderate

5.15 The potential of the building to support roosting bats has been assessed against Table 4.1 of the Bat Survey Guidelines 2016 (see Table 13 below).

Table 13 Suitability of structures for bat use

Suitability	Description of roosting habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

5.16 On the basis of the above each barn has been graded as to its potential to support roosting bats.

Table 14 Grading of each barn as to its suitability to support roosting bats

Building	Grade	Reason
Main Barn 4 Complex	High	Due to the vast number of cavities with bat roosting potential both internally and externally including evidence of bats (droppings) and the presence of bats. No change in 2020. No significant change in 2021
Field Barn 1	High	Due to the number of cavities noted with bat roosting potential including

		evidence of bats (droppings). No change in 2020.
Field Barn 2	High	Due to the gaps between the window lintels and walls, including evidence of bats (droppings). No change in 2020.
Field Barn 3	Moderate	Due to the number of cavities present (including between timber joints, mortar cavities and gaps where timber lintels and beams enter the wall). Bat evidence was noted in the form of scattered droppings. No change in 2020.
Trees	Low	The beech trees and higher scrub to the west of the Barn Complex were considered to have low bat roost potential and the courtyard scrub, the single willow and the low scrub to the west of the Barn Complex were all considered to have negligible bat roost potential. Not re-surveyed in 2020.

5.17 **Requirements for further surveys**

Bats

Following the assessment of the value of the building for roosting bats, consideration was given to the minimum number of activity surveys that might be required to confirm the level of bat use as follows (to comply with current guidelines).

Table 15 Recommended minimum number of survey visits for presence/absence surveys

Potential	Description
Negligible	No surveys required
Low suitability	One survey visit. One dusk emergence or dawn re-entry survey between May and August
Moderate suitability	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey between May and August
High suitability	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third could be either dusk or dawn. At least 2 of the visits should be between May and August.

5.18 If bats are found to be roosting on any of the surveys, a full suite of 3 surveys will therefore be required. The level of bat roost potential was assessed against the above table as follows;

Table 16 Number of surveys required for each barn

Building	Grade	Number of Surveys
Barn Complex	High	3
Field Barn 1	High	3
Field Barn 2	High	3
Field Barn 3	Moderate	2
Trees	Low	0

5.19 The first emergence survey was undertaken on the 25th June 2019 by licensed bat workers Philip Parker 2015-14467-CLS-CLS, Naomi Parker 2018-34600-CLS-CLS, Ash Murray 2015-16562-CLS-CLS and Karl Charters 2015-13353-CLS-CLS assisted by experienced surveyors Kate Garner, Rebecca Easter, Lisa Gabriel and Emily Parker. Each surveyor was equipped with a Batbox Duet detector and an Anabat Express static recorder, all surveyors were equipped with a Clulite lamp with red filter and were in communication via two-way radios. In addition, the survey was supported internally through the use of 4 infrared cameras (Canon XF400, XA30, XA11 and XA10) and supplementary infrared lights.

5.20 The second emergence survey was undertaken on the 23th July 2019 by licensed bat workers Philip Parker 2015-14467-CLS-CLS, Ash Murray 2015-16562-CLS-CLS, Karl Charters 2015-13353-CLS-CLS assisted by experienced surveyors Lisa Gabriel, Kate Garner and Rebecca Easter. Using the same equipment as the previous survey.

5.21 The third emergence survey was undertaken on the 22nd August 2019 by licensed bat workers Philip Parker 2015-14467-CLS-CLS and Karl Charters 2015-13353-CLS-CLS, assisted by experience surveyors Lisa Gabriel, Kate Garner, Rebecca Easter and Alice Parker. Using the same equipment as the previous survey.

5.22 The fourth emergence survey was undertaken on the 10th September 2019 by licensed bat workers Philip Parker 2015-14467-CLS-CLS, Ash Murray 2015-16562-CLS-CLS, Karl Charters 2015-13353-CLS-CLS assisted by experienced surveyors Lisa Gabriel, Kate Garner, Emily Parker and Rebecca Easter. Using the same equipment as the previous survey.

5.23 An update survey for the main Barn Complex, was undertaken on the 1st September 2020 by Philip Parker 2015-14467-CLS-CLS assisted by experienced ecologists Kate Garner, Lisa Gabriel, Rebecca Easter and Emily Parker along with placement student Polly Godfrey. Using the same equipment as the previous survey. The survey was supported through the use of 5 infrared cameras and supplementary infrared lights.

5.24 An update survey for Field Barn 1, was undertaken on the 20th August 2020 by experienced surveyors Kate Garner and Emily Parker. Each surveyor was equipped with a BatBox Duet detector, all surveyors were equipped with a Clulite lamp with red filter and were in communication via two-way radios. The survey was supported through the use of 2 infra-red cameras and supplementary infrared lights.

5.25 An update survey for Field Barn 2, was undertaken on the 20th August 2020 by licensed bat worker Karl Charters 2015-13353-CLS-CLS assisted by experienced surveyor Lisa Gabriel. The survey was supported through the use of 1 infrared camera and supplementary infrared lights.

Table 17 Activity survey dates

Building	Activity Survey dates	Total number of surveys
Barn Complex	25/06/19 23/07/19 22/08/19 10/09/19 01/09/20	5
Field Barn 1	25/06/19 23/07/19 20/08/20	4
Field Barn 2	25/06/19 23/07/19 20/08/20	4
Field Barn 3	25/06/19 23/07/19 10/09/19	3

5.26 **Results summary**

Refer to Appendix B for full details of the surveys

5.27 **25th June 2019**

Main Barn 4 Complex

A single common pipistrelle emerged from the main entrance of Barn A, a single common pipistrelle and brown long-eared also emerged from the southern entrance of Barn C. A single soprano pipistrelle was seen emerging from a crack on the exterior wall of Barn C (righthand side of the northern elevation). Overall frequent common pipistrelle passes, and foraging activity was recorded around the southern elevation of Barn E and into the entrance of Barn C where up to 50 were recorded. Frequent common pipistrelle passes, and foraging activity was also recorded towards the north and east of Barn A.

5.28 **Field Barn 1**

A single brown long-eared entered the barn via a hole on the eastern elevation at eaves level, before being seen flying internally (by the end of the survey the brown long-eared was no longer present), whilst another brown long-eared was seen feeding, whilst perched up on the ridge within the barn. Overall limited common pipistrelle activity was recorded along with 2 noctule, and a single brown long-eared and soprano pipistrelle pass.

5.29 **Field Barn 2**

Activity was limited to a single soprano pipistrelle recorded foraging along the eastern elevation of the barn.

5.30 **23rd July 2019**

Main Barn 4 Complex

A single brown long-eared was recorded emerging from the eastern end of Barn J, into the courtyard along with a single soprano pipistrelle that was seen circling within Barn D. Whilst infrequent common pipistrelle, a single brown long-eared and a single Barbastelle pass was recorded.

5.31 **Field Barn 1**

Overall, two possible bat emergences were recorded, one at eaves level on the south-eastern elevation and one from the eastern gable end/ the eastern end of the southern elevation. Single passes from common pipistrelle and soprano pipistrelle were also recorded along with infrequent foraging activity.

5.32 **Field Barn 2**

Overall a single common pipistrelle was recorded entering a feature between the lintels over the south-west window (internally). Occasional common pipistrelle passes were recorded along both the southern and northern elevation along with infrequent brown long eared and Natterer's passes. A single serotine pass was recorded along the southern elevation. No activity was recorded for the first 45 minutes whilst the last bat was recorded between 22:45 – 23:00.

5.33 **Field Barn 3**

A single brown long-eared was recorded frequently flying up and down within the northern barn. Whilst 2 noctule passes were recorded over the barn. Infrequent common pipistrelle and brown long-eared passes and foraging activity was recorded towards the southern barn whilst more frequent common pipistrelle passes were recorded towards the north elevation of the northern barn and towards the trees to the east of the barns.

5.34 **22nd August 2019**

Main Barn 4 Complex

Overall 5 common pipistrelle emerged from the barn complex, 1 from above eaves level on the south-eastern elevation (near entrance) of Barn C, 3 from south-western end of Barn E (second door from the south-east and 1 from the south-west elevation of Barn C. A single pipistrelle species emerged from the eaves/ under of the guttering towards the right of Barn I, a single brown long-eared went to roost against the internal eastern wall of Barn E, against Barn C and a single natterer's was recorded entering into the eastern end of Barn J.

5.35 **10th September 2019**

Main Barn 4 Complex

A single soprano pipistrelle emerged from a crack in the north-west corner of Barn C. 2 common pipistrelles entered the barn complex, 1 under a tile on the apex of the southern elevation of Barn C and 1 into a crack in the north-west corner of Barn C (lower than the soprano pipistrelle). A single common pipistrelle entered above the sliding door on the western elevation of Barn C. Surrounding activity included common pipistrelle and soprano pipistrelle passes, occasional brown long-eared passes and a single barbastelle and natterers pass.

5.36 **Field Barn 1**

Activity was limited to occasional common pipistrelle and soprano pipistrelle passes; a single serotine pass was also recorded.

5.37 **Field Barn 2**

Activity was limited to occasional common pipistrelle and soprano pipistrelle passes.

5.38 **Field Barn 3**

Overall a possible pipistrelle species emerged from the western elevation of the southern barn. A single pipistrelle species was also recorded foraging within the northern barn.

5.39 **1st September 2020**

Main Barn 4 Complex – Barn C

Common pipistrelle - 7 emerged (6 from the open southern elevation and 1 south-east elevation of the roof.

Soprano pipistrelle - 2 emerged (1 from behind the water tank on the west elevation and 1 from the right of the door on the west elevation).

Pipistrelle species - 6 emerged from Barn C (4 from the right of the door on the west elevation and 1 re-entered, 1 entered the wall centrally towards the south of the west elevation. 1 entered a crack in the north-west corner (west elevation).

5.40 **Main Barn 4 Complex – Barn J**

Common pipistrelle – 1 emerged from the southern elevation (north-east end);
Soprano pipistrelle - 1 emerged from the southern elevation (north-east end).

5.41 **20th August 2020**

Field Barn 1

A single brown long-eared was seen to emerged from a hessian sack draped over the rafters before being seen to fly internally. Surrounding activity included occasional soprano pipistrelle, common pipistrelle and brown long-eared passes, often focused along the northern elevation of the barn.

5.42 **Field Barn 2**

2 brown long-eared were recorded flying within the barn. A single common pipistrelle was recorded entering the barn via the open doorway on the east elevation before being recorded flying internally. Activity around the barn was limited to, single common pipistrelle often seen flying in and out of the barn and single soprano pipistrelle passes. Activity from up to 2 brown long-eared. Constant serotine activity was also noted towards the end of the survey from a single bat.

5.43 **BREEDING BIRDS**

Legislation

The majority of breeding birds in Britain are protected under the Wildlife and Countryside Act 1981 (plus amendments) from disturbance whilst nesting (generally from late April to the end of August).

5.44 Some birds such as barn owls receive special protection under Schedule 1 of the Wildlife and Countryside Act 1981 (plus amendments). This makes it an offence (amongst others) to intentionally or recklessly disturb the bird whilst building a nest, or when such a bird is in, on or near a nest containing eggs or young, or intentionally or recklessly disturb dependent young.

5.45 An assessment was made of the site's suitability to support breeding and wintering bird species. Nesting birds will utilise a broad range of habitats, including built structures, trees, scrub, isolated shrubs, dense herbaceous vegetation (terrestrial and aquatic) and open grassland. All bird species and evidence of breeding activity (active or inactive) observed on site was recorded.

5.46 **Existing records**

Bird records from the 2km NBIS data search are as follows: barn owl, short-eared owl, tawny owl, little owl, barnacle goose, brent goose, light-bellied brent goose, bean goose, tundra bean

goose, pink-footed goose, European greater white-fronted goose, greenland greater white-fronted goose, greylag goose, scaup, grey partridge, quail, gannet, marsh harrier, hen harrier, circus cyaneus subsp. cyaneus, montagu's harrier, osprey, merlin, crane, oystercatcher, lapwing, whimbrel, woodcock, mediterranean gull, swift, willow warbler, skylark, house martin, meadow pipit, fieldfare, redwing, spotted flycatcher, marsh tit, linnet
and yellowhammer.

5.47 **Survey results**

A summary of the bird nesting evidence is shown below. Again, 2019 information is shown in black typeface, that for 2020 is shown in red typeface whilst the 2021 update is shown in green typeface.

Table 18 Breeding bird survey

Barn	Bird Nesting Evidence
Main Barn 4 Complex	
Section A	No evidence of nesting birds was obtained. No change in 2020. No notable change in 2021
Section B	No evidence of nesting birds was obtained. No change in 2020. No notable change in 2021
Section C	1 feral pigeon was noted sitting on a nest. Several wood pigeon/feral pigeon egg fragments were noted scattered throughout the barn. 29 barn owl pellets and a barn owl were noted in the barn with most of the pellets being concentrated towards the southern end. No evidence of nesting barn owl was obtained. 1 barn owl was seen to emerge during the bat activity survey on the 1st September 2020 and on the update walk over survey 30th October 2020 – no indication of breeding was obtained. No notable change in 2021
Section D	2 inactive wood pigeon/feral pigeon nests were noted. No change in 2020. No notable change in 2021
Section E	No evidence of nesting birds was obtained. 16 barn owl pellets were noted. No change in 2020. No notable change in 2021
Section F	An old swallow nest was lying on the floor of the southernmost room. A wood pigeon/feral pigeon nest was noted in the south-west corner of the northern room. No change in 2020. 33 barn owl pellets were noted (28 in the southern room and 5 in the central room). No notable change in 2021
Section G	An inactive wren nest and a collection of nesting material were identified within the barn. Single barn owl noted in the barn attached to the west of Barn G in 2021.

Barn	Bird Nesting Evidence
	8 barn owl pellets were noted. No change in 2020. No notable change in 2021
Section H	No evidence of nesting birds was obtained. No change in 2020. No notable change in 2021
Section I	1 old swallow nest. No change in 2020. No notable change in 2021
Section J	1 old swallow nest, 2 wood pigeon/feral pigeon nests (including 1 with a dead wood pigeon present on top). Several wood pigeon/feral pigeon egg fragments were located throughout the barn. 3 barn owl pellets were noted. No change in 2020. No notable change in 2021
Section K	No evidence of nesting birds was obtained; however, 2 old swallow nests were noted in the room located between K and D. No change in 2020. No notable change in 2021
Field Barn 1	An active jackdaw *Corvus monedula* nest with 4 eggs was located in one of the window slits of the northern wall. Another jackdaw nest (probably inactive) was in a window slit on the southern elevation. Since no access was permitted into the barn it is impossible to determine whether the barn was being utilized by barn owls. No change in 2020.
Field Barn 2	An active robin nest was located internally in a lintel near to the southern end of the eastern wall. An old wren nest was located towards the northern end of the western wall. Approximately 70 barn owl pellets were noted. 150 barn owl pellets and vast quantities of pigeon faeces.
Field Barn 3	5 wood pigeon nests were located in the southern barn including 2 active at the time of survey. A further 2 inactive wood pigeon nests were noted in the trailer store. An inactive swallow nest was identified in the firewood store. Single wren and blackbird nest (inactive) were noted in the northern barn. 36 barn owl pellets were noted in the southern barn, along with scat and feathers. 2 inactive wood pigeon nests in the western part of the barn.

Figure 48 – Barn owl pellets in Field Barn 2

5.48 **BADGER**

Legislation

Badgers are protected under Appendix III of the Bern Convention and are protected in Britain under the Protection of Badgers Act 1992, and under Schedule 6 of the Wildlife and Countryside Act 1981.

5.49 A badger sett is defined in the legislation as "any occurrence which displays signs indicating current use by a badger" and includes seasonally used setts.

5.50 Badgers can be disturbed by work near the sett even if there is no direct interference or damage to the sett. A licence may be required for any working within 30m of a badger sett. The licensing authority is Natural England.

5.51 **Existing records**

No record of badger was noted within the 2km NBIS data search.

5.52 **Survey methodology**

The survey involved a detailed search of the site to identify evidence of badger residence, foraging or territorial activity in the vicinity of the barns. Particular emphasis was placed on location of badger setts. Paths and signs of territorial activity such as dung piles and latrines.

5.53 **Survey results**

No evidence of badger activity was noted on site.

5.54 **REPTILES**

Legislation

The reptiles occurring in Norfolk (common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix natrix,* adder *Vipera berus)* are all given limited legal protection under part of Section 9 (1) and all of Section 9 (5) of the Wildlife and Countryside Act 1981 (as amended). This means that it is an offence to intentionally kill, injure and offer for sale.

5.55 **Existing records**

No existing records were noted within the 2km NBIS data search.

5.56 **Survey methodology**

An assessment was made of the site's suitability to support reptile populations. Key habitat features include: tussocky/patchy grassland; scrub edge; linear watercourses; ponds; compost heaps; brash piles and rubble/soil heaps. Linkage to suitable habitat within the surrounding

landscape will increase the potential for reptiles to occur, although populations can occur within isolated/fragmented habitats even within urban areas.

5.57 The rough grassland around the barns was considered to superficially have the potential for common reptiles to occur (particularly viviperous lizard and slow-worm). As this area is likely to be impacted by parking areas for the development area, further survey was undertaken to determine presence of absence of reptiles. The refugia (60 pieces of roofing felt c1m x 0.7m) were placed around the suitable habitat on the 30th August 2019 and left for 13 days to bed in prior to the survey commencing. Then, 7 surveys were undertaken between the 12th September 2019 and 30th September 2019 in accordance with the methodology given in Froglife 1999 for determining presence/absence of reptiles.

5.58 **Survey results**

The short-mown grasslands located on the site provide little reptile foraging and breeding habitat. However, the scrub/woodland and longer areas of grassland (courtyard, paddock and unmown areas between the Main Barn 4 Complex and the Field Barns 1 and 2) on and adjacent land to the site are suitable for reptiles. The grassland within the courtyard and to the south of the Main Barn Complex was similar to that noted in 2019. There was evidence of mowing within the courtyard and the grassland to the south had been partially mown as with the 2019 survey.

5.59 No reptiles were noted during the suite of surveys undertaken on the rough grassland located between the Main Barn 4 Complex and the Field Barns. See Appendix C for the survey results table.

5.60 The dry pond to the south of Docking Road appeared ideal for reptiles due to the structure of the environment including longer grass and foliage.

5.61 **AMPHIBIANS**

Legislation

Great crested newts *Triturus cristatus* and their habitat (aquatic and terrestrial) are afforded full protection by The Wildlife and Countryside Act 1981 (Section 9, Schedule 5; and as amended) and The Conservation (Natural Habitats & c.) Regulations 1994. It is an offence to:

1) Disturb, injure or kill recklessly a great crested newt;
2) Disturb or destroy recklessly great crested newt habitat (a breeding site or place of shelter).

5.62 Great crested newt is also listed in the National Biodiversity Action Plan.

5.63 **Existing records**

No existing records of great crested newt were noted within the 2km NBIS data search.

5.64 **Survey methodology**

Great crested newts utilise ponds for breeding and grassland areas for foraging. Newts are normally present in the breeding ponds between March and June and survey techniques to demonstrate presence or absence include torch survey, bottle trapping, netting and egg search. It is also possible to undertake a Habitat Suitability Index assessment (HSI), which assesses the potential of a pond to support great crested newts by looking at a range of environmental factors.

5.65 **Survey results**

A stream widening out to form ponds ran north to south through the farm complex and to the south of Docking Road, the vegetation present suggested that on occasions a small amount of standing water might be present in the part of the stream immediately east of the main Barn Complex and the area to the south of Docking Road, shown on Figure 4.

5.66 A dry pond was noted in the garden of the property to the south of Docking Road and an ornamental pond was located in the garden of the house to the south-west of Field Barn 2. The dry ponds were discounted on the basis that they appeared far more terrestrial in nature, consisting of a well-maintained lawn in the case of the ponds falling within the farm curtilage.

5.67 Access was not possible to the ornamental pond; however, it was apparent that the pond was covered over with a mesh indicating that there were fish present, making it generally unsuitable for great crested newts. The short and more rank grasslands found within the grounds of the farm (including the courtyard) were suitable for amphibian foraging.

Table 19 Results of the HSI assessment

	Criteria	P1
S1	**Location**	1 (optimal)
S2	**Pond Area**	0.98 (800msq)
S3	**Pond Drying**	0.1 (annually)
S4	**Water Quality**	0.33 (poor)
S5	**Shade**	0.6 (80%)
S6	**Fowl**	1 (absent)
S7	**Fish**	1 (absent)
S8	**Pond Count**	0.1 (0 ponds)
S9	**Terrestrial**	1 (good)
S10	**Macrophytes**	0.3 (0%)
	Total	0.00058212
	Tenth Root	0.47
	HSI Ranking	Poor

Pond 1 has a HSI ranking of poor which means there is a 0.03% chance of the pond supporting great crested newts.

5.68 **SMALL MAMMALS/ HEDGEHOG**

Legislation

Hedgehogs *Erinaceus europaeus* and other small mammals are partially protected under Schedule 6 of the Wildlife and Countryside Act (1981), making it illegal to trap or kill them without a licence. They are known to be in serious decline in the countryside at the moment.

5.69 **Existing records**

No records of hedgehog or other small mammals were noted within the NBIS data search.

5.70 **Survey results**

The mown lawns, access to surrounding woodland provide suitable habitat for small mammals including hedgehogs.

5.71 Short-tailed field vole *Microtus agrestis* was noted during the reptile survey on 3 occasions (25th, 27th and 30th September 2019).

6.0 EFFECTS OF THE PROPOSED DEVELOPMENT WORKS ON THE SPECIES PRESENT AND LICENSING REQUIREMENTS

6.1 GENERAL

Tidswell Childs have provided the following plans, these indicate that the main barn complex is to be converted into holiday accommodation comprising a single dwelling with guest accommodation comprising of 13 bedrooms with a range of shared and private bathrooms, along with catering/shared spaces

- Proposed site block plan – 002M
- Proposed floor plans – 003M
- Proposed elevations. sheet 1 of 2 – 004M
- Proposed elevations. sheet 2 of 2 – 005M

6.2 The likely impacts on protected species recorded, as a result of the proposed development are as follows:

- The loss of several confirmed bat roosting areas and other potential bat roosting areas in the Main Barn 4 Complex (1 on the western elevation of Barn I, 1 on the eastern end of Barn J (internal), one on the southern elevation of Barn A, one of the north-west elevation of Barn C, four on the western elevation, 1 on the eastern elevation of Barn C, two on the south-eastern elevation of Barn C, 1 on the southern elevation of Barn C and 3 internally within Barn E);
- The loss of bird nesting habitat through the conversion of the barns;
- The loss of barn owl roosting areas and potential breeding sites – none proven (Seen to emerge from Barn C of the main Barn Complex in both 2019 and 2020);
  The loss of reptile potential habitat though the development of the barns and surrounding land (potential grassland for common amphibians and small mammals and transitory reptiles).

6.3 BATS

The surveys undertaken are considered sufficient to allow determination of the planning application.

6.4 BADGER

No further surveys are currently considered necessary in relation to badgers.

6.5 **SMALL MAMMALS/ HEDGEHOG**

Subject to the precautionary mitigation set out in Section 7, no further surveys are considered necessary in relation to small mammals/hedgehogs.

6.6 **BREEDING BIRDS**

Subject to the precautionary mitigation set out in Section 7, no further surveys are considered necessary in relation to breeding birds.

6.7 **REPTILES**

The surveys undertaken (Appendix C) confirm that reptiles are unlikely to be present on site. Therefore, no further surveys are currently required.

6.8 **AMPHIBIANS**

Given the low HSI score for the closest pond (108m south-east) and other surveys being some 220m south of the main Barn Complex 4, no further surveys are considered necessary.

6.9 **VALIDITY OF SURVEYS**

The results of the surveys are valid for a period of 12 months as conditions on site and use by species present can change. If submission of the planning application is delayed beyond this period, walkover survey will be required to comply with planning guidance (this has been undertaken). Please note that for the purposes of the licensing (see below), 2 updated activity surveys will be required from the most current survey season.

6.10 **DEROGATION LICENCE**

A derogation licence (most usually a European Protected Species Licence) may be required from Natural England where the proposed development would result in an otherwise un-lawful activity. This includes:

a. The killing or disturbance of a European Protected Species;

b. Damage, destruction or obstruction of any place used by a European Protected Species for shelter or protection.

6.11 Any licence application will take a minimum of 30 working days to process and can only be processed once any relevant permissions have been issued. The granting of the relevant permissions to allow the works to proceed is no guarantee that a licence will be granted.

6.12 Following changes to the Habitats Regulations in 2007, the threshold to which a person commits an offence of deliberately disturbing a European Protected species has changed, such that the disturbance is likely to affect;

(i) the ability of any significant group of animals of that species to survive, breed, or rear or nurture their young, or

(ii) the local distribution or abundance of that species

6.13 Further changes took place in January 2009, but these generally relate to increased monitoring of licensed mitigation works.

6.14 In April 2015, a new Low Impact Class Licence (now renamed the Bat Mitigation Class Licence) was introduced which covers works that impact small numbers of common bat species. Such licences are normally granted within 10 working days. Philip Parker is a registered consultant to work under this licence.

6.15 Licences cannot be issued on a precautionary basis and normally require the benefit of supporting activity surveys to categorise the nature of the roost.

6.16 As a number of bat roosts and bat species will be impacted by the proposed development works, an appropriate derogation licence will be required. Based on the results of the various surveys, the development of any parts of the Main Barn Complex where bats were noted to be roosting or which forms part of their habitat requirements will require a full European Protected Species Licence prior to any development works being undertaken.

7.0 MITIGATION STRATEGY

7.1 The proposed strategy to mitigate the impacts of any development on the various species is set out as follows: this is based on the assumed use of the barns identified from the preliminary ecological appraisal.

7.2 **BATS**

The following table is based on the guidance within Table 8 given in the Bat Mitigation Guidelines. The level of mitigation is shaded orange. Detailed mitigation will depend on how the buildings are to be developed (on which further information is required).

Table 20 Guidelines for proportionate mitigation

Roost status	Mitigation/compensation depending on the impact
Feeding perches of common/rarer species ↓ Individual bats of common species ↓ Small numbers of common species. Not a maternity site	Flexibility over provision of bat boxes, access to new buildings etc. No conditions about timing or monitoring
Feeding perches of Annex II species ↓ Small numbers of rarer species. Not a maternity Site	Provision of new roost facilities where possible. Need not be exactly like-for-like, but should be suitable, based on species' requirements. Minimal timing constraints or monitoring requirements

Roost status	Mitigation/compensation depending on the impact
Hibernation sites for small numbers of common/rarer species ↓ Maternity sites of common species	Timing constraints. More or less like-for-like replacement. Bats not to be left without a roost and must be given time to find the replacement. Monitoring for 2 years preferred.
Maternity sites of rarer species ↓ Significant hibernation sites for rarer/rarest species or all species assemblages	Timing constraints. Like-for-like replacement as a minimum. No destruction of former roost until replacement completed, and usage demonstrated. Monitoring for at least 2 years.
Sites meeting SSSI guidelines ↓ Maternity sites of rarest species	Oppose interference with existing roosts or seek improved roost provision. Timing constraints. No destruction of former roost until replacement completed and significant usage demonstrated. Monitoring for as long as possible.

7.3 **Timing of the work**

The Bat Mitigation Guidelines present the optimum seasons for works involving various types of roosts.

Table 21 Optimum seasons for undertaking work in different types of roost

Bat usage of the site	Optimum period for carrying out works (some variation between species)
Maternity	1st October – 1st May
Summer (not a proven maternity site)	1st September – 1st May
Hibernation	1st May – 1st October
Mating/swarming	1st November – 1st August

7.4 Bats are most likely going to be present in the summer months albeit that the occasional hibernating bat during the winter (using wall cavities etc) cannot be totally discounted. As a precautionary approach, works which have the potential to impact bats (i.e. stripping and relaying the roof, blocking wall cavities etc) will need to be timed to avoid these key periods (undertaken either mid-September to October or April).

7.5 **Involvement of a licensed bat worker**

A licensed bat worker will need to undertake the following works during the course of the development works:

- Application for a European Protected Species Licence;
- Tool box talk to the builder prior to works commencing;
- Excluding any potential roosting cavities prior to development works commencing;
- Supervision of roof stripping in any areas where bats have potential/ proven to be roosting. In the event that any bats are found during these works, they will be safely moved to one of the pre-erected bat boxes.

7.6 **New Roosting**

Provision of new roosting opportunities will form part of the mitigation strategy. The delivery of biodiversity enhancement on development sites is promoted by National Planning Policy Framework and Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006.

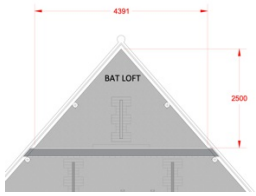
Figure 49 – Kent bat boxes on a tree

- The majority of the lost roosting areas for pipistrelle species and barbastelle will be mitigated through the use of bat boxes and bat access tiles;
- Provision of new bat roosting. Kent Bat Boxes should be provided as mitigation for the loss of potential bat roosting opportunities. These will be erected three to the tree, one facing north, one south-east and one south-west, at a height of 5-6 meters (Figure 49). Further bat boxes could be integrated into the new walls of the development. Trees with potential to support bat boxes have been noted towards the north-east of the site, these are currently covered with thick ivy. Prior to the installation of the boxes the ivy needs to be cut at base level and allowed to die back to aid installation.
- As there is potential for bats to access under the replaced roof covering, it is essential that the traditional 1F hessian reinforced bitumen felt is used under the tiles as the modern breathable felts are hazardous to bats whose claws can get caught in the detached fibres. The following BCT webpage provides the findings of research undertaken into the impact of breathable membranes on bats: http://www.bats.org.uk/news.php/254/bats_and_breathable_roofing_membranes_update_of_findings_%20;
- Provision of additional bat boxes should be erected on the walls of the developed barns, number to be determined;

- Although only small numbers of brown long-eared were recorded during the surveys, it is recommended that a bat loft is provided above the walkway as enhancement (2.5m high floor to ridge and 4.39m wide at base level).

Table 22 Proposed bat mitigation

(see Mitigation Plan D21 for proposed locations of mitigation features)

South wing	East wing	West wing
 4 x bat tile	 4 x bat tile  1 x Bat loft (approximately 4.35m long x 4.4m wide at eaves and 2.5m high at ridge)  2 raised ridge tiles over bat loft  2 externally mounted bat boxes	 5x bat tile  1 externally mounted bat box

7.7 Given the complexity of the buildings, consideration should also be given to the provision of a bat loft or other suitable building for the use of the bats, a bat loft is proposed for over the walkway (2.5m high floor to ridge and 4.39m wide at base level). 1F bitumen underfelt must be

used and the loft should be fully insulated. The loft will be provided with suitable access points and could include additional roosting spaces. The exact location and details are to be agreed.

7.8 **Lighting**

In order to limit any effects on foraging bats using the local area, it is essential that the following should be adopted with respect to lighting:

- Any external lighting should be limited to only that absolutely necessary for safety purposes;
- The brightness of the lighting should be as low as possible and kept at a low level and directed away from the boundary vegetation and any existing/new bat boxes/roosting areas;
- Narrow spectrum lighting with no UV light is preferred;
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats;
- Lighting on sensors should not be so sensitive that foraging bats set them off and should be on short timers (1 minute).

7.9 **Timber treatment**

Any timber treatment required will be undertaken using bat friendly chemicals. Chemicals should be painted on rather than being sprayed if done in situ and should not be applied if any bats are actually present at the time. A list of bat friendly chemicals are given in Appendix D.

7.10 **Bat Friendly Planting**

Incorporation of night scented flowers into any landscape scheme around the barns would attract moths and other insects on which bats feed, thus increasing the potential for presence and use of the new roosting facilities. Suggested plants can be found in Appendix E.

7.11 **Breeding Birds**

Care should be taken that the development does not disturb breeding birds. Bird nests, when occupied or being built, receive legal protection under the Wildlife and Countryside Act 1981 (as amended). It is highly advisable to undertake initial disturbance works on potential bird nesting habitat outside the bird nesting season, which is generally seen as extending from March to the end of August, although it may extend for longer depending on local conditions. If there is no alternative to carrying out work in these areas during this period, then suitable nesting locations should be carefully inspected for evidence of nests prior to works commencing. If occupied nests are present, then works must stop in the area and can only recommence once the nest becomes unoccupied of its own accord.

7.12 An occasionally used barn owl roost was noted during both 2019, 2020 (no evidence of nesting) in Barn C of the main Barn Complex and in the barn adjoining to the west of Barn G and will be lost as part of the development, along with a subsequent potential roost noted in Field Barn 2. Therefore, the addition of a new barn owl box in a suitable location close to the barn will be provided as part of the mitigation strategy. It is proposed that this goes onto a tree to the west of the complex.

7.13 The addition of bird nesting habitat is an excellent way of providing biodiversity enhancement. Examples of a swift box, house sparrow terrace, swallow nest and starling nest are given in Figures 50 to 53 below.

Figure 50 – Example of a swift nest box

Figure 51 – Example sparrow terrace

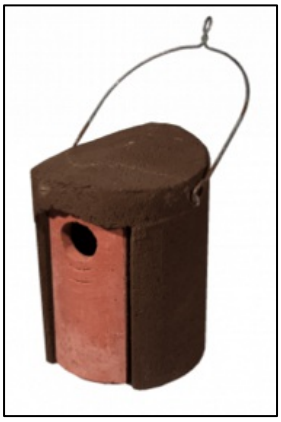


Figure 52 – Schweglar 3S starling nest box

Figure 53 – Schweglar 2H nest box

Figure 54 – Example barn owl box

7.14 REPTILES/ AMPHIBIANS/SMALL MAMMALS

Although no reptiles were discovered on the surveys and the potential for protected amphibians is low, a precautionary approach to the site development is recommended in order to avoid impacts on any transitionary reptiles, common amphibians and small mammals, as follows:

a. Clearance of piles of vegetation debris, general debris and rough vegetation should take place outside the reptile hibernation period (typically October – March), in a careful and sensitive manner, by hand, to allow any reptiles present to leave the area of their own accord.
b. All waste shall be placed directly into skips or designated areas so that debris piles and therefore potential refuge areas are not created;
c. Piles of loose sand or other granular materials into which reptiles could bury are not to be left around the site. All such materials should ideally be delivered in bags and kept in such bags until required for use. Bags should be stored on pallets. If it is essential that they are delivered loose, they should be retained in designated areas which are not accessible to reptiles;
d. All trenches will be left covered at night. They must be checked in the morning before they are filled in. All trenches are to be provided with a small mammal ramp to allow any animals that get trapped to escape.

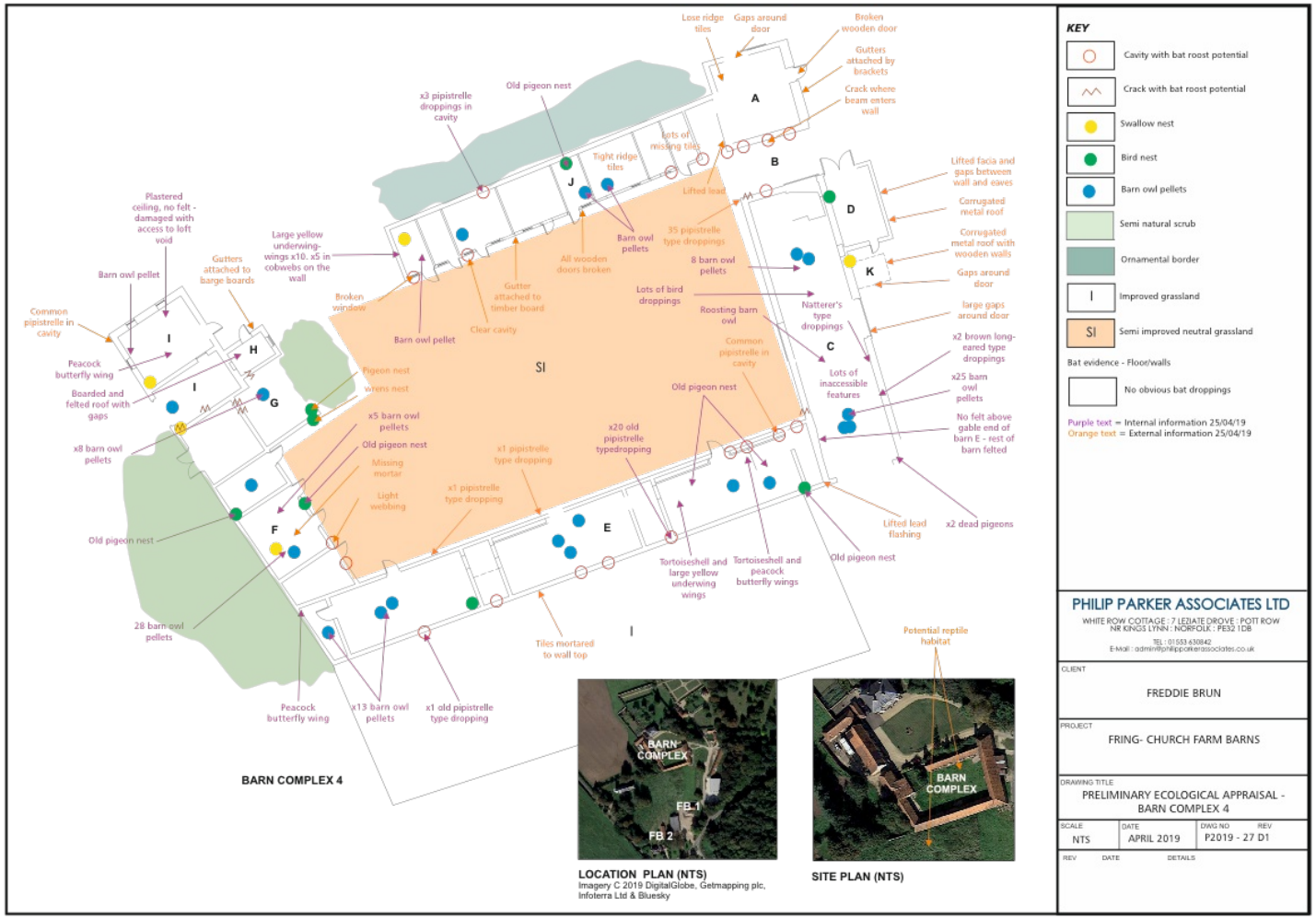
7.15 ADVISORY NOTE

The report presents a true reflection of habitats present and wildlife usage at the site at the time of the survey and remains valid for a period of 12 months from the date of this report. Even given the precautions set out above, it is always possible that protected species could be encountered at any time. In such a case, work should cease immediately and either Natural England or Philip Parker Associates (Mob: 07850275605) be contacted for further advice.

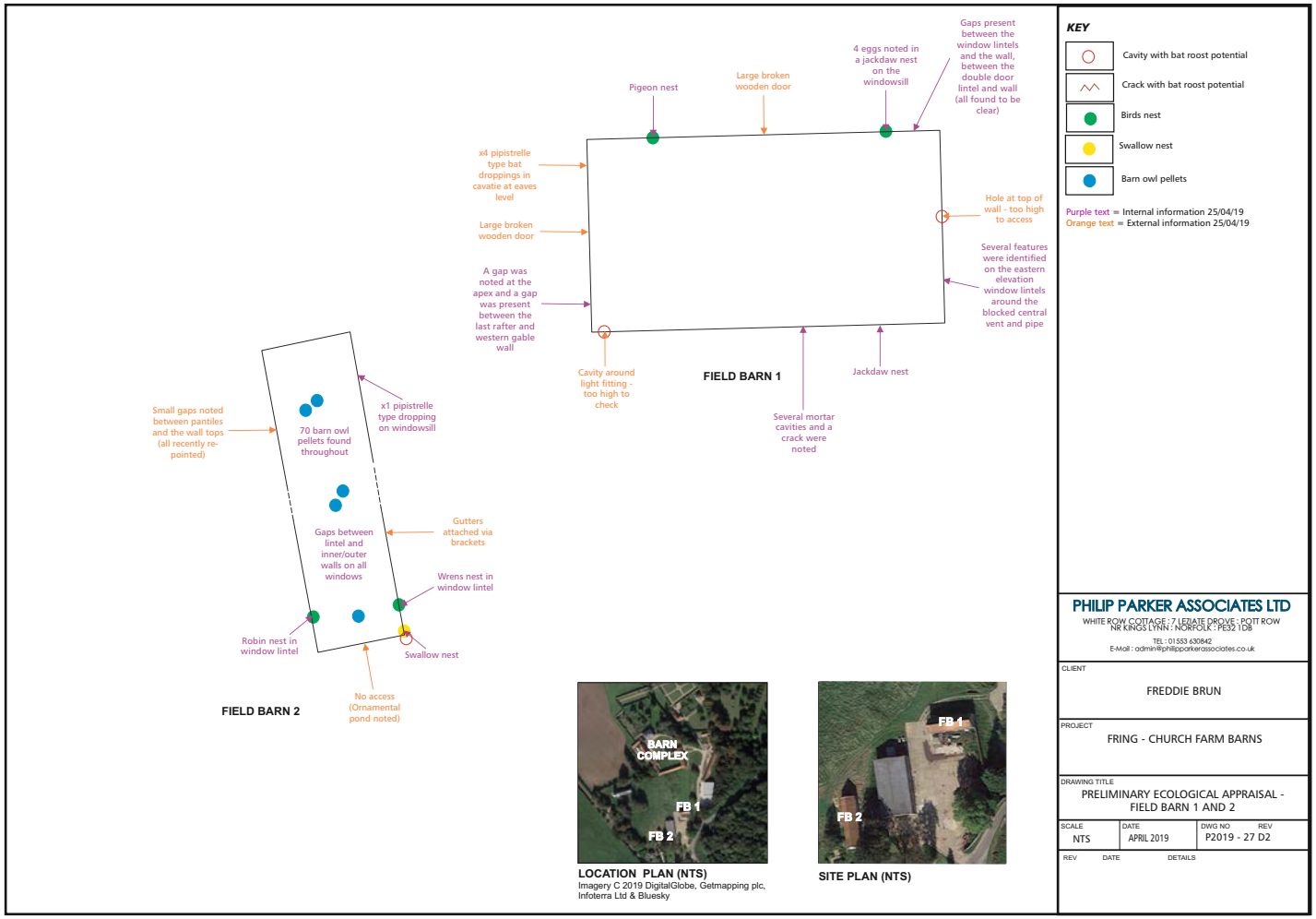
8.0 REFERENCES

- **Altringham J D, 2003**, British Bats, Collins New Naturalist
- **Bat Conservation Trust, 2016**, BCT Bat Survey Guidelines Third edition
- **BS 42020:2013**. Biodiversity. Code of practice for planning and development
- **English Nature, 2002**, Barn owls on site – A guide for developers and planners
- **English Nature, 1995 Badgers**- Guidelines for Developers
- **Froglife 1999, Reptile Survey-** An introduction to planning, conducting and interpreting surveys for snake and lizard conservation
- **Gent T and Gibson S 1998** *Herpetofauna Workers Manual JNCC*
- **Joint Nature Conservation Committee. 1993**. A Handbook for Phase 1 Habitat Survey : A Technique for Environmental Audit. Peterborough: Joint Nature Conservation Committee.
- **Mitchell Jones AJ, 2004**, Bat Mitigation guidelines, English Nature
- **Mitchell Jones AJ and McLeish A P**, The Bat Workers Manual, JNCC
- **Natural Environment and Rural Communities Act 2006**, Ch 3, s. 40

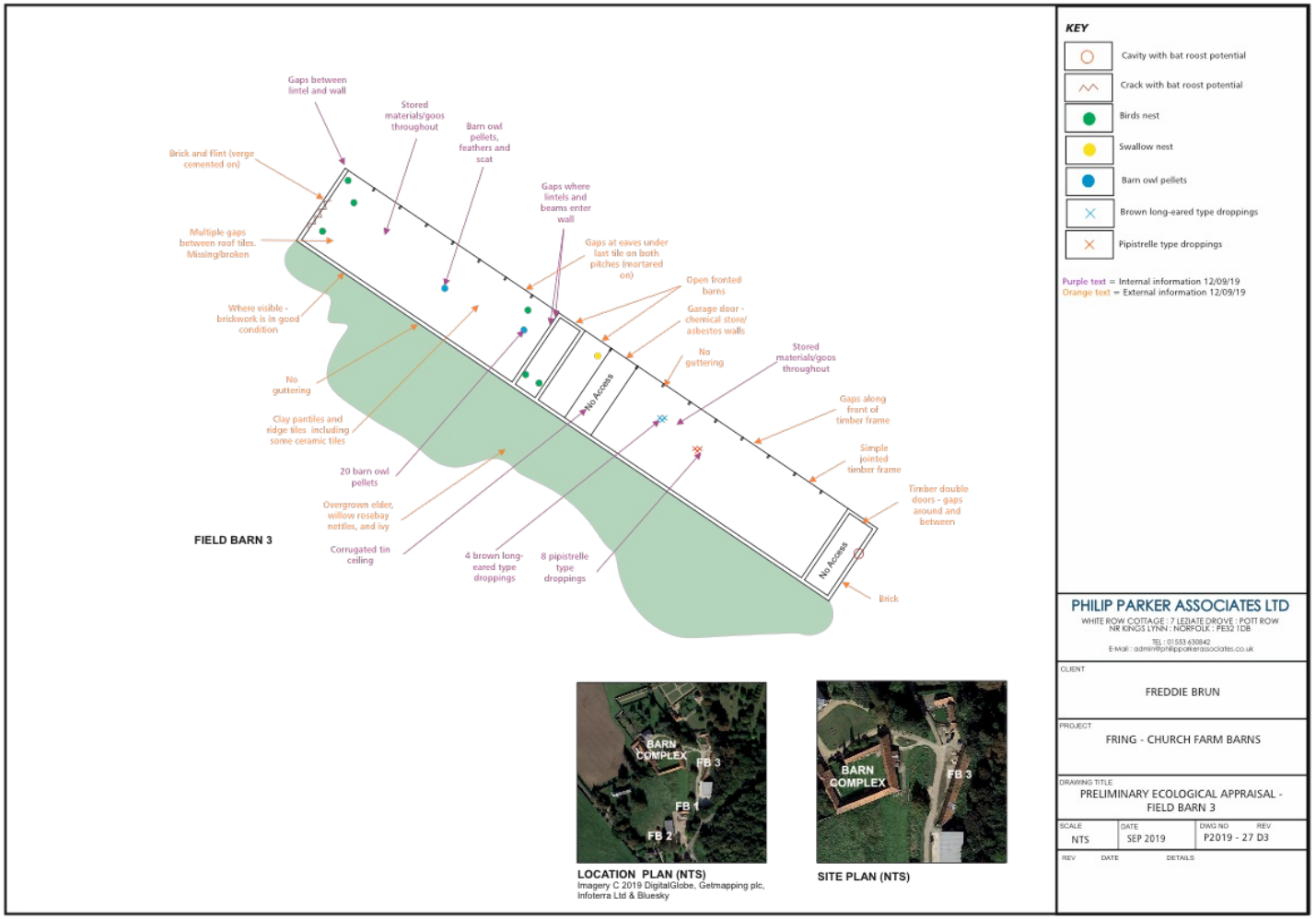
DRAWING D1 PRELIMINARY ECOLOGICAL APPRAISAL



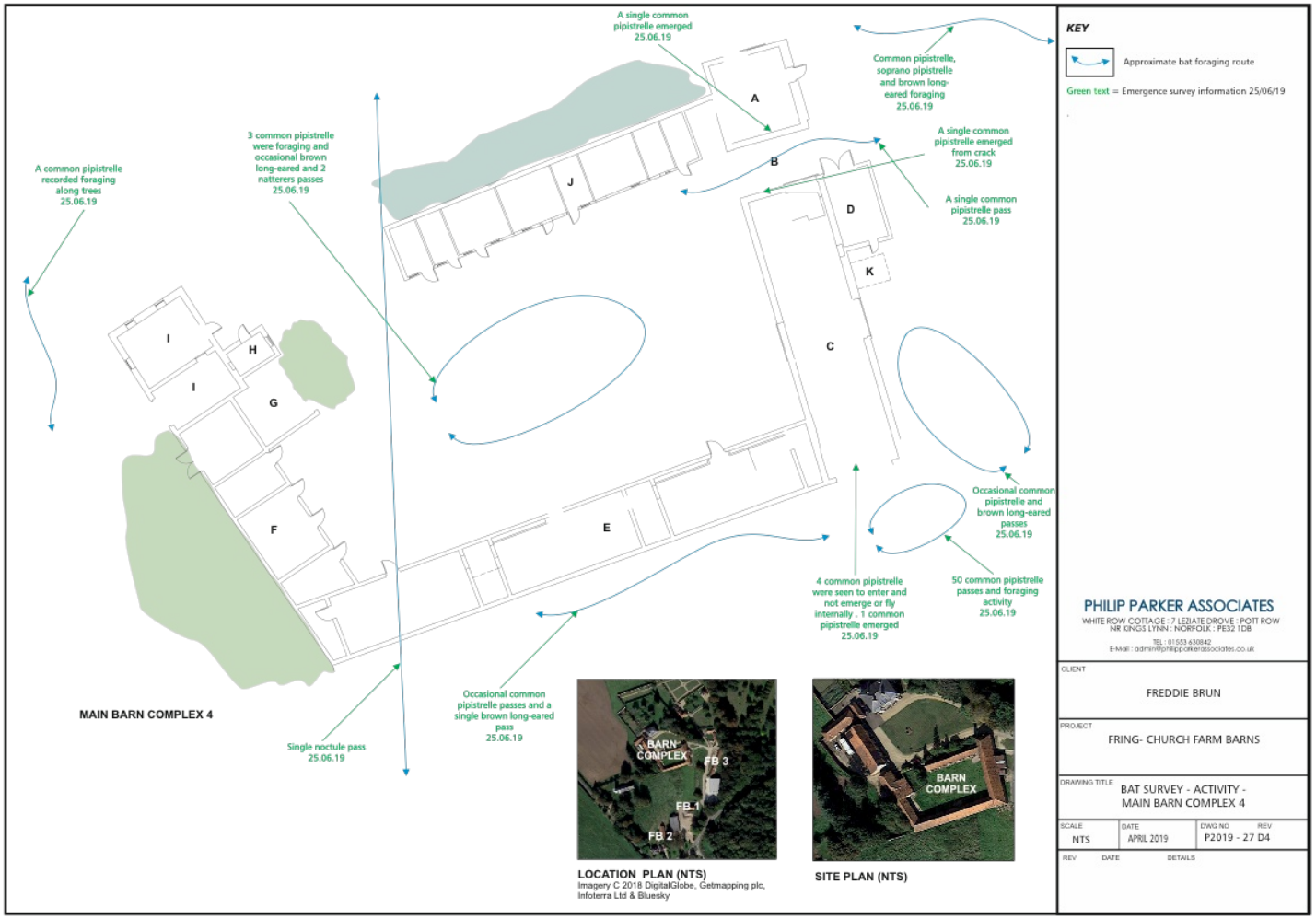
DRAWING D2 PRELIMINARY ECOLOGICAL APPRAISAL



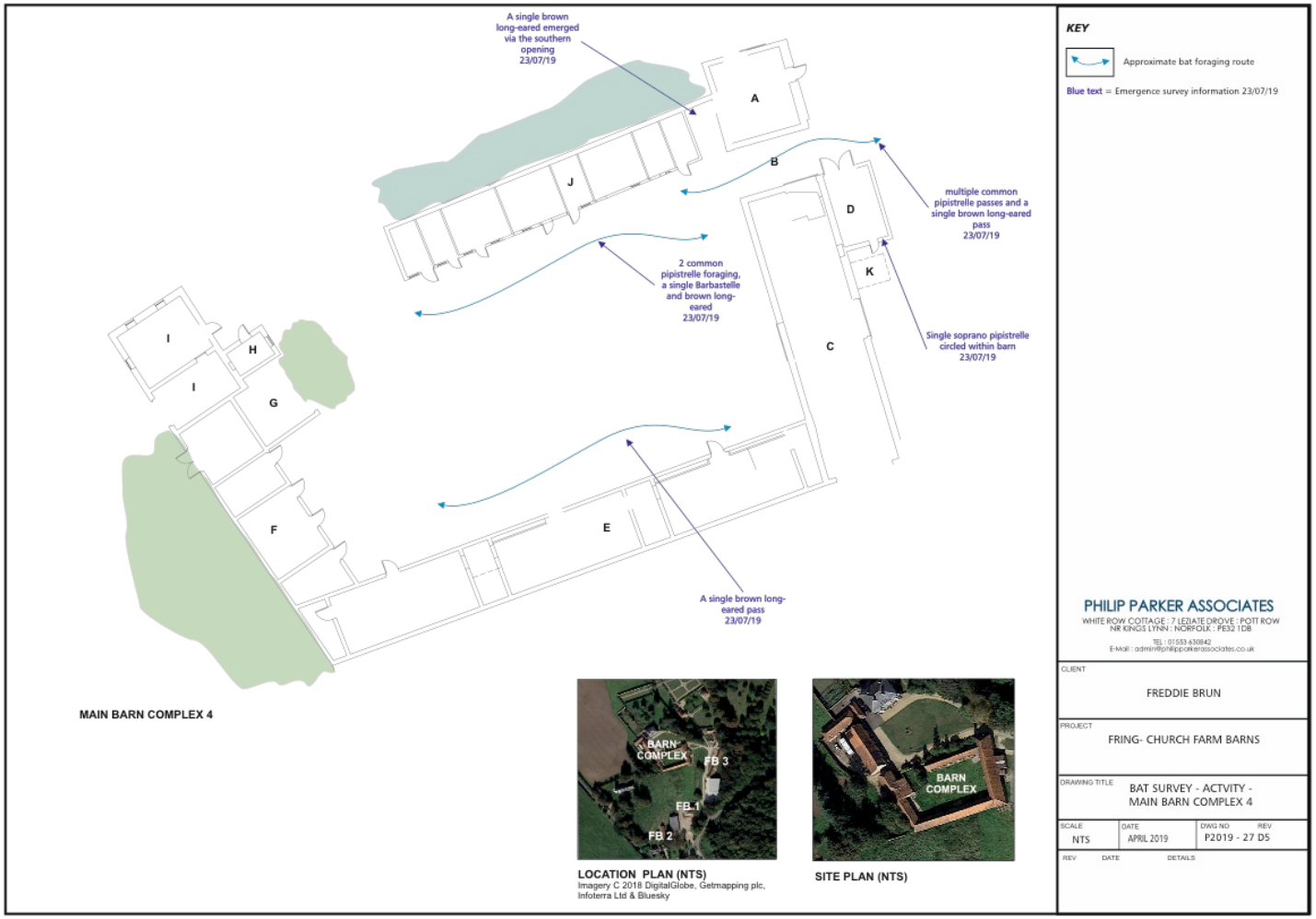
DRAWING D3 PRELIMINARY ECOLOGICAL APPRAISAL



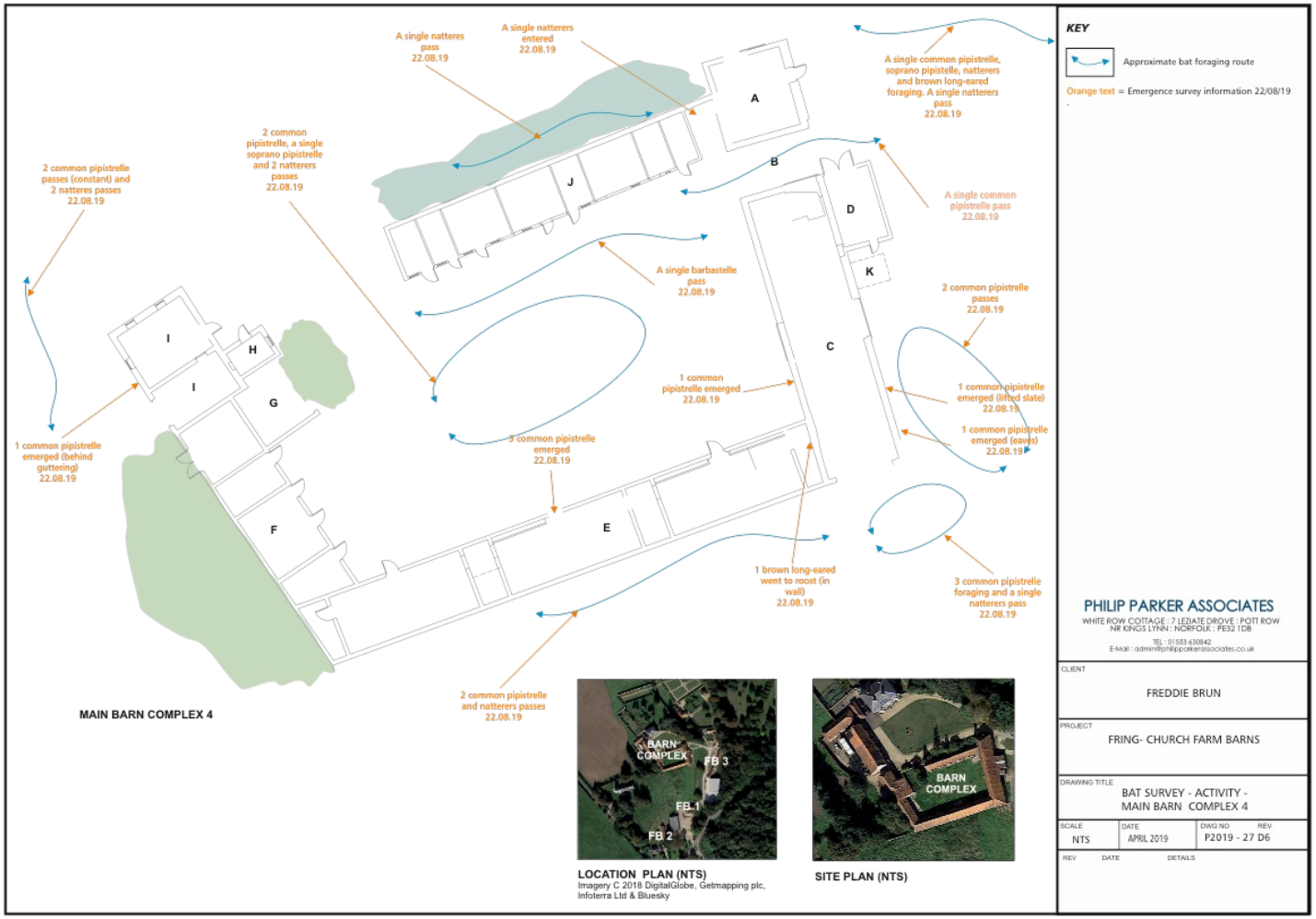
DRAWING D4 2019 BAT SURVEY – ACTIVITY



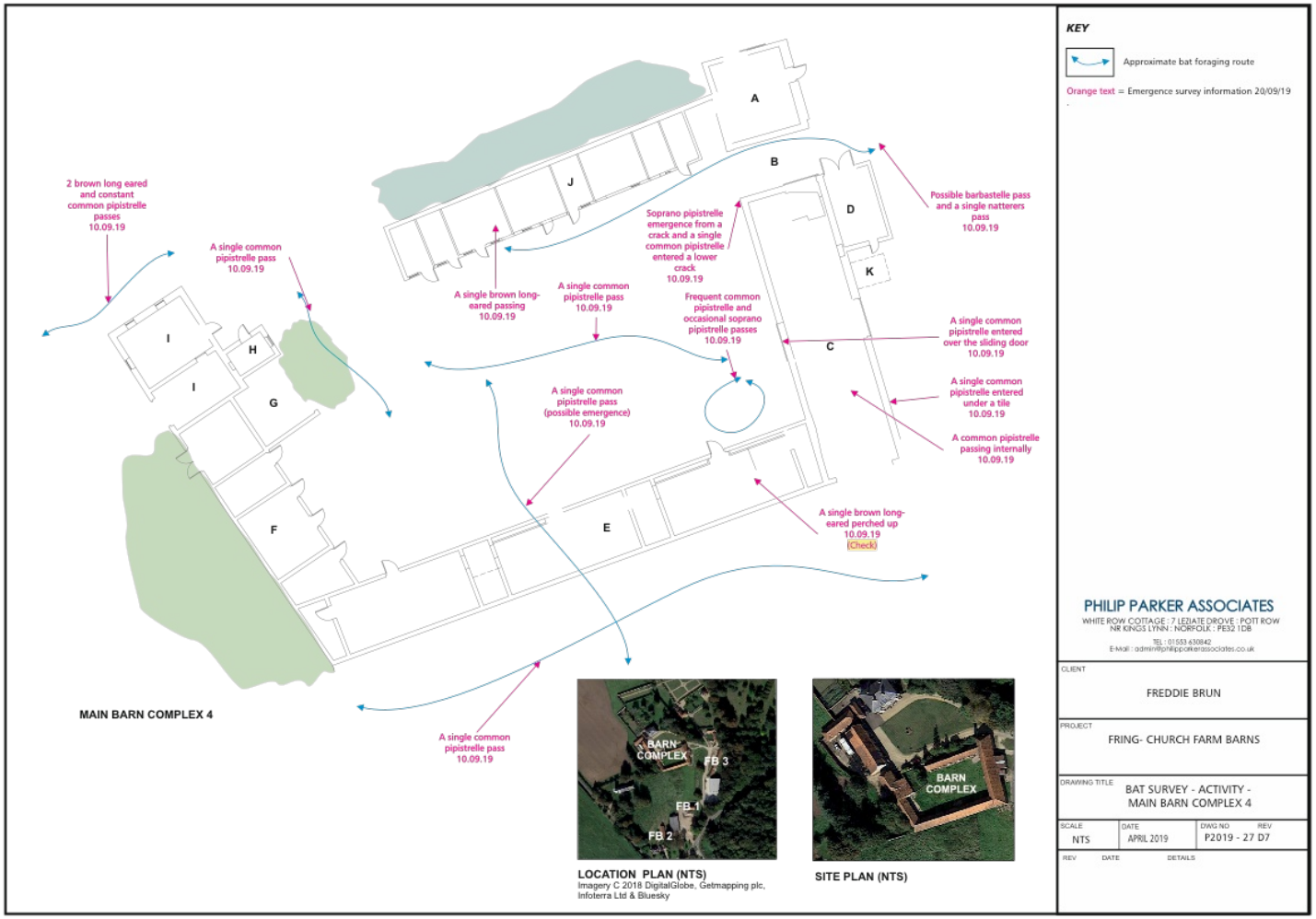
DRAWING D5 2019 BAT SURVEY – ACTIVITY



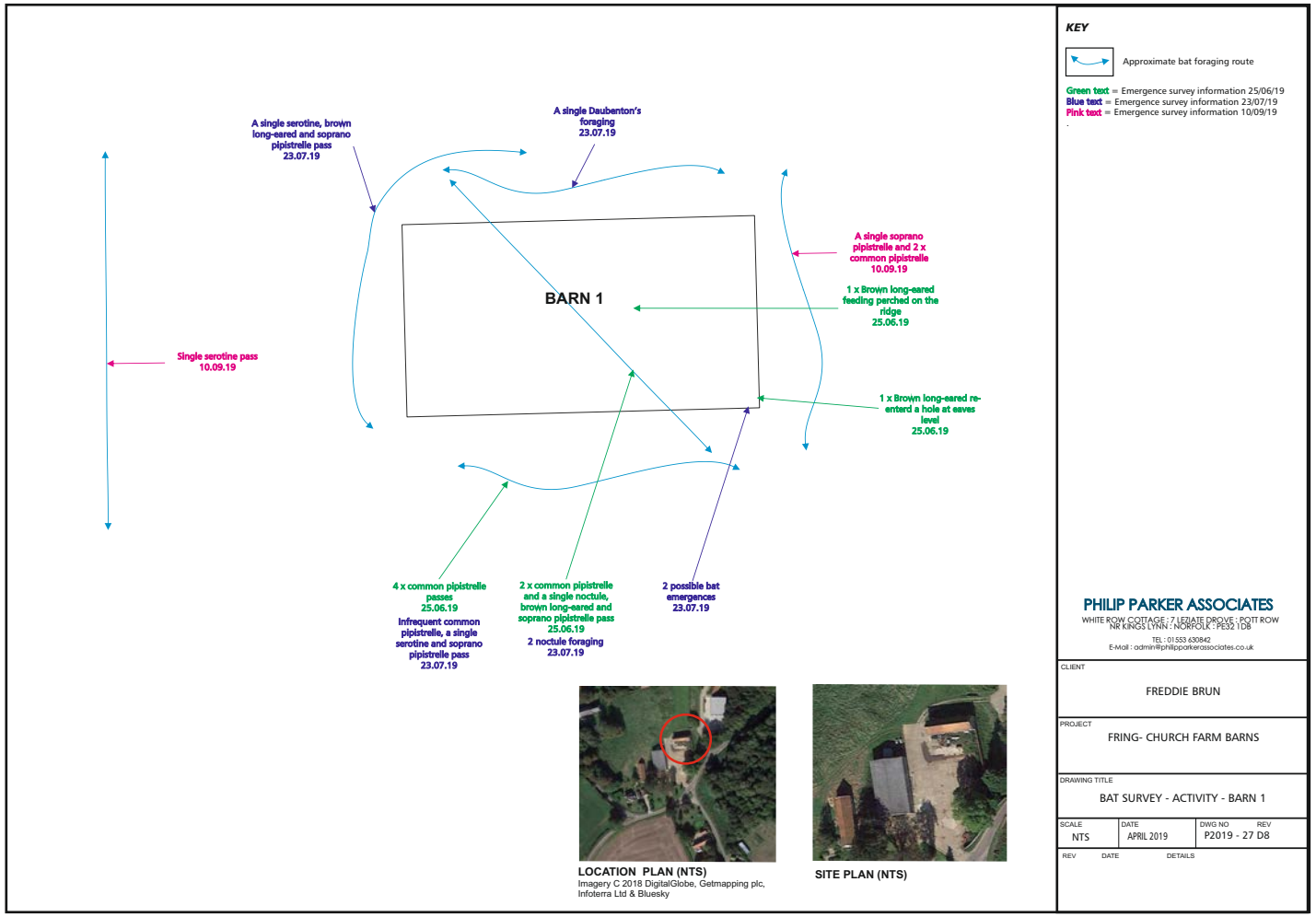
DRAWING D6 2019 BAT SURVEY – ACTIVITY



DRAWING D7 2019 BAT SURVEY – ACTIVITY



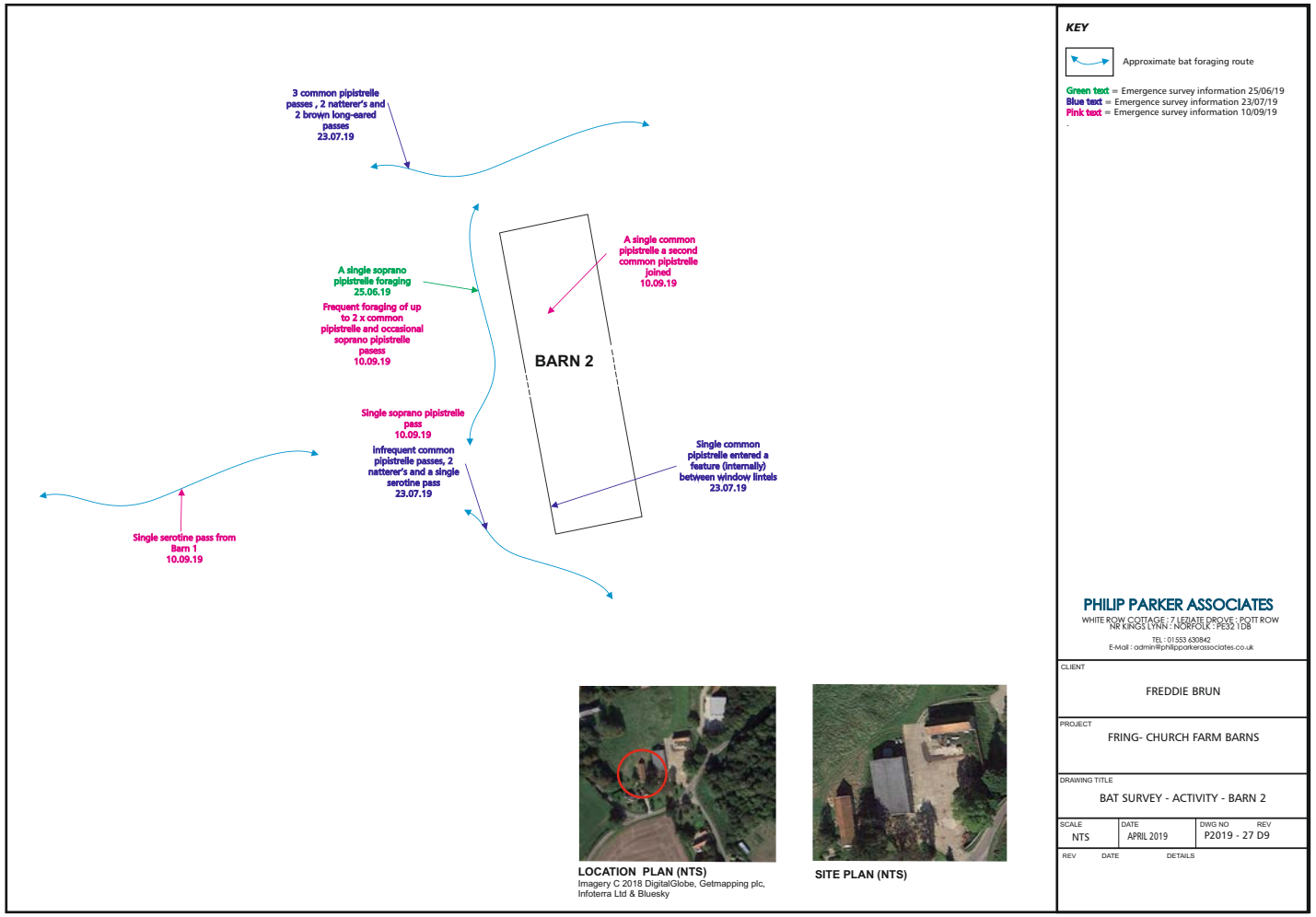
DRAWING D8 2019 BAT SURVEY – ACTIVITY



LOCATION PLAN (NTS)
Imagery C 2018 DigitalGlobe, Getmapping plc, Infoterra Ltd & Bluesky

SITE PLAN (NTS)

DRAWING D9 2019 BAT SURVEY – ACTIVITY



LOCATION PLAN (NTS)
Imagery C 2018 DigitalGlobe, Getmapping plc, Infoterra Ltd & Bluesky

SITE PLAN (NTS)

DRAWING D10 2019 BAT SURVEY – ACTIVITY