

**BICESTER HERITAGE
(FORMER RAF BICESTER)
BUILDING 103**



**DESIGN AND ACCESS
STATEMENT**

Incorporating Heritage Statement

December 2018

**NICK COX ARCHITECTS
77 HEYFORD PARK UPPER HEYFORD OXON OX25 5HD**

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INTRODUCTION

The following Design and Access Statement has been prepared to accompany the Listed Building Consent Application for “*the removal of 2no windows for replacement with new doors for vehicle access, extension of the external hard-standing and removal of internal partition walls as part of tenant fitting out works which for part of the RAF Bicester Technical Site redevelopment*” at Building 103 (Link Trainer) located at Bicester Heritage, Buckingham Road, Bicester, OX26 5HA.

Bicester Heritage are seeking Listed Building Consent, on behalf of their tenant, for changes to Building 103 to enable its future use for educational purposes in connection with the expansion of the Heritage Skills Academy (HSA).

UNDERSTANDING

General Description

RAF Bicester is located to the north of Bicester in Oxfordshire. The site, as a whole, is considered to be a prime example of a military airbase reflecting pre-1930s military aviation and comprises the best-preserved bomber airfield representative of the bomber stations built as part of Sir Hugh Trenchard’s Home Defence Expansion Scheme in the 1920s.

Outline History of RAF Bicester

1918-1919: The airfield at Bicester was originally used as a training station for the Royal Flying Corps. Following closure shortly after opening, it re-opened in 1 October 1918 as home of 44 Training Depot Service, where pilots were prepared for service on the front line in France. The squadron returned in February 1919 and was disbanded; the 44 Training Depot Squadron was also disbanded in January 1920. The station closed in March 1920, following which, the entire camp was demolished.

1924-1934: Under Sir Hugh Trenchard, the country’s defensive structure was reviewed and in 1925, the ‘Air Defence of Great Britain’ strategy was introduced. Work was started on the reconstruction of the abandoned bases at Bicester and Upper Heyford, located 7 miles to the west of Bicester. Whilst proposals at Upper Heyford were fully implemented, the development at Bicester was reduced following deceleration of military development and a review of Trenchard’s proposals in 1930; subsequently only two of the six proposed type-C hangers were built.

1934-1939: Following the collapse of the Geneva disarmament talks in 1933, the RAF expansion scheme got underway. RAF Bicester saw extensive alterations to many of the existing buildings along with the construction of several new types, including Petrol Tanker Sheds, an Ambulance garage, two large type-C aircraft hangers, Watch office and Tower and bomb stores. It is likely that it was during this period that Building 103 was built, to the standardised plans produced by the Air Ministry.

1940-1945: Following the outbreak of World War II, the station's role changed its focus towards training. The outset of the conflict saw the construction of many pillboxes and trenches for close defence of the airfield and the airfield was enlarged. Due to the compact nature of RAF Bicester and lack of concrete runways, it was unsuitable for night flying and occasionally became the subject of unserviceability. Alternative landing grounds at Hinton-in-the-Hedges and Croughton were brought into use. The airbase continued its use for training and in 1943 primarily became used for storing vital equipment necessary for the invasion of north-west Europe.

Building 103 (Link trainer)

This application relates to alterations to Building 103 to enable its reuse for educational purposes as part of the development of the HSA and Bicester Heritage.

Building 103 is located within the RAF Bicester Conservation Area which covers the Domestic and Technical sites and airfield. The RAF Bicester Conservation Area Appraisal identifies that the character of the conservation area “*is unified by its function as a military station.*”

Characteristics of this include: the chosen materiality of the buildings (permanent materials being preferred such as brick and concrete); the height of the buildings which was restricted to one or two storeys (with the exception of the hangars) and extensive tree cover across the site to provide camouflage.

Building 103 is located along the central axial route through the site and is constructed of brick, laid in flemish bond, with steel casement windows, painted timber doors and a flat reinforced concrete roof. It was originally built to house the Link trainer, which was first introduced to Britain in 1936. The building is built to the standardised plan issued by the Air Ministry at the time. The original building would have been divided into two large rooms, each to potentially house a link trainer. The spaces are currently sub-divided by internal partition walls.

The Link trainer was an early flight simulator which was used to safely teach flying and improve the proficiency of using instruments in already qualified pilots.

The Link trainer consisted of a timber plane fuselage (approx 10ft in length) which resembled the cockpit of a single-engined aircraft; the cockpit contained the basic instruments for flying and navigation. The fuselage was connected to a automated recorder which recorded the real-time actions and movements of the fuselage; mapping the ‘flight path’ the pilot was taking onto a map.

The building is currently empty and not used.

Statutory Listing

- The Technical site, domestic site and airfield are all designated as a conservation area - RAF Bicester.

- A number of the buildings located about Bicester Heritage are listed at Grade II.
- Building 103 (Link Trainer) is listed Grade II (English Heritage ref: I392761); the listing entry can be found in Appendix A.

Ecological

Environmental report: the importance of biodiversity is highlighted by current legislation, particularly with regard to protected species and their habitats. The site and landscape at Bicester Heritage contain areas that could form suitable habitats for wild animals, birds, bats and reptiles.

A walkover survey of Building 103 was carried out by Ecology Solutions Ltd in November 2018. The survey found no evidence that the building was currently being used by bats and that the opportunities for bats were low.

The ecological report (appended) concludes that the proposed works will have no effect on the any roosting bats and will therefore not require further surveys or a Natural England license.

Proposed Use

In 2016, The Federation of British Historic Vehicle Club started working with the Heritage Skills Academy (HSA) to establish a course which would train students from all over the Country with heritage skills to be able to preserve and restore the Nation's Pre-war and Post-war engineering heritage.

The Centre of Historic Motoring currently operate their training facility out of Building 90 at Bicester Heritage. This current facility will be operating at full capacity in early 2019.

Therefore, the HSA, following discussions with Bicester Heritage, are proposing to expand into Building 103 in 2019 to be able to offer a new coach-building and trim facility to be able to offer more courses and increase the range of skills being taught.

The alterations proposed within this application are considered necessary to ensure that the building is flexible enough for the new skills to be taught successfully.

Please refer to the appended letter from The Federation of British Historic Vehicle Clubs in support of this application.

Consultation

The principles of the proposals have been discussed with two Local Authority Case Officers and Conservation Officer. All were supportive of the opportunity to use the space for educational purposes.

DESIGN

This Listed Building Consent application is in regard to some proposed alterations to Listed Building 103 in relation to providing the HSA with additional education space. The proposed works include:

- Removal of the two existing steel casement windows, central brick pier and masonry below on the west elevation;
- Widening of the opening to form a 2.6m clear opening and reforming of the brick reveals to enable vehicle access;
- Installation of a pair of painted timber double doors;
- Creation of a new concrete threshold ramp to new doors;
- Extending the existing hard-standing up to the new doors with a grasscrete/ turfstone reinforced block paving system;
- Removal of a number of internal partition walls to create two large spaces for use;

The existing steel windows are to be removed, including the central masonry pier. The wall below is to be carefully removed to form a full height opening and new brick reveals formed, using existing brickwork where possible and new bricks to match (as seen elsewhere around the technical site), in order to create a new wider access into the building for use by vehicles as part of the educational activities planned for the space (i.e.. coach-building and trimming).

A new pair of part glazed, painted timber doors are to be installed within this opening; the doors are to match the appearance and detail of timber doors on nearby buildings across the technical site.

The existing concrete hard-standing in front of building 103 is to be extended across the area in front of the new doors using a grasscrete/turfstone (or similar) block paving system in order to provide access; a short concrete ramp is required in front of the new doors to provide level access internally. Reinforced grass paving has been successfully used elsewhere around the technical site and is visually low-key, which will minimise the visual impact on the building's setting.

The masonry internal partitions (non-load bearing) in the eastern half of the building are proposed to be removed in order to create a second larger space for use for teaching. The partition walls are to be carefully removed and the retained walls made good with plaster to match the finish.

ACCESS

The site has existing level vehicular access and external parking spaces. The proposals will utilise the existing access to and around the Technical Site and will not increase or decrease the number of parking spaces available.

The proposals seek to provide vehicle access into the Building 103 for use as part of the HSA education programme.

Level access internally is to be retained.

A ramped threshold is to be created in front of the proposed doors to the west elevation.

SUMMARY

Building 103 is currently unoccupied. The use of building 103 has been offered to the Heritage Skills Academy, by Bicester Heritage, for use as a space to expand their teaching facilities in order to offer new training courses for students.

In order for the building to be usable by the HSA, the proposed alterations are required in order to enable access for vehicles and larger, flexible spaces for activities to occur within.

The proposals to Building 103 have been developed so that the proposed use fits well with the historic fabric whilst also meeting the physical and functional requirements set by the client.

HERITAGE STATEMENT

Building 103 is of some significance in that it is one of the many original buildings located on the technical site at the former RAF Bicester. It's former use, as a Link Trainer room, is of some historical and communal interest, however any physical evidence of the link trainer machines has been lost.

The building is built using the simple palette of materials that are characteristic of RAF Bicester and the Conservation Area. This will largely be maintained with the proposals.

The building is proposed to be used by The Heritage Skills Academy to enable the course to continue to grow and become a centre of excellence at Bicester Heritage.

The proposals seek to remove 2no steel casement windows in order to create a new doorway for vehicle access; the new doors will be painted timber to match the design and aesthetic of the surrounding buildings (original and previously altered). Externally, no other elevation will be affected by this application.

The internal walls are considered to be of little significance. Their removal is considered to benefit the proposed use of the space by creating larger, flexible areas for activities to take place.

Whilst the removal of the 2no windows, in addition to a number of internal walls, will result in the loss of a small amount of fabric; it is considered that the public benefit brought about by enabling the building to be reused for educational purposes outweigh any harm to the significance.

It is considered appropriate that the proposed future use of building 103 for training students in heritage repairs is a direct reference to the original intention of the building in the 1930's to train pilots.

APPENDIX A

Listing Description for Building 103 (Link trainer)

1714/0/10024 A421 (SE) 01-DEC-05 Technical Site, RAF Bicester Building 103 (Link Trainer)

GV II Link Trainer building. By the Air Ministry's Directorate of Works and Buildings, to drawing number 6414/37. Flemish bond brick with steel casements and flat reinforced concrete roof. PLAN: rectangular plan, with two rooms for the accommodation of Link Trainers (see below). West elevation has two steel-framed windows flanked by outer doors. INTERIOR: original doors and joinery.

HISTORY: The Technical Site at Bicester, separated from the Domestic Site, still has many of the original buildings, mostly of 1926 but with others added during successive phases of the 1930's Expansion Period. The Link trainer, first introduced to Britain in 1936, provided a cheap method of training pilots.

The Link trainer provided a cheaper alternative for training pilots in instrument flying than flying actual aircraft. The trainer was invented by in 1929 by Edwin Link, an American organ manufacturer, and it was first introduced into the UK in 1936 when a company called JVW Ltd. was set up at Aylesbury to handle sales, installations and maintenance. The wartime Link trainer comprised a fuselage approximately 10ft long of timber frame construction and covered with plywood or fabric. Powerful bellows enabled the device to simulate basic flying movements similar to pitching, banking and turning of a real aircraft. Early machines had wings, tailplane and fin with their corresponding control surfaces. The cockpit closely resembled a typical single-engined aircraft of the period, with the usual six basic instruments plus compass, radio, rudder pedals and control column. Any changes in flight attitude were shown by the instruments as well as the relevant control surfaces.

Connections led from the trainer to an instructor's desk where a small three-wheeled trolley called a 'tracking crab' (automatic recorder) reacted to time and rate of movement of the fuselage. One wheel functioned as an pen recorder and traced an accurate course onto a map of the countryside over which the 'pilot' was supposed to be flying. The desk also had a duplicate set of aircraft instruments enabling him to assess the pilot's flying ability (see Flight, 28.10.1937: 416-9).

At the beginning of the Second World War, because of the fear of bombing raids on our cities, cinemas and theatres were shut. The companies who had relied on supplying theatre equipment had to seek alternative work. The firm of Fitups Ltd. of Manchester (later to become Watts & Corry Ltd.) was in 1940 operating with the north of England branch of Strand Electric (later to become Rank Strand Electric). The staff of these two firms included joiners, scenic artists, draughtsmen, engineers and electricians. They were versatile in their approach at finding suitable work. Representatives were sent to the Air Ministry to try and obtain camouflage work. This was not available, but a contract was won for the design and manufacture of painted scenic cycloramas for Link trainers. The target screen at Crail (Scotland) is part of the extensive Scheduled Ancient Monument on that exceptionally well-preserved Second World War airfield.

This building, one of the permanent standard designs produced by the Air Ministry in the late 1930s, has special importance for its relationship to RAF Bicester's wartime function as a training centre for Bomber Command and this uniquely well-preserved group of both phases of the inter-war expansion of the RAF. It faces the main axial route through the technical site.

Bicester is the best-preserved of the bomber bases constructed as the principal arm of Sir Hugh Trenchard's expansion of the RAF from 1923, which was based on the philosophy of offensive deterrence. It retains, better than any other military airbase in Britain, the layout and fabric relating to both pre-1930s military aviation and the development of Britain's strategic bomber force - and the manner in which its expansion reflected domestic political pressures as well as events on the world stage - in the period up to 1939. It was this policy of offensive deterrence that essentially dominated British air power and the RAF's existence as an independent arm of the military in the inter-war period, and continued to determine its shape and direction in the Second World War and afterwards during the Cold War. The grass flying field still survives with its 1939 boundaries largely intact, bounded by a group of bomb stores built in 1938/9 and airfield defences built in the early stages of the Second World War. For much of the Second World War RAF Bicester functioned as an Operational Training Unit, training Canadians, Australians and New Zealanders as well as British air crews for service in Bomber Command. These OTUs, of which Bicester now forms the premier surviving example, fulfilled the critical requirement of enabling bomber crews - once individual members had trained in flying, bombing, gunnery and navigation - to form and train as units. For further historical details see Buildings Nos 79 and 137 (Type 'A' Hangars).

Heritage Category:

Listing

List Entry No :

1392761

Grade:

II

County: Oxfordshire

District: Cherwell

Parish: Launton

For all entries pre-dating 4 April 2011 maps and national grid references do not form part of the official record of a listed building. In such cases the map here and the national grid reference are generated from the list entry in the official record and added later to aid identification of the principal listed building or buildings.

For all list entries made on or after 4 April 2011 the map here and the national grid reference do form part of the official record. In such cases the map and the national grid reference are to aid identification of the principal listed building or buildings only and must be read in conjunction with other information in the record.

Any object or structure fixed to the principal building or buildings and any object or structure within the curtilage of the building, which, although not fixed to the building, forms part of the land and has done so since before 1st July, 1948 is by law to be treated as part of the listed building.

This map was delivered electronically and when printed may not be to scale and may be subject to distortions.

List Entry NGR: SP 59282 24465

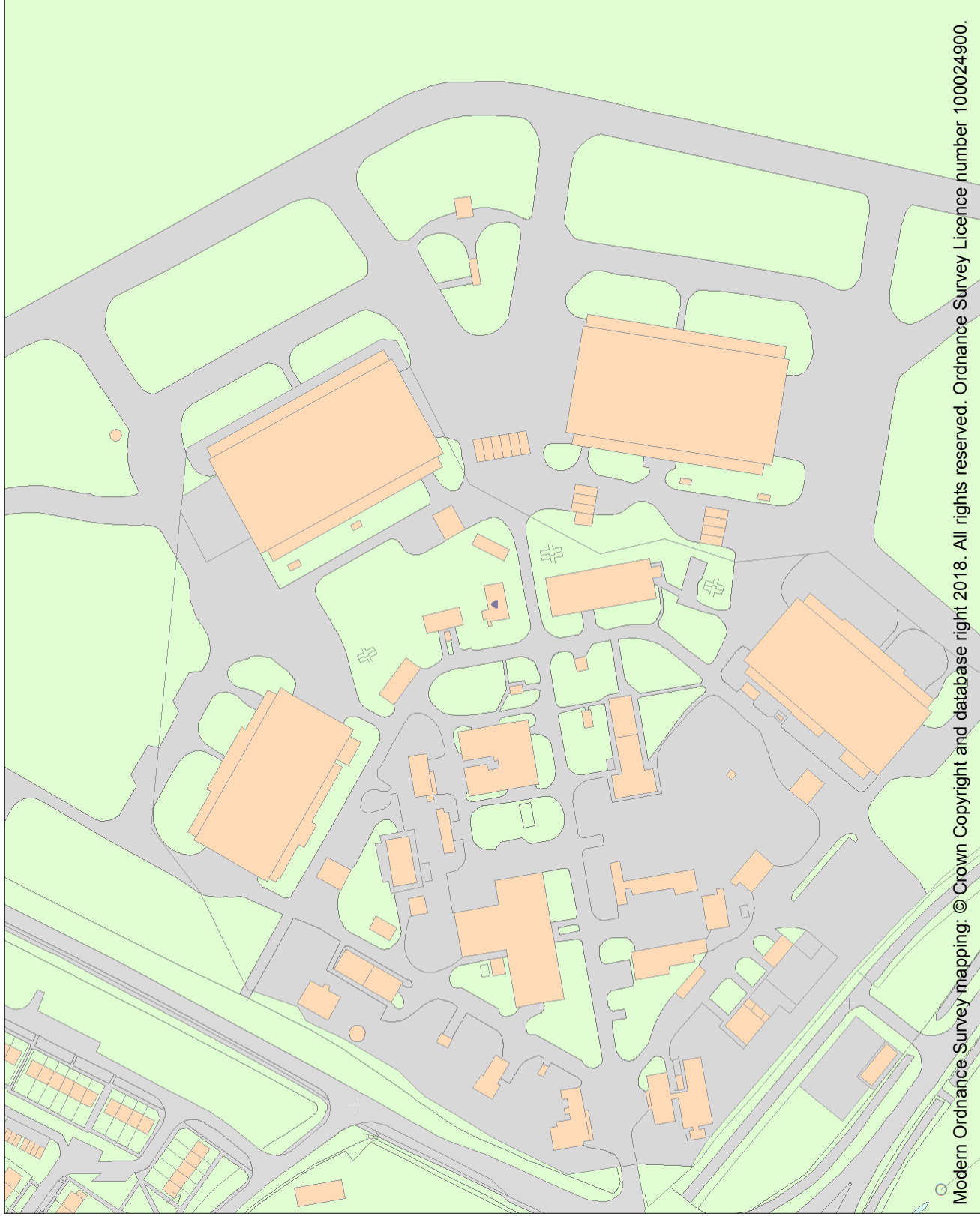
Map Scale: 1:2500

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Name: BUILDING 103 (LINK TRAINER)

APPENDIX B

**Letter of support from
The Federation of British Historic Vehicle Clubs**



The Federation of British Historic Vehicle Clubs
PO Box 295
Upminster
Essex
RM14 9DG

Reference: Planning Application for Building 103 at Bicester Heritage.

Dear Sirs,

FBHVC represent 550 vehicle clubs with a membership of 250,000 people. We work with government on all issues of historic vehicles to ensure today's classics can use our roads in the future. The sector is worth £5.5bn annually in the UK, employs 34,900 people and needs 200 new apprentices every year.

In 2012 the Federation identified a significant skills shortage for the sector and worked with training providers such as Banbury and Bicester College to establish a new apprenticeship for classic cars. This is still being run by Banbury and Bicester college for day release and takes students from the local area.

In 2016 we started working with the Heritage Skills Academy to bring a block release course to Bicester so that students from all over the country could train in these classic skills. The government approved a new trailblazer course for Heritage Engineering and have now approved the funding of this new course. We have worked with the Heritage Skills Academy to set up a new training facility in Building 90 at Bicester Heritage. Both Bicester Heritage and The Galashan Trust have supported us and the Heritage Skills Academy in making sure we have a training facility that is able to teach students all the skills required for the restoration and maintenance of historic and classic vehicles.

We believe that the way forward for the Heritage Engineering apprenticeship is to focus on a centre of excellence at Bicester Heritage. All the restoration businesses are SME's and are spread across the country, so having one facility in the centre of the country makes sense. This means the course will generally be block release with the students staying in the area

for the duration of the course which tends to be nine, one week blocks spread throughout the year.

Our belief in this model has also been shown by the success of the Heritage Skills Academy in finding new apprentices from across the country and the current facility will be at full capacity early in 2019. In addition we would like to encourage the introduction of coachwork and trimming skills to the offering in addition to the mechanical course that is in building 90.

After discussion with the team at Bicester Heritage we have been offered building 103 as a further facility to allow the course to grow and to introduce the new skills.

With sympathetic alterations to include vehicle access into the building we believe 103 will be able to cater for the next in take of apprentices which could be as early as April 2019. We fully support the application for alterations to building 103 to ensure this facility is flexible enough to teach all the new skills for historic vehicles.

As this is a very tight timescale we would much appreciate an early decision on the planning application for 103 and if there is any other information that we can provide we will be very pleased to engage in any way we can.

Yours faithfully,

Karl Carter,
Skills Director,
FBHVC

APPENDIX C

**Ecology Report by
Ecology Solutions Ltd**

7884: BICESTER HERITAGE

BRIEFING NOTE – BAT SURVEYS (B103)

INTRODUCTION

1. Ecology Solutions was commissioned by Bicester Heritage in November 2018 to undertake surveys of the Bicester Heritage site, Bicester, Oxfordshire (the site), to determine whether the existing buildings have the potential to support roosting bats.
2. This document sets out the results of the specific internal/external building bat surveys undertaken on Building **B103** at the site.
3. As concluded in this note, **B103** was not found to be of any potential value for roosting bats and no further survey work would be required to inform proposals for this structure.

LEGISLATION AND ECOLOGY

4. Legislation. All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (“the Habitats Regulations”). These include provisions making it an offence to:
 - Deliberately kill, injure or take (capture) bats;
 - Deliberately disturb bats in such a way as to be likely to significantly affect:-
 - (i) the ability of any significant group of bats to survive, breed or rear or nurture their young; or to hibernate; or
 - (ii) to affect significantly the local distribution or abundance of the species concerned;
 - Damage or destroy any breeding or resting place used by bats;
 - Intentionally or recklessly obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).
5. The words ‘deliberately’ and ‘intentionally’ include actions where a court can infer that the defendant knew ‘the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
6. The offence of damaging (making it worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.

7. In accordance with the Habitats Regulations the licensing authority (Natural England) must apply the three derogation tests as part of the process of considering a licence application. These tests are that:
 1. the activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
 2. there must be no satisfactory alternative; and
 3. the favourable conservation status of the species concerned must be maintained.
8. Licences can usually only be granted if the development is in receipt of full planning permission (and relevant conditions, if any, discharged).
9. Seven species of bat are Priority Species, these are Barbastelle *Barbastrella barbastrellus*, Bechstein's *Myotis bechsteinii*, Noctule *Nyctalus noctula*, Soprano Pipistrelle *Pipistrellus pygmaeus*, Brown Long-eared *Plecotus auritus*, Greater Horseshoe *Rhinolophus ferrumequinum*, and Lesser Horseshoe *Rhinolophus hipposideros*.

METHODOLOGY

10. Field surveys were undertaken by Ecology Solutions with regard to best practice guidelines issued by, the Joint Nature Conservation Committee (2004¹) and the Bat Conservation Trust (2016²).
11. Building **B103** within the site was subject to an internal and external survey in November 2018 using a ladder, torch, binoculars and an endoscope where necessary.
12. Evidence of the presence of bats was searched for, with particular attention paid to the roof areas and any gaps or crevices in the brickwork walls. Specific searches were made for bat droppings, which can indicate present or past use and extent of use, and other signs to indicate the possible presence of bats e.g. presence of stained areas, or areas that are conspicuously cobweb-free.
13. The probability of a building being used by bats as a roost site increases if it:
 - is largely undisturbed;
 - dates from pre-20th Century;
 - has a large roof void with unobstructed flying spaces;
 - has access points for bats (though not too draughty);
 - has wooden cladding or hanging tiles; and/or
 - is in a rural setting and close to woodland or water.
14. Conversely, the probability decreases if a building is of a modern or pre-fabricated design/construction, is in an urban setting, has small or cluttered roof voids, has few gaps at the eaves or is a heavily disturbed premises.
15. The main requirements for a winter/hibernation roost site are that it maintains a stable (cool) temperature and humidity. Sites commonly utilised by bats as winter roosts include cavities/holes in trees, underground sites and parts of buildings. Whilst

¹ Mitchell-Jones, A.J. & McLeish, A.P. (Eds.) (2004). *Bat Workers' Manual*. 3rd edition. Joint Nature Conservation Committee, Peterborough.

² Bat Conservation Trust (2016). *Bat Surveys for Professional Ecologists – Good Practice Guidelines (3rd Edition)*. Bat Conservation Trust, London.

different species may show a preference for one of these types of roost site, none are solely dependent on a single type.

SURVEY RESULTS & EVALUATION

16. Building **B103** is a single-storey building, approximately 4m in height, with a flat roof. A small, single storey extension, approximately 3m in height, is present at the north-western corner of the building, again supporting a flat roof.
17. Externally, the brickwork of the building was identified to be in good condition, with no obvious crevices or features that would offer potential roosting opportunities. A single feature in the form of a drill hole was considered to offer some (albeit very low) potential for roosting bats. This feature was present just above the point where the northerly extension adjoins the main structure. Inspection of this feature, which is approx. 3cm in diameter, identified it to lead to a larger void beneath the flat roof of the building.
18. Notwithstanding the presence of a void, it is noted that the drilled hole represented the only potential access point to this feature. Given that this potential access point was partially covered by cobwebs, and that no other evidence of potential use by bats was recorded, it is not considered that the feature is of any value to roosting bats.
19. Checks were also carried out on brick air vents situated in the walls of the building. These vents were identified to lead directly to the interior of the building. Several of these vent features were found to contain the remains of old bird and/or wasp nests. No evidence of roosting bats was recorded following an exhaustive inspection.
20. The presence of windows at all aspects results in the building being light internally, and, given the absence of any internal voids, unsuitable to support roosting bats.
21. In summary, building **B103** is in good condition, with potential features of value to roosting bats being limited to a single drilled hole at the buildings northern aspect and, to some extent, brick vents in the walls of the building. An exhaustive inspection of the vents enabled the potential use by roosting bats to be ruled out, whilst the inspection of the drill hole found it to be partially covered by cobweb and with no evidence of past or present use by bats.
22. On the basis of the survey work undertaken, B103 is not considered to be utilised by roosting bats. No further survey work would be required.

MITIGATION

23. Given the results of the survey, it is considered that no mitigation would be required, and therefore that a Natural England licence would not be required for any works to the building.

CONCLUSION

24. In conclusion, it is considered that the existing building is not utilised by roosting bats, and as such that works to the building would not impact upon any roosting bats.