

**Phases 5D, 8C and  
Trenchard Circle,  
Heyford Park  
Extended Phase I Habitat  
Survey Update**

On Behalf of:  
The Dorchester Group

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4 Acre Ecology Limited

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# 1. Executive Summary

- 1.1 Heyford Park is a former military base with the first buildings built in 1926 (Central Grid Reference SP 51432577), with various additions since then, especially when it was used as an American Air Base. This was decommissioned in 1994 and many of the buildings have been unoccupied since.
- 1.2 The site consists of three sections of the larger Heyford Park area that have been subject to past ecological surveys, but now have updated planning permissions being applied for.
- 1.3 All three sites have been subject to clearance work, with little natural habitat remaining;
- 1.4 Phase 5D consists almost entirely of hard standing and bare earth, but has two trees and a laurel hedge on it, the former to be retained and the latter to be removed;
- 1.5 Phase 8C consists of hard standing, bare ground and amenity grassland with some mature trees, the latter to be retained;
- 1.6 Trenchard Circle formerly had 14 bungalows on the section subject to the current application. These were surveyed for bats and demolished in 2016 under a reasonable avoidance method statement, with a top soil strip, but then work halted. Pioneer vegetation is now growing across the cleared site, with an area of shallow water in the north-east corner that forms an area with potential for Great Crested Newts (GCN), confirmed as present in 2018 in the adjacent oil trap to the north of the site and Letchmere ponds to the east.
- 1.7 Phases 5D and 8C are only constrained by the potential of nesting birds, so a methodology to avoid their disturbance is put forward. GCN surveys are required in spring 2019 to determine the presence or absence of them in the shallow area of water in the NE corner and to put this into context with the known populations on the Heyford Park Flying Field.
- 1.8 A Protected Species Mitigation Licence for GCN will be required to develop the Trenchard Circle site, with the population on and around the site well known through ongoing monitoring surveys. These surveys will include the ephemeral water on the Trenchard Circle site in 2019 to determine if this is a breeding pond that needs an aquatic translocation, or whether only a terrestrial translocation is required. The methodology to be used in the licence is put forward for both scenarios and the mitigation will be included within the proposed masterplan for the Flying Field rather than a piecemeal approach, an approach favoured by Natural England.
- 1.9 The former mitigation and enhancement for the loss of the low level bat use on Trenchard Close will still be required, consisting of the installation of integrated bat

boxes into three of the replacement buildings and the construction of a bat roost in the roof space of a double garage at the northern end.

1.10 No other protected or notable species were found on the sites or are regarded as likely to use the limited common habitats that remain there.

1.11 A number of suggestions have been made to further enhance the sites for wildlife.

## 2. Introduction

### *Background*

- 2.1 Heyford Park is the former RAF Base of Upper Heyford, Oxfordshire (Central Grid Reference SP 51432577). The base was originally built in 1926 and has had many additional buildings constructed up until the 1980s. The base was decommissioned in 1994 and many of the buildings have been empty since. However, the park has been increasingly used as a light industrial area around the former flying field, with occupied housing centrally to the south of Camp Road.
- 2.2 For the last fifteen years there have been plans to redevelop the site into mixed business and residential uses, divided roughly north and south of Camp Road, the majority of the housing to the south and most of the business areas to the north.
- 2.3 Phase 5 was subject to ecological surveys in 2012 as part of the Environmental Statement for the residential area of the park, and then building assessments for bats in 2014.
- 2.4 Trenchard Crescent forms part of the historical housing area on Heyford Park, with 8 of the 30 semi-detached bungalows already refurbished. Planning permission is now being sought for the construction of housing where 14 of the semi-detached bungalows were demolished in 2016 and the site soil stripped.
- 2.5 Phase 8 was subject to an Extended Phase I Habitat and Preliminary Bat Survey in 2017, which recommended the retention of the avenue trees.
- 2.6 Plans have altered for Trenchard, with smaller units now proposed, with similar new proposals for small areas in Phase 5 and Phase 8, identified as Phase 5D and Phase 8C. Therefore updated surveys of these three sites are required to determine the current status of them.
- 2.7 Cherwell District Council require an updated Extended Phase I Habitat Survey of the three sites to inform their planning decision, with particular reference to Great Crested Newts.
- 2.8 The Dorchester Group commissioned 4 Acre Ecology Limited on 18<sup>th</sup> February 2019 to undertake an updated Extended Phase I Habitat Survey of the three land parcels to allow this report to be prepared.

### *Aims and Objectives*

- 2.9 The aim of the survey was to determine the ecological value of the sites and to assess possible ecological constraints that may be present on the sites, suggesting any further surveys or mitigation required, with the objective of informing the planning decision, whilst maintaining the conservation status of the area.

## *About the Author*

- 2.10 Mark Satinet has been working in the field of Wildlife Conservation and Ecology since 1992. 13 years at the Wildlife Trusts working on wider countryside habitat and species projects provided a good background in habitat surveys, species identification, habitat management advice to landowners and dealing with the public and media. He was the County Mammal Recorder for Wiltshire from 2000 to 2015 and set up the Wiltshire Mammal Group in 2005, maintaining his links with the Wildlife Trusts through this voluntary work. He also is a voluntary Bat Warden for Natural England and has been an active member of the Wiltshire Bat Group since 2001.
- 2.11 Since 2005 he has been a consultant ecologist, first as a senior ecologist at a multi-disciplinary company for a year and then the Principal Ecologist running the ecology team in a specialised ecological firm for a further four years. He is a full member of the Chartered Institute of Ecology and Environmental Management and a Chartered Environmentalist.
- 2.12 He now owns and runs his own company, 4 Acre Ecology Limited. He holds disturbance licences for bats, Great Crested Newts, Dormice, Barn Owls and Shrews and has held development licences for Great Crested Newts, various bat species, Badgers and Dormice. He holds a Great Crested Newt Low Impact Class Licence and a Bat Mitigation Class Licence.

### 3. Methodology

#### *Desk Study*

- 3.1 A data search was commissioned from the Thames Valley Environmental Records Centre for the site and all land within 2km of the site. Biological Records Centres hold information regarding statutory designated sites, local nature reserves, sites of conservation interest, records of protected species and other species of conservation concern. However, this data cannot be considered fully comprehensive and therefore the absence of data, in response to a data search, does not imply that a species, important habitat or designation does not exist within that search area.
- 3.2 The Multi-Agency Geographical Information for the Countryside (MAGIC) website was also consulted to obtain any additional information and to determine if there were any sites designated for bats within 5km of the site boundary, or any designated sites within 2km. The land within 500m of the site was examined through aerial/satellite images and on-line mapping tools to identify any likely ponds that may support Great Crested Newts (GCNs) and the recent GCN survey report of these ponds referred to (Satinet, 2018). The NBN Gateway was consulted to ascertain the number of bat records within 5km of the site.
- 3.3 Past survey reports were consulted to provide detailed records for the site.

#### *Field Survey*

##### *Extended Phase I Habitat Survey*

- 3.4 An extended Phase I habitat survey (JNCC, 2010) was carried out across the three sites and up to 30m beyond its boundary to investigate the potential for badger setts. Phase I habitat survey is a standardised, rapid mapping technique for obtaining baseline ecological information over large areas of land. It uses standard habitat definitions for classifying areas of land based on the vegetation present. The technique was modified to provide more detail over a smaller area and give further consideration to the presence of fauna. The standard habitat definitions were used, with coarse grassland as an additional category to cover unmanaged, secondary grasslands that are species poor.
- 3.5 Easily identified higher plant species from each habitat type were recorded and their abundance was assessed on the DAFOR scale:

D	Dominant (81-100% Cover)
A	Abundant (61-80% Cover)
F	Frequent (41-60% Cover)
O	Occasional (21-40% Cover)
R	Rare (1-20% Cover)

- 3.6 This scale is only representative of the area covered within each habitat type on the site and does not reflect national, regional or local abundances. As plant cover is stratified total percentage cover by adding up the scale can easily be greater than 100%. The names of all species follow the *National Biodiversity Network's Species Dictionary*.
- 3.7 The site was examined for badgers and evidence of bats, but no other specific faunal surveys were undertaken. However, incidental records were made and the habitats identified on site were evaluated for their potential to support species of conservation interest, including protected and Biodiversity Action Plan (BAP) Priority species.



## 4. Legislation and Planning Policy

4.1 There are a number of tiers of legislation protecting wildlife in England and Wales. The highest tier is for those species protected by European Legislation, such as the Dormouse, Great Crested Newt, Otter and all species of bat. These are known as European Protected Species (EPS), which gain their protection from the Conservation of Habitats and Species (Various Amendments) (England and Wales) Regulations 2017, whereby under section 43 it is an offence to;

- deliberately capture, injure or kill an EPS
- deliberately disturb or take/destroy the eggs of an EPS
- damage or destroy a breeding site or resting place of an EPS

4.2 Nationally protected species are either fully protected (e.g. Water Vole) or partially protected (e.g. Adder or Smooth Newt) under the Wildlife and Countryside Act (WCA) 1981 and amendments, including the Countryside and Rights of Way Act (CRoW) 2000. Under the WCA it is an offence to:

- intentionally kill, injure or take any wild bird, take or destroy any wild bird egg or take, damage or destroy any nest while it is in use or being built
- intentionally or recklessly disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such a bird
- intentionally or recklessly at any other time take, damage, destroy or otherwise interfere with any nest habitually used by any wild bird included in Schedule A1
- intentionally or recklessly kill, injure or take from the wild or possess all or any part of a Schedule 5 species
- intentionally or recklessly damage or destroy any structure or place which a schedule 5 species uses for shelter or protection, or disturb a schedule 5 species while it is occupying such a place
- obstruct access to any structure or place which a schedule 5 species uses for shelter or protection
- intentionally pick, uproot or destroy any wild plant included in Schedule 8

4.3 The CRoW Act 2000 added the term recklessly after intentionally in the Wildlife and Countryside Act 1981 and introduced a maximum custodial sentence of 6 months for offences.

- 4.4 The Natural Environment and Rural Communities Act 2006 (NERC) made provision about bodies concerned with the natural environment and rural communities and in connection with wildlife, sites of special scientific interest, National Parks and the Broads. Section 41 established a list of the living organisms and types of habitat which in the Secretary of State's opinion are of principal importance for the purpose of conserving biodiversity. This is known as the UK Biodiversity Action Plan (BAP) list.
- 4.5 Under the Protection of Badgers Act 1992 it is an offence to wilfully kill, injure or take a Badger and damage, destroy or obstruct a badger sett, cause a dog to enter a Badger sett or disturb a badger while it is occupying a sett.
- 4.6 The National Planning Policy Framework (NPPF) updated in July 2018 states that Planning policies and decisions should contribute to and enhance the natural and local environment by:
- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
  - b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
  - c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
  - d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
  - e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
  - f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.
- 4.7 To protect and enhance biodiversity and geodiversity, plans should:
- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

## 5. Results

### *Desk Study*

- 5.1 The data search from the local Biological Records Centre has been summarised in the tables below, with Table 1 showing the sites of wildlife interest, Table 2 the areas of ancient woodland and Table 3 the species of conservation interest.
- 5.2 137 species records exist within 2km of the site, but only those that are legally protected or appear on national or local BAP lists are shown. No European and nationally designated sites were identified, but one locally classified site is located within 2km. No protected sites designated for bats were identified within 5km.

Table 1. Sites of Wildlife Interest

Site Name	Grid Ref.	Area (ha)	Distance from Site	Direction from site	Description
European Importance					
-	-	-	-	-	-
National Importance					
-	-	-	-	-	-
Local Importance					
Upper Heyford Airfield LWS	SP 519269	63	700m	NNE	The old airbase at Upper Heyford includes a very large area of grassland which ranges in diversity and includes some species-rich areas which are strongly calcareous in character. Due to the distance from the site and the perimeter fencing around the flying field there are no envisaged impacts on this by the development.

LWS = Local Wildlife Site CTA = Conservation Target area

Table 2. Ancient or Semi-Ancient Woodland

Site Name	Grid Ref.	Area (ha)	Distance from Site	Direction from site	Description
Kennel Copse	SP518237	1.95	1.51km	NE	Ancient semi-natural woodland. Due to the distance from the site beyond the flying field, there are no envisaged impacts on this by the development.

Table 3. Species of Wildlife Interest

Species	European Protected	Nationally Protected	UK BAP	NERC	No. of Records	Suitable Habitat on-site
<b>Amphibians &amp; Reptiles</b>						
Common Frog	No	Yes	No	No	2	No
Common Toad	No	Yes	Yes	Yes	1	No
Great Crested Newt	Yes	Yes	Yes	Yes	13	No
Palmate Newt	No	Yes	No	No	1	No
Smooth Newt	No	Yes	No	No	1	No
<b>Birds</b>						
Common Grasshopper Warbler	No	No	Yes	Yes	1	No
Corn Bunting	No	No	Yes	Yes	4	No
Eurasian Curlew	No	No	Yes	Yes	1	No
Eurasian Tree Sparrow	No	No	Yes	Yes	2	Yes
Grey Partridge	No	No	Yes	Yes	1	No
Hoope	No	Yes	No	No	1	No
Lapwing	No	No	Yes	Yes	2	No
Linnet	No	No	Yes	Yes	1	Yes
Peregrine Falcon	Yes	Yes	No	No	1	No
Red Kite	Yes	Yes	No	No	1	No
Reed Bunting	No	No	Yes	Yes	1	No
Skylark	No	No	Yes	Yes	2	No
Song Thrush	No	No	Yes	Yes	1	Yes
Spotted Flycatcher	No	No	Yes	Yes	1	No
Whimbrel	No	Yes	No	No	1	No
Yellowhammer	No	No	Yes	Yes	1	No
Yellow Wagtail	No	No	Yes	Yes	1	No
<b>Invertebrates</b>						
Adonis Blue	No	Yes	No	No	1	No
Cinnabar	No	No	Yes	Yes	1	No
Dingy Skipper	No	No	Yes	Yes	8	No
Grizzled Skipper	No	No	Yes	Yes	16	No
Small Blue	No	No	Yes	Yes	7	No
Small Heath	No	No	Yes	Yes	39	No
Wall	No	No	Yes	Yes	5	No
<b>Plants</b>						
Bluebell	No	Yes	No	No	3	No
<b>Terrestrial Mammal</b>						
Brown Long-eared Bat	Yes	Yes	No	No	1	No
Common Pipistrelle Bat	Yes	Yes	No	No	1	No

NB: Protection under the Bern or Bonn convention has not been classed as European, only those protected under the Habitats Regulations 2010. Generic national protection (e.g. all nesting wild birds) is not included in this table, only specific species protection.

5.3 Eight water bodies were located during the desk survey on the wider Heyford Park and Flying Field within 500m of Trenchard Circle. In addition there are five water bodies present outside of Heyford Park, on land at Letchmere Farm to the East of Trenchard Circle.

5.4 The five off-site ponds were surveyed for GCNs in 2018, 2016 and 2014 (Satinet, 2018), while all those on Heyford Park (not Letchmere Farm) have been surveyed in 2018, 2017, 2016, 2015, 2014, 2012, 2010, 2007 and 2005. GCNs were present in Water Body 1 during each survey, in Water Body 2 in 2007 and 2010 only (none breeding), in Water Body 3 in 2005 and 2007 only, in Water Body A in 2007 and again in 2018, in Water Body B in 2007, 2010 and 2012.

- 5.5 For the Letchmere Farm site GCNs have been found in all the water bodies across the three survey years, but only in LE 4 and LE5 on each year, which are 180m and 210m east of Trenchard Circle respectively. Both of these water bodies had breeding confirmed. LE1 only had a single GCN in 2016, LE2 had GCN present only in 2018 (confirmed breeding) and LE3 in both 2016 and 2018 (confirmed breeding). These are 180m NE, 90m East and 70m East respectively (See Figure 5).
- 5.6 Extensive surveys for bats around Heyford Park have also been carried out, determining the presence of low numbers of roosting Common Pipistrelle, Brown Long-eared, Natterer's and whiskered bats, with a maternity colony of Brown Long-eared bats and Common Pipistrelle bats in the former officers mess, now the location of the Free School to the south-west of the site. Other species detected in surveys on the site include Soprano Pipistrelle and large numbers of commuting and foraging Noctule bats. Two licences are in-place for the conversion of the Officer's Mess and the demolition of 120 buildings in the settlement area, which provide extensive mitigation for bats.
- 5.7 Prior to the conversion works of the other bungalows on Trenchard, no bats or evidence of them were found in the roofs, but when No. 16 was stripped a Brown Long-eared bat opportunistically roosted there in autumn 2012 for two nights, before then moving away.
- 5.8 In 2016 a few bat droppings were found in Buildings 30, 32 and 37 of Trenchard Circle, with activity surveys of the whole circle followed by dusk and dawn surveys of these three buildings in particular. No bats emerged from any of the buildings, although there was foraging and commuting activity at the north end of the site. The bat droppings were regarded as present due to opportunistic individuals on an occasional basis and the buildings demolished under a method statement with ecological supervision. Mitigation measures for the new houses were put forward at this time.
- 5.9 In both 2012 and 2015 the former shop in Phase 5D was determined to have no roosting potential for bats and an emergence survey on the petrol kiosk in 2013 helped to confirm this.
- 5.10 An extended Phase I Habitat and Preliminary Bat Survey was carried out in 2017 on the whole of the Phase 8 area, with an Arboricultural Survey carried out around the same time. No roosting bats were found to be present and some isolated trees have been removed in the intervening time. The avenue trees recommended to be retained have been retained, with no further felling or crown reductions planned. Some bat boxes had been placed in the avenue trees as part of the residential area bat licence. These are monitored annually.

## *Field Survey*

### *Habitats*

5.11 The field survey was undertaken on 21<sup>st</sup> February 2019 by an experienced ecologist. The weather conditions were dry, 90% cloud cover and a temperature of 14.0 degrees centigrade with a light wind. The results are summarised on the Phase I map (Figure 1) but the following habitats were identified during the survey:

- Hard-standing
- Amenity Grassland
- Bare Ground
- Hedge
- Standard Trees
- Pioneer Vegetation
- Ephemeral Water

## *Phase 5D*

### *Hard Standing*

5.12 Hard-standing occupies around 65% of the site, consisting mainly of a tarmac former car park for the shop, currently used as site parking and storage, with some paving. This is in relatively good condition with now vegetation present.

### *Bare Ground*

5.13 The former petrol station has been removed and the land around the tanks remediated, leaving a large hole of bare soil that covers the south-eastern third of the site. There is no vegetation present.

### *Hedge*

5.14 There is a short length of Cherry Laurel hedge on the western side of the site that bends around the south-western corner, where it is raised around 0.5m above the adjacent path (See Figure 2). This hedge is 1m high and 1m wide with some gaps within it. There is a section of clematis, but the hedge is dominated by Laurel.

### Standard Trees

5.15 There are two semi-mature Whitebeam in the south-western corner of the site, next to the hedge.

### *Phase 8C*

### Standard Trees

5.16 There is a line of avenue trees along the eastern boundary of this site, consisting of Sycamore and Beech, one of which contains a bat hibernation box. Towards the south-eastern corner there is one semi-mature conifer. Beneath these trees is the amenity grassland.

### Amenity Grassland

5.17 This forms around 30% of the site, consisting of tightly mown and well maintained lawns beneath the avenue trees, with the more open area having been scraped off to form bare ground.

5.18 Perennial Rye Grass is abundant throughout, with frequent Red Fescue, Yellow Oat Grass and Creeping Buttercup, occasional White Clover and Ribwort Plantain, plus rare occurrences of Self-heal, Tormentil, Cat's Ear and Bird's foot Trefoil.

### Bare Ground

5.19 This forms the central south-western area of the site, covering around 30% of the area and is where the vegetation has been scraped from the open amenity area, now used as storage. There is no vegetation in the central area, but this feathers into the surrounding amenity grassland.

### Hard Standing

5.20 This covers 40% of the area, with the majority being the tarmac former car park, now used to store materials on. In addition there are paths along the eastern and south-western sides and a small path cutting across the southern corner (See Figure 1).

### *Trenchard Circle*

### Hard Standing

5.21 This covers around 7% of the site, consisting of the tarmac road and some of the drives from this that accessed the former bungalows on the site. This is in good condition with no vegetation.



### Pioneer Vegetation

- 5.22 The site has been cleared of buildings (apart from the shell of a wooden shed on the southern boundary, covered in Ivy) and has had a top soil strip with around 300-500mm removed. This was carried out in 2016, but then development work was halted. There is a mound of top soil towards the southern end of the site (See Figure 1).
- 5.23 The mound is dominated by a Goosefoot species, with this and the remaining stripped area now partially covered by occasional Wall Flower, Ribwort Plantain, Cat's Ear and Daisy, with rarely Teasel, Broad-leaved Dock, Bristly Oxtongue, Yorkshire Fog, Cocksfoot, Red Fescue, Rosebay Willowherb, Chick Grass and Campion.

### Ephemeral Water

- 5.24 In the north-eastern corner of the site the clay sub-soil has lead to a small area of banded water where the fence line on top of the adjacent ditch is higher than the subsoil level. The water level in this varied from 75mm to 150mm with mainly terrestrial vegetation in it, indicating it probably dries annually, but with some aquatic vegetation.

### Fauna Species

- 5.25 House Sparrows and a Woodpigeon were observed around Phase 5D.

## 6. Discussion

### *Sites*

- 6.1 There are no European or nationally designated sites within 2km of the site, and none designated for bats within 5km. There is one site of local importance identified within 2km of the site, but this is considered not to be impacted due to the small scale of development on an already developed area, as long as the proposed pet fencing around the flying field perimeter is installed to protect the important area of ground nesting birds.

### *Habitats*

- 6.2 The habitats on site are the result of human activity and are classified as semi-natural at best, with the majority being either hard standing or bare ground with very little vegetation remaining, apart from Trenchard Circle, where a two year break in the work there has resulted in pioneer vegetation beginning to develop and a small area of open water establishing.
- 6.3 The manmade habitats are easily replaceable, being of very little value for protected and notable species, but the open ephemeral vegetation could provide terrestrial habitat for Great Crested Newts (GCN) and the open water could provide a breeding area for them. This is covered in the species section below.

### *Species*

#### *Amphibians*

- 6.4 There is one record of a Common Frog, one of a Common Toad, one of a Palmate Newt, one of a Smooth Newt and 13 of Great Crested Newt (GCN) within 2km of the site. From other surveys on the wider site and airfield (Satinet, 2012 and 2014-18) it is known that there is a large population of GCNs at the eastern end of the airfield in the Southern Bomb Store (Population A) another large population on the northern side of the airfield around the Northern Bomb Store (Population C) and a medium meta-population in the Letchmere ponds and adjacent flying field water bodies to the east of the site (Population B). The latter has recently extended to the immediate north of the Trenchard Circle site in 2018, with GCNs now found in Water Body A once again.
- 6.5 There are no ponds within 250m of Phase 5D and Phase 8C, but for Trenchard Circle, although most of the ponds are beyond 250m of the site, nine ponds lie within 250m of the site. Of these, all five of the Letchmere Farm complex had GCNs present, with them confirmed as breeding in the four main ponds (LE2-5), 90m east, 70m east, 130m SE and 160m SE east of the site.
- 6.6 Water Body 2 (160m south-west) had a single GCN in it in 2007 and again in 2010, but none in 2012 or 2014 and has since been drained and removed. Similarly Water

Body 3 (400m west of the site) had two GCNs present in 2005 and 2007, but none since and was removed in 2017 under ecological supervision.

- 6.7 Water Body A (7m north-west) had a juvenile GCN present in 2007, but none were present from 2012 to 2017. However, this oil trap was cleaned out in 2015 with a steady increase in Smooth Newt numbers following this and had GCN present in it for the first time again in 2018, along with a large population of Smooth Newts.
- 6.8 Water Body B had no records in 2005, but a low number in 2007, 2010 and 2012 (6, 5 and 1), but with no evidence of breeding. From 2014 to 2018 GCNs have been absent from it.
- 6.9 Water Body 1 is a breeding pond with records from each of the surveys from 2007 to 2018. This lies 190m to the north-north-east of the site.
- 6.10 The main habitat on site since the building removal and soil strip is pioneer vegetation, but an area of ephemeral water has developed in the north-eastern corner, lying between the Letchmere ponds and Water Body A. The site now provides potential habitat for GCNs to rest, forage and breed in, so a survey of the ephemeral water is required to determine if this is a breeding pond.
- 6.11 The future development of Trenchard Circle will require a translocation exercise under a Protected Species mitigation licence. If GCN are breeding in the ephemeral water, then replacement ponds will be required, but if not a terrestrial translocation will suffice. This will tie in with the master plan for the flying field site to the north, creating a core area for GCN at the eastern end of the former runway, but with improved links to the Letchmere ponds and other large population around the Northern Bomb Store.

### Bats

- 6.12 There are no sites designated for bats within 5km of the site, and only two records of bats within 2km, of Common Pipistrelle and a Brown Long-eared bat. This is a low number of records, but is a result of few records reaching the records centre previously, rather than a lack of bats.
- 6.13 Extensive surveys on the main Park has shown that there are low levels of roosting Pipistrelle and brown Long-eared bats there (Satinet, 2012).
- 6.14 There are no buildings on any of the sites, with those formerly present on 5D and Trenchard Circle. All trees that needed to be removed have been removed, although none of the trees present held any features for bats, except for the previously erected bat box in Phase 8C. Therefore bats are not a constraint to the current proposals.

- 6.15 However, for Trenchard Circle mitigation measures were recommended as part of the previous planning permission for the site. Therefore these should still be carried out to maintain the conservation status of bats in the area.
- 6.16 Three integrated bat boxes will be built into the gables of buildings 355, 356 and 343 and the double garage planned for the north-eastern corner of the site (G352) has a bat loft installed in it above the ceiling, with a cut roof construction to create a large roof void and two bat slates for access. This will act as a site enhancement as stated in the previous report. Details of the design are in the recommendations section.

### Badger

- 6.17 There are no records of Badger within 2km of the site, but current surveys of Heyford Park indicate that the closest sett lies at Chilgrove Drive over 400m to the east of the Trenchard Circle. There is no evidence of Badgers on any of the sites, with no setts identified. Only the amenity grassland or pioneer vegetation could be used by Badgers to forage in, but there was no evidence of snuffle holes or tracks on the sites.
- 6.18 Therefore, Badgers are considered absent from the sites and are not regarded as a constraint to development.

### Birds

- 6.19 There are a number of records of protected and BAP birds in the area, such as Skylark, Yellowhammer and Tree Sparrow, however the habitats on-site are much poorer than on the Flying Field LWS, where the main of the records come from, so few of these species are expected on site. No nests were identified during the survey in the trees, although it is likely that some of the trees and scrub are used to nest in.
- 6.20 All breeding birds are protected by law. Therefore any tree or scrub removal should avoid the bird nesting season of March to August, or if this is not possible an ecologist should check the vegetation to be removed for nesting birds. If a nest is found it and 5m of habitat around it should be left undisturbed until the young have fledged before removal.
- 6.21 Enhancements to the site for breeding birds have been considered as part of the management plan for the wider site.

### Dormouse

- 6.22 There are no records of Dormice within 2km of the site and there is no habitat on-site for them.
- 6.23 Dormice are likely absent from the site and are not considered a constraint to the development.

### Invertebrates

- 6.24 There are 78 records of BAP butterfly and moth species within 2km of the site, mainly associated with the Flying Field LWS. However, the habitats found on site are limited, common and easily replaced, so it is expected that the invertebrate species present will reflect this.
- 6.25 Invertebrates are not regarded as a constraint to the development.

### Otter

- 6.26 There no records of Otter within 2km of the site and there is no habitat for them on or near to the site. Therefore, Otters are considered absent from the site and are not considered a constraint to the development.

### Reptiles

- 6.27 There are no records of reptiles within 2km of the site and past surveys on the flying field and the south-east of Heyford Park found no reptiles present. An update of this survey in 2014 determined Common Lizards (1) to be present 600m to the north-east on the flying field, with the more recent surveys in 2015-18 finding a medium population of these south-west of the southern bomb store, plus a low population of Grass Snake.
- 6.28 The habitats present on-site are deemed generally unsuitable for reptiles, although the pioneer vegetation is beginning to develop some potential habitat. Despite this the low levels of reptiles found at a distance from the sites, with the isolation of the sites from suitable habitat, means that it is highly unlikely that reptiles have yet reached this new habitat.
- 6.29 Therefore, reptiles are considered absent from the site and are not a constraint to the development.

### Water Voles

- 6.30 There are no records of Water Voles within 2km of the site and no habitat is present on-site for them. They are deemed absent from the site, so Water Voles are not considered a constraint to the development.

## 7. Further Surveys, Recommendations and Enhancements

### *Further Surveys*

- 7.1 A Great Crested Newt aquatic survey should be undertaken of the area of ephemeral water at the north-eastern end of Trenchard Circle to inform the Protected Species Mitigation Licence.

### *Recommendations*

- 7.2 Scrub and tree removal/surgery will be carried out outside the bird nesting period, which is March to August. If this is not possible an ecologist will check the habitat to be removed for active birds' nests. If nests are found they will be left in place, with suitable surrounding habitat (e.g. 5m of surrounding hedgerow), until the birds have fledged before its removal.
- 7.3 Native plants will be used in any planting schemes for the site.
- 7.4 As GCNs are likely present on the Trenchard circle (not Phase 5D or 8C) then the works will be carried out under a Protected Species Licence with a translocation exercise and mitigation. This will form part of the overall site mitigation plan for GCN, looking at the longer term development of the wider site. The aquatic surveys will determine the need for a pond closure or just a terrestrial translocation.

### *Method Statement for Licenced Work for Trenchard Circle*

- 7.5 The contractors will be given a tool-box talk before works commence. This will describe the legal protection for GCNs, what they look like, what action should be taken if any are found and have the method statement explained to them clearly.
- 7.6 Following fencing, with three compartments formed, two terrestrial and one around the north-eastern section of water to be impacted, a translocation exercise will be carried out. This will involve trapping out the terrestrial area with pit-fall traps at 10m centres around the fence, with mats laid between.
- 7.7 If the water is confirmed as containing GCN the third compartment around the water will be trapped using bottle traps set in the evening and checked in the morning, with all traps removed by 11:00. Amphibians found terrestrially will be placed in hibernacula at the eastern end of the flying field in the extensive coarse semi-improved grassland there, but those caught aquatically in the bottle traps will be placed in Water Bodies 11-13 to the north-east.
- 7.8 The fencing around the site will be dug into the ground by 150mm with a return of 150mm. This will be of strong sun-resistant polythene sheeting wound over at the top and supported by wooden posts or rigid amphibian fencing panels.

- 7.9 The translocation area will be checked every day when weather conditions are appropriate for a minimum of 45 days, with five clear days at the end (five days when no GCNs are found). If GCNs are still being found at the end of 45 days, the trapping will continue until five consecutive clear days are achieved. The pioneer vegetation will be maintained as a low sward throughout this period.
- 7.10 At the end of the trapping period the internal fencing will be removed and there will be an ecologically supervised destructive search of the site, including any rubble piles and in particular the removal of the soil mound towards the southern end.
- 7.11 The exterior fencing of the main site will remain in-place until building works are completed, including the landscaping of the site. During spring, summer and autumn the fence will be checked weekly for damage and minor damage repaired at the time. If larger damage is found this will be repaired with new fencing panels within 48 hours.
- 7.12 The fence will be removed when construction and landscaping is complete, under the supervision of the ecologist named on the licence.

#### Mitigation (Flying Field Master Plan)

- 7.13 **Breeding Habitat Replacement** – The replacement on a two-for-one basis of all lost breeding ponds and a like-for-like basis for terrestrial habitat. The creation of six ponds suitable for use by breeding great crested newt will be created in suitable habitat as part of the masterplan, but if the ephemeral water is found to be a breeding pond then this will be increased to eight in total. A number of these will be located in the eastern part of the flying field, potentially within Parcel 27 with the remainder being located so as to bolster those available to Population C. New pond locations have also been selected to maintain/improve connectivity between the populations within the Flying Field.
- 7.14 **Terrestrial Habitat Creation/enhancement** - New areas of terrestrial habitat, such as rough grassland and hibernacula, will be created and located so as not to preclude targets for the retention and enhancement of valuable grassland habitats such as unimproved calcareous and neutral grassland. The management of species-poor semi-improved grassland will be reviewed so as to create a sward more suitable for the species during its terrestrial phase. These areas will therefore be located mainly in the northern part of the Flying Field. This positioning of terrestrial habitat and ponds will result in enhanced linkage between populations A and C and increased terrestrial and breeding habitat available for Population C.

#### Bat Mitigation

- 7.15 The double garage in the north-west corner (G352 or equivalent) will have a steep twin-pitched roof that will have a ceiling put in it to create a bat roost for both crevice

dwelling bats and light-testing bats, such as Brown Long-eared bats that have been identified on the site (See Figure 3).

- 7.16 The new roof to the garage will have a ridge board, a feature greatly favoured by Brown Long-eared bats. The roofing felt will be traditional bitumastic and hessian roofing felt so that bats can grip this without getting entangled, as modern roofing felts and membranes have a smooth and slippery surface which cannot be gripped by bats, or are fibrous membranes that can entangle bat claws, removing roosting opportunities or potentially creating a hazard for bats (Waring, 2011).
- 7.17 The roof will have two bat slates fitted into it to allow bat access, one on each aspect. The eaves will also be open, for the same reason.
- 7.18 The top batten for the tiles will be placed 20mm away from the ridge board and the ridge tiles will not be completely in-filled, just bedded-in at each joint to prevent a through draught, but create a void within the ridge tile that is favoured by most crevice dwelling bats.
- 7.19 For Brown Long-eared bats, the large roof void will be maintained, with an uncluttered roof space for internal flights achieved through a cut frame construction and a trussed roof will not be used. Timbers will be fitted into the new roof to create four double rafters with a 25mm spacing to form a gap. The gap to the upper section of the pitch will be closed off to form a long enclosed cavity.
- 7.20 There will be a loft hatch into the roost to allow inspection of them, but only 400mm by 400mm in size to restrict access and prevent storage there.
- 7.21 Integrated bat boxes will be built into the gables of three houses, the eastern one for 356, the northern one of 355 and the southern one of 343, or their new equivalents. The entrances will remain unlit.

### *Enhancements*

- 7.22 A management plan has been written to encourage biodiversity enhancements to the wider site and the Trenchard Circle area should be included as requiring compensation within this.
- 7.23 Eight bird boxes could be erected around the Trenchard Circle site, two around Phase 5D and four around Phase 8C in the standard trees to improve nesting opportunities for small passerines.
- 7.24 Closed board fencing should have hedgehog gaps created at their bases to ensure hedgehogs, recorded widely across Heyford Park, can still move around the proposed gardens on the site, as well as maintaining access for other small animal species.



## 8. Figures

Figure 1a: Phase I Plan of Phases 5D and 8C

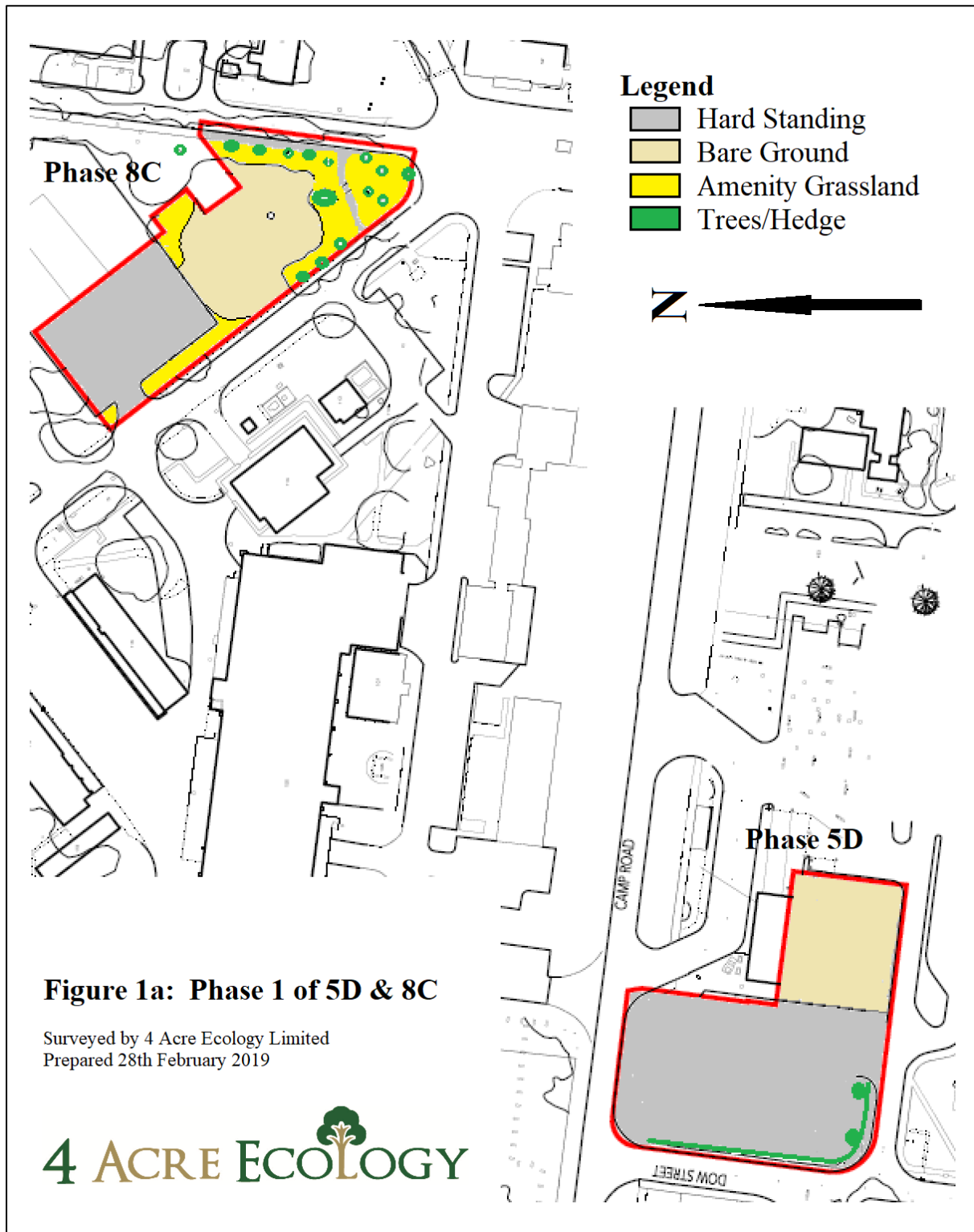


Figure 1b: Phase I Plan of Trenchard Circle

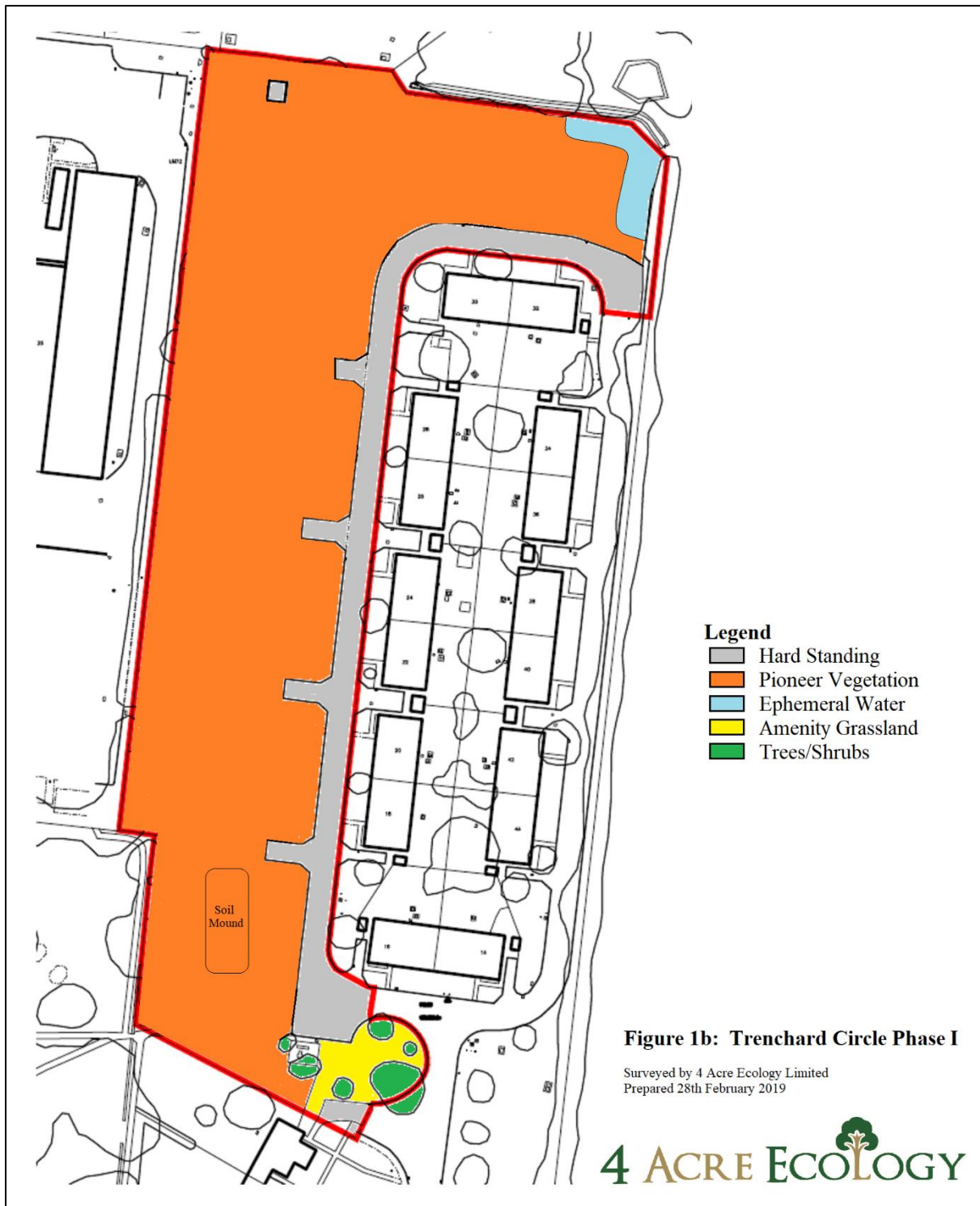


Figure 3: Site Images



1. Hedge and trees in Phase 5D



2. Hard standing in Phase 5D



3. Avenue trees on east of Phase 8C



4. Hard standing with bare ground beyond in Phase 8C



5. Soil mound towards southern end of Trenchard Circle



6. Looking north across Trenchard Circle site



7. Ephemeral water in NE corner of Trenchard Circle



8. Looking south across Trenchard Circle

Figure 3: Garage Roost Example

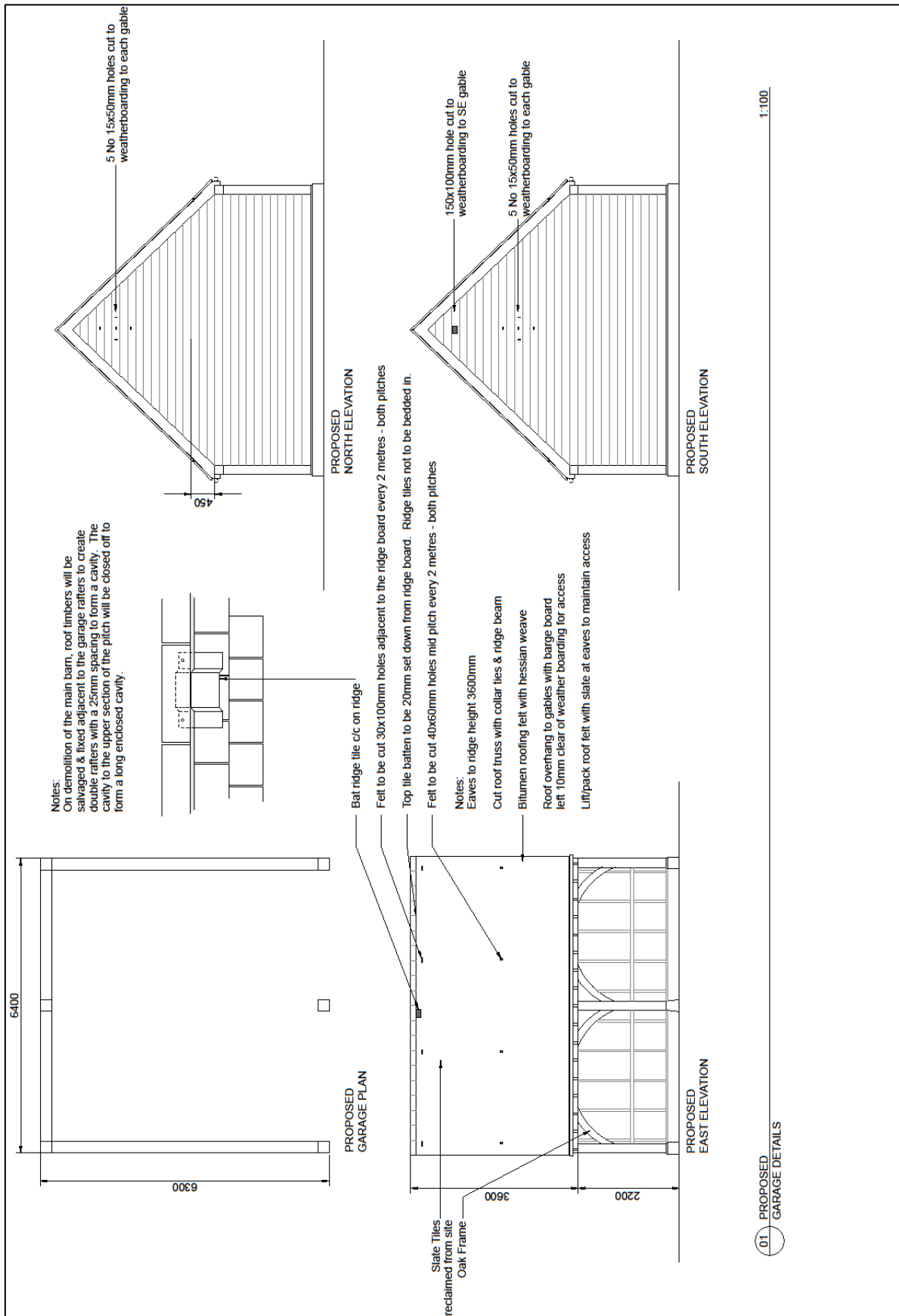


Figure 4: Bat Slate

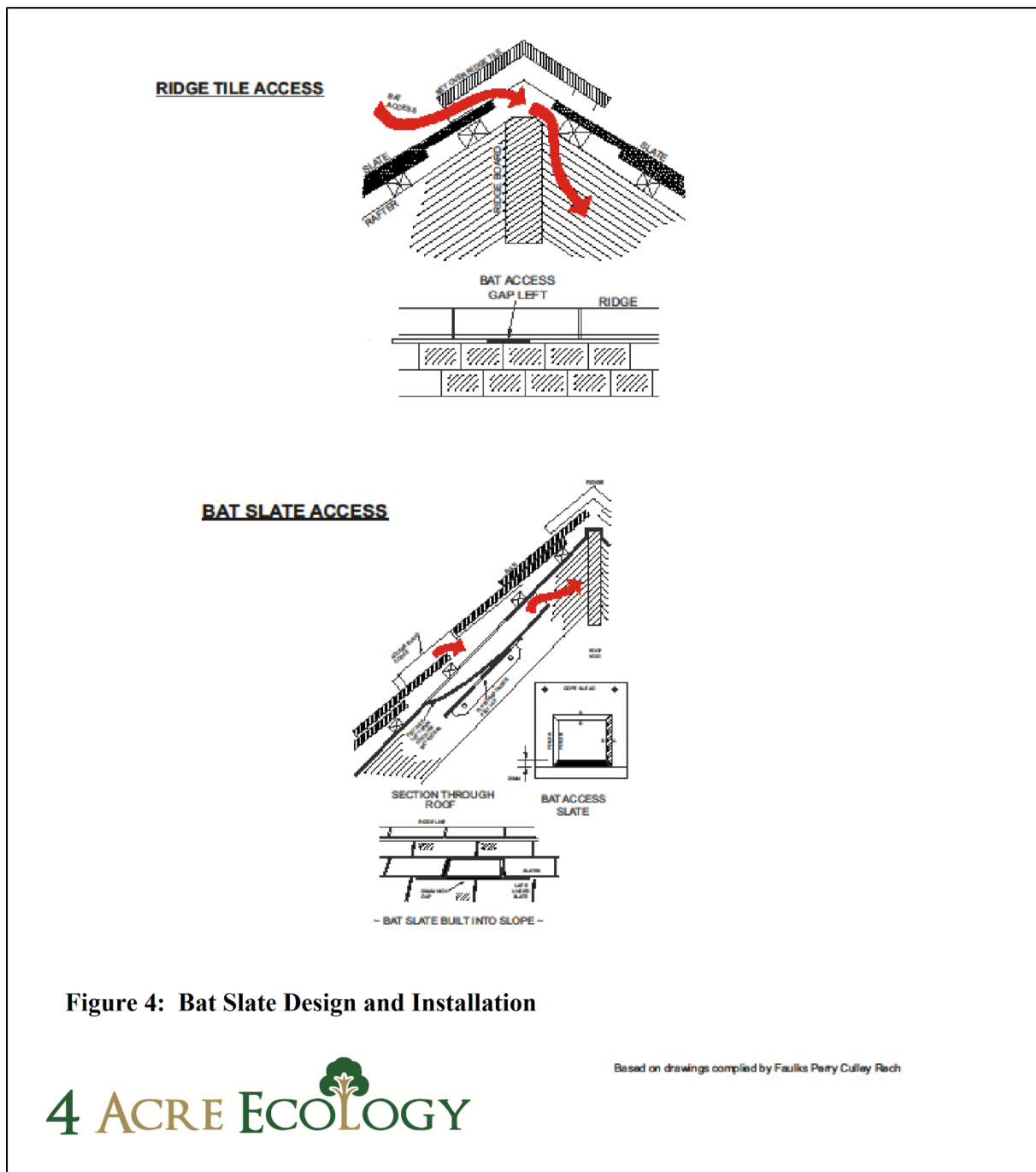
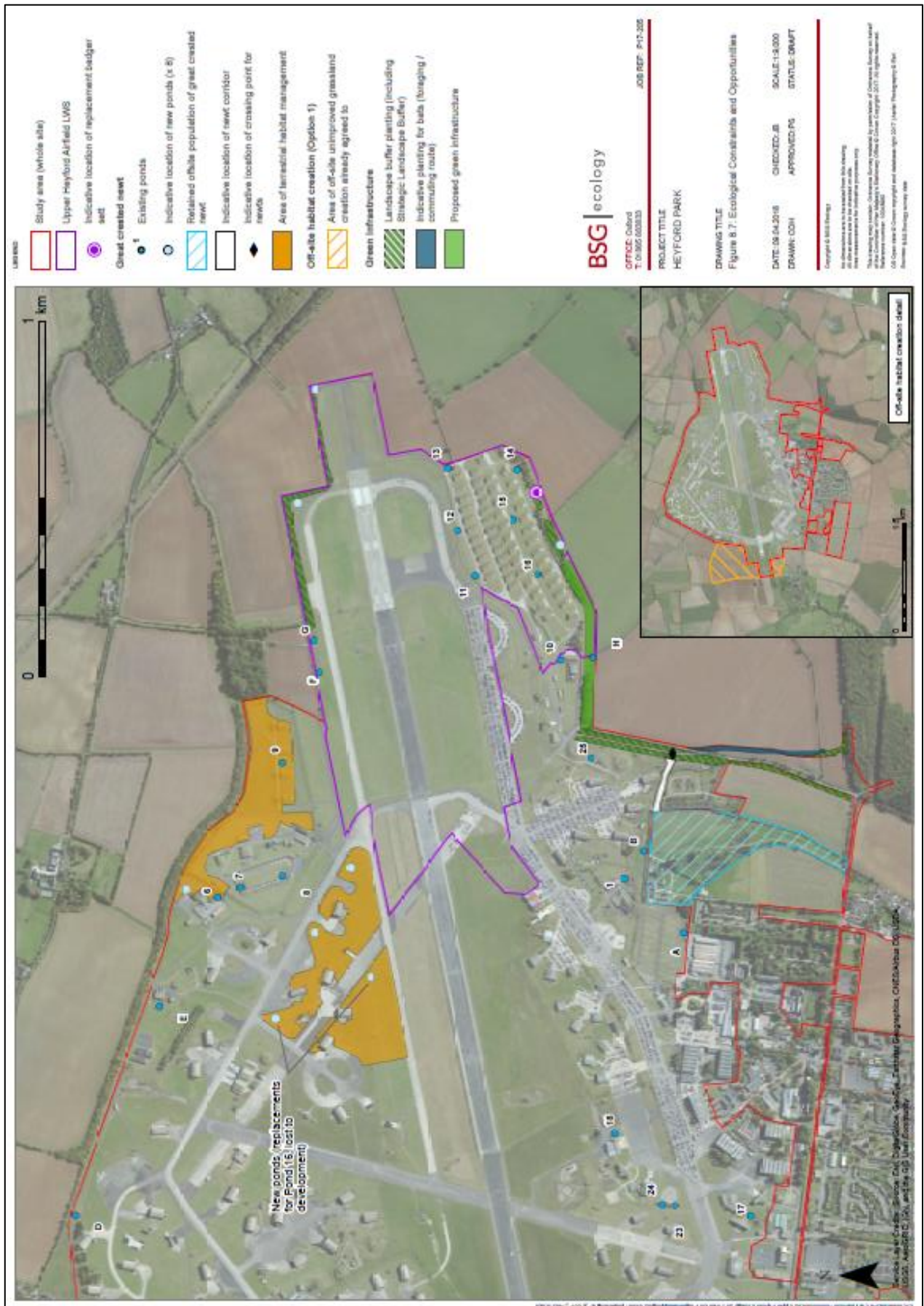


Figure 4: Bat Slate Design and Installation



Based on drawings compiled by Faulks Perry Culley Rech

Figure 5: GCN Masterplan





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