



RAF Bicester  
Planning Brief  
**PART B 1**  
**CONSERVATION MANAGEMENT GUIDELINES**  
**DOMESTIC SITE**



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- 7 Management of buildings and structures
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## **1 Management of the landscape.**

In order to ensure public safety and to inform the consideration of development proposals, the following surveys will be required prior the submission of applications for change of use, planning permission or listed building consent.

- A remediation strategy for permanently dealing with any contamination
- A strategy for dealing with other health and safety matters
- An arboricultural survey to record location, species, height, canopy, condition, recommendations for felling, topping and lopping, tree root protection zone and opportunities for new planting
- As a first stage, an updated Phase1 Ecological survey to plot each habitat type and recommendations for further details species study and opportunities for potential habitats; thereafter further focussed studies will be required

## **2 Soft landscape management**

The open grass land [and vegetation](#) between buildings on the Domestic site has been well maintained whilst occupied by DE and S. A broad specification to ensure an appropriate level of maintenance will need to be agreed as part of a management plan, and consistency of management and maintenance across the site will be required. Subdivision of the open plan campus layout by fencing, hedging other planting or any other means will not be acceptable.

A selective programme of tree works should be agreed with the Council, under the provisions of the Planning (Listed Buildings and Conservation Areas) Act 1990 for trees with a girth greater than 75mm and any such programme can cover groups of trees for works over a period of up to 2 years. A programme of replacement tree planting will also be needed, species, planting densities, size etc to be agreed. The majority of the existing trees are birch, horse chestnut or field maple. The sycamores are thought to be self seeded. These locally indigenous species would be appropriate, however imported, evergreen or ornamental species would not be appropriate.

## **3 Hard landscape management**

The vehicular and pedestrian areas on the Domestic site have been re-surfaced in tar macadam, displaying a functional business like appearance, which is not unacceptable. The introduction of new routes that would compete with or disguise the existing spatial pattern of routes should be avoided.

There is no expectation that the roads and footways will be offered for adoption by the highway authority. Indeed this could require unsympathetic works to be undertaken and atypical street lighting to be installed. Wall mounted lanterns may also be suitable. A Management Plan will need to set out maintenance regimes and ensure consistent management of hard surfaces across the site as differential maintenance can undermine the coherence of the whole.

## **4 Public access**

Some access to the Domestic site will be sought, albeit, depending upon the type of use, this may need to be restricted to heritage open days etc.

## **5 Signage**

External signage, which includes directional signage, street names and Air Ministry building numbers and any commercial signage, should be the subject of a signage strategy to be agreed by

the Council. This should be of consistent design throughout the site and should include a sign on each building indicating the former building number and former use. The location, size and colour of commercial signage will need to be controlled so as not to dominate the ordered military appearance.

## **6 Servicing and parking**

On the Domestic site joint use of the parade ground and other communal hard surfaced areas should be used to accommodate parking. New parking areas associated with individual buildings should be avoided and formal setting out of car parking areas with white lining should also be avoided.

## **7 Management of buildings and structures:**

English Heritage published Historic Military Aviation Sites: Conservation Management Guidance in 2003, which provides generic advice on best practice. English Heritage and the Council, in consultation with Defence Estates, published Conservation Management Guidelines for the Domestic site only in 2000, [reviewed in 2003](#). Whilst this document was written assuming that military use would continue, there is nevertheless some site specific guidance that remains relevant following disposal and has been embodied and elaborated upon in this document.

## **8 Recording buildings and structures, including internal features and wall art**

Any grant of consent to alter listed buildings or demolish any buildings on the site is likely to have a condition attached requiring that a full measured and photographic record is made of the structure prior to change, including internal features and any wall art.

## **9 Alterations and extensions**

Buildings on the Domestic site, being in good / fair condition, should be capable of re-use without requiring much alteration to their elevations. However, finding alternative uses for some of the more specialist buildings may be dependent upon some works which require alteration to the external appearance. Changes should be minimal and should respect the special qualities of the building. The pattern and detailing of fenestration should be respected and great care will need to be undertaken in changes to masonry

There is very little scope for extending the buildings on the site. Some small extensions may be acceptable if it can be demonstrated that this is required to secure the future of the building and its character can be maintained. The extension should be clearly subservient to the original and the original should be clearly discernable, for example by dropping the ridge line and marking the original external walls with a short return. However, many of the buildings were designed according to a strictly applied and simple geometry and may not be suitable for extension. Where extensions are proposed great care will be required in considering extensions to such buildings to ensure that this symmetry is not lost. Design components of the host building, such as the scale, location, proportion of window or door openings should be applied in any new work, as should details such as lintels, sills and eaves / corncicing.

Subdivision of large internal spaces may be acceptable to secure the future use of the building but should be undertaken in such a way that the original form, character and appearance of the building is clearly distinguishable.

All new works that affect the special character and appearance of a listed building, including internal changes, will need consent and to be accompanied by a Heritage Impact Assessment and explained and justified in a Design and Access Statement.

## **10 Roofs and roof coverings**

The majority of the buildings were constructed with pitched, hipped roofs, swept to boxed eaves with deep soffits and were of Welsh slate with blue terracotta ridge tiles and tile kneelers. The original Welsh slates have been replaced in some instances with asbestos or other artificial slates. Where Welsh slate remains this must be retained. When it is proposed to reroof buildings which have been already reroofed in other materials, natural or artificial slates that vary in colour or texture from Welsh slate will not be acceptable. Blue terracotta ridge tiles should be used. The profile of the roof should not generally be altered. Listed building consent will be needed for any change of material on a roof. Planning consent will be required for any alteration that materially affects the external appearance.

The 1930s buildings such as Buildings 20, 23 and 25 have reinforced concrete flat roofs, and their very crisp profile is a characteristic feature. Any repair work should ensure the retention of this profile and lead work details, for example flashings at abutments, should be maintained and, where necessary, renewed in accordance with the recommendations of the Lead Sheet Association.

## **11 Chimney stacks**

Chimney stacks should be retained where they form part of the original construction or contribute to the character of the roofscape. Listed building consent will be required for their demolition.

## **12 Brickwork and pointing**

Buildings dating from the 1920s Expansion Period are generally of 9" solid brickwork of Flemish bond with lime mortar. Later buildings are of cavity brickwork in stretcher bond. The largely intact survival of the brick masonry of the Domestic site is unusual. One documented source of bricks of the 1930s buildings is Calvert in Buckinghamshire (London Brick Company) but this works no longer exists. There are subtle differences of colour in the bricks used, with reds, purples and brown bricks employed in varying proportions. The colour of the brickwork has been modified in many areas by the use of 1939 camouflage paint. The predominant colour of the affected areas is golden ochre, but there is evidence of green and black as well. Any replacement bricks should be carefully matched to the original colour, not the resultant camouflage colour, and sized and laid to match the original bond. Matching bricks with the weathered camouflage colour will require specialist advice. Some repair to the brickwork in the Domestic site has been undertaken without the requisite skill and this should not be repeated. Further repair should be undertaken only following approval of a sample area, as was done in 2000 on building 46, the Station Sick Quarters.

The original brickwork was generally bedded in a cream coloured hydraulic lime mortar, and pointed up with a dark coloured mortar composed of furnace ashes and hydraulic lime or cement, then generally finished off with a weather-struck joint. The original appearance of the pointing survives in sheltered areas; however, in most areas, the pointing has assumed a softer, grainier appearance as a result of natural weathering. Re-pointing using hard cement mortars can cause irreversible damage by trapping moisture in the wall, as well as damaging the appearance of the building. Specification for re-pointing should normally require the careful use of hand tools for raking out old mortar, the use of well-graded sharp sand and either feebly or moderately hydraulic lime mortar and should be restricted to those areas where the pointing is already substantially decayed. Selective areas of re-pointing undertaken in accordance with these guidelines will not normally need consent but the Council should be consulted in advance about work over more extensive areas.

## **13 Door and window openings**

Door and window openings should retain their original size, proportions and detailing, including original cill and lintel details. Flashings to lintels and cills should retain the crispness of the original and be as unobtrusive as possible.

The 1920s buildings have 8 and 12 pane timber vertical sliding sashes, classically proportioned and spaced. These should be retained as far as possible. Replacement of individual components that have decayed or weathered, such as cills and parting beads, will often prolong the life of the window. Where there is concern about draughts, consideration should be given to draught stripping and where insulation is sought secondary glazing should be considered, provided that the principal framing elements are aligned with the existing framing elements, and will be subject to listed building consent. Where windows are incapable of repair they should be replaced with bespoke windows that match the original design and materials. Lintels are either brick soldier arches or flush, chamfered and stopped concrete. Cills are usually stooled.

The later 1930s buildings have metal framed casement windows. These Crittall windows are of particular importance in defining the Modern Movement inspired character of these buildings as they have a more horizontal emphasis and circular windows are also in evidence. The original Crittall windows should be retained wherever possible. Where these are beyond repair they should be replaced with windows matching the original in design and material. The replacement of single glazed windows with double glazed units will not be accepted if the dimensions of the framing sections have to be visibly increased.

Listed building consent will be required for the insertion of new windows even where they match the original.

#### **14 Colour schemes, paint colours, camouflage techniques**

Consistent use of paint colour throughout the site for external joinery and metal work can greatly contribute to the disciplined character appropriate to a military site. A report by Patrick Baty of Papers and Paints Ltd was undertaken for English Heritage in 2000 on the paint colours used historically, based upon a search of archival sources and an analysis of paint samples taken from a selection of buildings on the Domestic site. The report concluded that the following colours were employed:

- external woodwork to doors, timber fascias and eaves: Mid Brunswick Green (BS381C: 1931 – 26)
- windows: White (BS4800: 1972 – 00E55)
- render and concrete to door surrounds, string courses etc: Pale Cream (BS381C: 1931 – 52)
- external ironmongery, gutters and pipe work: matt black

The paints generally had a gloss finish, although camouflage paints had a matt finish. It is advised therefore that timber windows should be painted white or pale cream; metal windows should be painted white or pale cream. There is no expectation that the camouflage painting on masonry be restored, but where it remains it should continue undisturbed. Painting of external masonry should not be undertaken and listed building consent would in any case be required.

#### **15 External rainwater goods**

On the Domestic site many of the original cast iron rainwater gutters and down pipes, soil and vent pipes have been replaced using plastic materials and, where these are grey in colour, they detract from the historic character. On the listed buildings the replacement of these with cast iron pipe work and half round gutters is preferable. On other buildings metal (cast iron or aluminium) should be used. All rainwater goods should be painted black.



## 16 Internal features

A number of the buildings have internal features of note, including floor coverings, staircases, balustrades, that are worthy of special mention and retention. These include:

- Building 16 The Officer's Mess and Quarters (Grade II) was constructed in 1926 and is of a unique design pre-dating the later standard design built on most contemporary RAF stations. Layout is little altered.
- Building 31 The Sergeants' Mess (Grade II) was the first permanent RAF Sergeants' Mess Design. Layout is little altered.
- Building 46 Station Sick Quarters (Grade II) is thought to be one of the oldest surviving structures of its type; together with the Ambulance Shed (45), Annex (43), Decontamination Centre (50) and Mortuary (44), forms a functional and interesting building group. Those buildings in this group not listed in their own right are considered curtilage listed by virtue of their subsidiary function to Building 46. The layout of these buildings is little altered.
- Building 20 The Dining Room and Cookhouse (Grade II) was built in 1938. In the interests of economy, convenience and architectural design, the dining room and institute were combined into one building with supper rooms/function room with stage and kitchens on the ground floor and games, reading and writing rooms above. There were, for the first time, also large underground refuges and an escape tunnel. One interesting feature of this building is the influence of the Art Deco style in the circular fan lights in the first floor cloakroom and multi-rail staircase railings.
- Building 50 Decontamination Centre (Grade II) represents the most common design for a building of this type built during the RAF Expansion Period. Designed to deal with most types of gas developed during WWI, uninjured personnel would use the Decontamination Centre and injured personnel would use the Annex to the Station Sick Quarters. The floor plan comprises a series of rooms that demonstrate the procedure that airmen followed to decontaminate themselves following contact with tear gas, nose irritant gas, lung irritant gas or blister gas. What gives this building its special significance is its association with the Station Sick Quarters (46), Ambulance Shed (45) and Mortuary (44), all of which are rare buildings.
- Building 32 Airmen's Institute (Grade II) this is considered to be the best example of its type. Before the RAF Expansion Period it was the policy to have separate airmen's Institute and Dining Room buildings. In 1939, with the construction of a new combined Dining Room and Institute, this building became the WRAF Mess. Layout is little altered.

Care must be taken to preserve any original plasterwork and joinery and decorative features such as skirtings, architraves, picture rails, dados, and doors. Listed building consent will be required for any proposals which would affect the special interest of historic interiors.

Many buildings on the Domestic site have been converted to office use, entailing the remodelling of interiors, although substantial partitions have generally been left in situ. Depending upon the future use of these buildings, further changes may be required. Demolition of original partition walls and original staircases should be avoided. Listed building consent will be required for the removal or addition of any permanent features in listed buildings.

## 17 Provision of services, satellite dishes, meter boxes etc

Internal works, which affect the character or appearance of a listed building in connection with central heating, plumbing, sanitary installations, fire detection are likely to require listed building consent. The location of new services should be chosen to minimise the impact on the historic fabric. The cumulative impact of modern services on the appearance of historic buildings can cause harm. Satellite dishes should be located within roof spaces where possible and the preference will

be for ground mounted meter boxes or meter boxes located within communal entrance halls where this is not possible.

## **18 Means of enclosure, outdoor storage, refuse**

The campus layout and open plan landscaped setting of the Domestic site is crucial to its established character and appearance. The continued comprehensive consistent management of the site is essential to ensure this character endures. Introduction of additional means of enclosure and the personalisation of outdoor space associated with dwellings will not be appropriate.

Outdoor storage and other clutter in relation to employment uses would quickly have a detrimental impact, as would the external storage of refuse bins for both employment and particularly for domestic uses. Some buildings, such as the barrack blocks, are double faced, effectively with two front elevations, and it will be difficult to identify an appropriate location for refuse and storage outside.

## **19 Part L and M of the Building Regulations**

Whilst the buildings have been in the ownership of the [Ministry of Defence](#) they have been exempt from compliance with parts L and M of the Building Regulations. Once they are in the ownership of a private company or individual the requirement for compliance with the Building Regulations comes into effect when building works are undertaken. With respect to listed buildings, compliance is required where this would not adversely affect the special interest of the building.

With respect to thermal compliance with Part L, roof insulation could be accommodated within the roof space without causing harm for example, but replacement of traditional timber vertical sliding sash windows or metal Crittal windows with double glazed units would cause significant harm and therefore a exemption from the thermal regulation would be offered. Alternative methods of achieving thermal compliance using, for example, bespoke secondary glazing would be considered provided that this reflected the window style and caused no internal harm. With regard to the insulation of what are in the main 9" brick walls with poor thermal performance, it is normally expected that if more than 25% of the area of the thermal element is renovated e.g. re-plastered, then the whole of that element should be brought up to compliance (within the limits given in Approved Document L). Exemptions would be given where this would involve damage to internal features of special interest such as skirting, coving, window detailing etc. There is an existing [District Heating](#) plant on the domestic site that generates more energy than is utilised on site. Rather than selling the surplus back to the grid, there is the option to provide the technical site with energy as well. This would not only use an existing building fully for its intended purpose but would have the benefit of not requiring numerous condensing gas boiler flues to be fitted onto listed buildings.

With respect to compliance with Part M, this will be required, not on occupation for the same use but potentially where the use changes or where new works are proposed, for example a change to residential use or the insertion of new doorways or new WC facilities. Some buildings on the domestic site are already DDA compliant with level access, but additional works may be required through the new owner's role as employer or service provider. Access to upper floors by lift may be required and the type of mechanism chosen will need to ensure it can be entirely housed within the existing building envelope.

## **20 Potential for Article 4 Directions and restrictive covenants**

The Council will aim to ensure comprehensive management of the campus style landscape and consistent maintenance of buildings. However, many aspects of this are not covered by normal planning controls, even those pertaining to listed buildings and conservation areas. The Council will

be seeking to secure agreement on a Comprehensive Conservation Management Plan for the Domestic site and this will be appended to any planning consent through legal agreement. The Council will also consider introducing Article 4 directions to remove specific permitted development rights where it is considered that such development would cause harm to the special character.

## **21 Public Art**

The Council has a policy of facilitating public art as an integral part of major development and this is supported by Policy D5(v) of the Non Statutory Local Plan. This site is an excellent opportunity to introduce art into the public realm and to involve local people in the design of the new future of sites from which they had previously been excluded. Once a new owner is drawing up proposals, the preference is for a public artist or artists to be involved on the design team from an early stage.

## **22 Management body, composition, powers**

A formally constituted body will be required to be set up to oversee the management of the site that cannot be covered by formal planning or listed building consent. This requirement will be attached to the granting of any consent by condition or legal agreement. The Council will seek a Conservation Management Board or Trust that will have as its objective to reflect the conservation objectives and ensure that these are implemented through the development of a successful balance of conservation, economic and social activity. Representatives on the body should include owner and users of the site, local councils, heritage, [ecology](#) and other interest groups.

## **23 Review period**

An annual report should be submitted to English Heritage and the Council outlining the ways in which the conservation objectives have been met and also any conflict or underperformance that has been identified.





RAF Bicester  
Planning Brief  
**PART B2**  
***DRAFT CONSERVATION MANAGEMENT GUIDELINES***  
**FLYING FIELD AND TECHNICAL SITE**



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Appendix 1

Structural Report on 17 Buildings at RAF Bicester technical site  
Monson Engineering Ltd June 2009

Appendix 2

Structural Survey results: work required  
Monson Engineering Ltd June 2009





## 1 Management of the landscape.

In order to ensure public safety and to inform the consideration of development proposals, the following surveys will be required prior the submission of applications for change of use, planning permission or listed building consent.

- A remediation strategy for permanently dealing with any contamination
- A strategy for dealing with other health and safety matters
- An arboricultural survey to record location, species, height, canopy, condition, recommendations for felling, topping and lopping, tree root protection zone and opportunities for new planting
- As a first stage, an updated Phase1 Ecological survey to plot each habitat type and recommendations for further details species study and opportunities for potential habitats; thereafter further focussed studies will be required

## 2 Soft landscape management

The open flying field is clearly a critical part of the whole site, being its *raison d'être* and it needs to be maintained open, free of structures and planting and permanent activity other than aviation. It is currently cut regularly by volunteers from the Windrushers Gliding Club and this will be a maintenance burden for as long as aviation continues. It is an area of unimproved grassland and opportunities to further enhance its biodiversity will exist. The site identification BC by the watch office and tower, enabling aircraft to identify the location from the air, is essential to ensure continued good maintenance.

It is believed that the planting of trees within the technical and domestic sites of airfields were an integral part of their design, their principal role being to break up the appearance of the site from the air so contributing to both dispersal and camouflage. However, early photographs of the technical site at RAF Bicester reveal that the avenues were lined with hedges and there were no trees present. Nevertheless, the many trees which scatter the site, particularly the avenues in the Trident area, make a significant contribution to the campus landscape and therefore the level of tree cover should be maintained. Many of the trees on the Technical site are known to be over mature. A selective programme of tree works should be agreed with the Council, under the provisions of the Planning (Listed Buildings and Conservation Areas) Act 1990 for trees with a girth greater than 75mm and any such programme can cover groups of trees for works over a period of up to 2 years. A programme of replacement tree planting will also be needed, species, planting densities, size etc to be agreed. The majority of the existing trees are birch, horse chestnut or field maple. The sycamores are thought to be self seeded. These locally indigenous species would be appropriate, however imported, evergreen or ornamental species would not be appropriate.

## 3 Hard landscape management

The perimeter track is partly constructed of cinder / clinker / ash and this should remain, as a sustainable, free draining, although not particularly hard-wearing material. The panhandle areas and taxi ways are of bitumen, which is in need of repair.

The roadways on the technical site are currently surfaced in bitumen, some kerbed with low profile concrete kerbs, and are in a poor state of repair. There are no separate footways. They are unlikely to be capable of being brought up to adoptable standards without substantial works, which would change the established character and could potentially cause harm to established vegetation. It is imperative that the trident pattern is retained and restored and, ideally, remains open to vehicular traffic. Separate footways should not be introduced where none exists at present. The

introduction of new routes that would compete with or disguise the existing spatial pattern of routes should be avoided.

There is no expectation that the roads and footways will be offered for adoption by the highway authority. Indeed this could require unsympathetic works to be undertaken and atypical street lighting to be installed. There is currently no street lighting. Wall mounted lanterns may also be suitable. A Management Plan will need to set out maintenance regimes and ensure consistent management of hard surfaces across the site as differential maintenance can undermine the coherence of the whole.

#### **4 Public access**

Unrestricted public access to the whole of the flying field could put lives at risk. It is accepted that this will need to be controlled. Public access to the whole site is expected, albeit controlled in various areas and at various times.

The Windrushers Gliding Club currently requires all those having access to be social members of the Club to ensure that they are aware of and signed up to the local airfield regulations. The public, [as social members of Windrushers Gliding Club](#), currently enjoy access to the site beyond the perimeter track of the flying field for dog walking and other recreational activities and [the continuation of a similar arrangement](#) is a pre-requisite of any future use [if aviation use continues](#). A similar or other model will need to be agreed between interested parties to ensure public safety.

Public access to the Technical site is sought as part of its future use and this might be through the use of the site for an aviation museum, for which payment would be sought with some free community use / access and other educational access, or as a mixed use site open to the public in the normal manner.

#### **5 Signage**

External signage, which includes directional signage, street names and Air Ministry building numbers and any commercial signage, should be the subject of a signage strategy to be agreed by the Council. This should be of consistent design throughout the site and should include a sign on each building indicating the former building number and former use. The location, size and colour of commercial signage will need to be controlled so as not to dominate the ordered military appearance.

#### **6 Servicing and parking**

On the flying field, parking associated with aviation use can be accommodated on the edge of the aircraft taxi ways and should not extend onto the flying field, other than to accommodate visitors to major events. The caravans that accommodate glider pilots will need to be removed from the site and alternative accommodation provided off site or within existing buildings on site converted for the purpose.

On the Technical site areas suitable for or operational and visitor parking associated with employment and commercial buildings should be located so as not to compromise the main vistas and views, but should avoid the need for the erection of screen walling, fencing or other means of enclosure. Parking for employees or visitors to a museum should be located near the entrance to the site so as not to compromise the atmosphere of the rest of the site. Use of large buildings for assembly purposes may need specific, temporary allocated parking areas on the fringe of the site.

#### **7 Management of buildings and structures:**

English Heritage published Historic Military Aviation Sites: Conservation Management Guidance in 2003, which provides generic advice on best practice. English Heritage and the Council, in consultation with Defence Estates, published Conservation Management Guidelines for the Domestic site only in 2000. Whilst this document was written assuming that military use would continue, there is nevertheless some site specific guidance that remains relevant following disposal and has been included and elaborated upon in this document.

## **8 Recording buildings and structures, including internal features and wall art**

Any grant of consent to alter listed buildings or demolish any buildings on the site is likely to have a condition attached requiring that a full measured and photographic record is made of the structure prior to change, including internal features and any wall art.

## **9 Alterations and extensions**

On the technical site, priority should be given to preservation and restoration. However, finding alternative uses for some of the more specialist buildings may be dependent upon some works which require alteration to the external appearance. Changes should be minimal and should respect the special qualities of the building. The pattern and detailing of fenestration should be respected and great care will need to be undertaken in changes to masonry

There is very little scope for extending the buildings on the site. Some small extensions may be acceptable if it can be demonstrated that this is required to secure the future of the building and its character can be maintained. The extension should be clearly subservient to the original and the original should be clearly discernable, for example by dropping the ridge line and marking the original external walls with a short return. However, many of the buildings were designed according to a strictly applied and simple geometry and may not be suitable for extension. Where extensions are proposed great care will be required in considering extensions to such buildings to ensure that this symmetry is not lost. Design components of the host building, such as the scale, location, proportion of window or door openings should be applied in any new work, as should details such as lintels, sills and eaves / corncicing.

Subdivision of large internal spaces may be acceptable to secure the future use of the building but should be undertaken in such a way that the original form, character and appearance of the building is clearly distinguishable.

All new works that affect the special character and appearance of a listed building, including internal changes, will need consent and to be accompanied by a Heritage Impact Assessment and explained and justified in a Design and Access Statement.

## **10 Roofs and roof coverings**

The majority of the buildings were constructed with pitched, hipped roofs, swept to boxed eaves with deep soffits and were of Welsh slate with blue terracotta ridge tiles and tile kneelers. The original Welsh slates have been replaced in some instances with asbestos or other artificial slates. Where Welsh slate remains this must be retained. When it is proposed to reroof buildings which have been already reroofed in other materials, natural or artificial slates that vary in colour or texture from Welsh slate will not be acceptable. Blue terracotta ridge tiles should be used. The profile of the roof should not generally be altered. Listed building consent will be needed for any change of material on a roof. Planning consent will be required for any alteration that materially affects the external appearance.

Information needed on the management of the aircraft hangars.

## **11 Chimney stacks**

Chimney stacks should be retained where they form part of the original construction or contribute to the character of the roofscape. Listed building consent will be required for their demolition.

## **12 Brickwork and pointing**

Buildings dating from the 1920s Expansion Period are generally of 9" solid brickwork of Flemish bond with lime mortar. Later buildings are of cavity brickwork in stretcher bond. One documented source of bricks of the 1930s buildings is Calvert in Buckinghamshire (London Brick Company) but this works no longer exists. There are subtle differences of colour in the bricks used, with reds, purples and brown bricks employed in varying proportions. The colour of the brickwork has been modified in many areas by the use of 1939 camouflage paint. The predominant colour of the affected areas is golden ochre, but there is evidence of green and black as well. Any replacement bricks should be carefully matched to the original colour, not the resultant camouflage colour, and sized and laid to match the original bond. Matching bricks with the weathered camouflage colour will require specialist advice.

The original brickwork was generally bedded in a cream coloured hydraulic lime mortar, and pointed up with a dark coloured mortar composed of furnace ashes and hydraulic lime or cement, then generally finished off with a weather-struck joint. The original appearance of the pointing survives in sheltered areas; however, in most areas, the pointing has assumed a softer, grainier appearance as a result of natural weathering. Re-pointing using hard cement mortars can cause irreversible damage by trapping moisture in the wall, as well as damaging the appearance of the building. Specification for re-pointing should normally require the careful use of hand tools for raking out old mortar, the use of well-graded sharp sand and either feebly or moderately hydraulic lime mortar and should be restricted to those areas where the pointing is already substantially decayed. Selective areas of re-pointing undertaken in accordance with these guidelines will not normally need consent but the Council should be consulted in advance about work over more extensive areas.

## **13 Door and window openings**

Door and window openings should retain their original size, proportions and detailing, including original cill and lintel details. Flashings to lintels and cills should retain the crispness of the original and be as unobtrusive as possible.

The 1920s buildings have 8 and 12 pane timber vertical sliding sashes, classically proportioned and spaced. These should be retained as far as possible. Replacement of individual components that have decayed or weathered, such as cills and parting beads, will often prolong the life of the window. Where there is concern about draughts, consideration should be given to draught stripping and where insulation is sought secondary glazing should be considered, provided that the principal framing elements are aligned with the existing framing elements, and will be subject to listed building consent. Where windows are incapable of repair they should be replaced with bespoke windows that match the original design and materials. Lintels are either brick soldier arches or flush, chamfered and stopped concrete. Cills are usually stooled.

Listed building consent will be required for the insertion of new windows even where they match the original.

## **14 Colour schemes, paint colours, camouflage techniques**

Consistent use of paint colour throughout the site for external joinery and metal work can greatly contribute to the disciplined character appropriate to a military site. A report by Patrick Baty of

Papers and Paints Ltd was undertaken for English Heritage in 2000 on the paint colours used historically, based upon a search of archival sources and an analysis of paint samples taken from a selection of buildings on the Domestic site. The report concluded that the following colours were employed:

- external woodwork to doors, timber fascias and eaves: Mid Brunswick Green (BS381C: 1931 – 26)
- windows: White (BS4800: 1972 – 00E55)
- render and concrete to door surrounds, string courses etc: Pale Cream (BS381C: 1931 – 52)
- external ironmongery, gutters and pipe work: matt black

The paints generally had a gloss finish, although camouflage paints had a matt finish. It is advised therefore that timber windows should be painted white or pale cream; metal windows should be painted white or pale cream. There is no expectation that the camouflage painting on masonry be restored, but where it remains it should continue undisturbed. Painting of external masonry should not be undertaken and listed building consent would in any case be required.

Maintenance of the technical site will need to be informed by a similar study. Whilst it is believed that the original colour of the hangars was Brunswick Green this needs to be verified prior to agreeing a colour scheme. The colour of such large structures is crucial to the character of the site and the landscape impact.

## **15 External rainwater goods**

On the technical site, the poor maintenance of, and in some cases lack of, rainwater goods has led to water ingress and damage. The Council will accept emergency repairs with UPVC as a short term measure to arrest further decline. Thereafter cast iron replacement will be required, painted black. On the listed buildings cast iron pipe work and half round gutters is preferable. On other buildings metal (cast iron or aluminium) should be used. All rainwater goods should be painted black.

## **16 Internal features**

A number of the buildings have internal features of note, including floor coverings, staircases, balustrades and in the camera obscura in building 147 Station Offices, that are worthy of special mention and retention. These include:

- Building 147 Station Offices (Grade II) occupies a prominent position opposite the Guardhouse (89) at the entrance to the technical site. It is an excellent example of the first permanent RAF Station Offices. The floor plan is on classical lines, with central entrance lobby joining a hallway, stairs and central corridor with rooms on either side. The building used to house a camera obscura and contains an example of wall art dating from WWII. Along with many other structures on station, this building is important not only to RAF Bicester but to the history of the RAF in a national context.
- Building 99 Main workshops (Grade II) built midway between the two Type A Aeroplane Sheds, the main workshop building was part of the original RAF station. Airframes and engines were repaired in separate bays. A blacksmith's shop, a welder's bay, machine and fabric worker's shop were all accommodated within the building. The original layout is still evident from the footprint shadows of the original machinery.
- Building 92 Parachute store (Grade II) was a specially designed building which met the requirements for parachute drying, inspection, packing and storage. The building is the first purpose built design of its type and is an excellent example with all the main features still present.

Care must be taken to preserve any original plasterwork and joinery and decorative features such as skirtings, architraves, picture rails, dados, and doors. Listed building consent will be required for any proposals which would affect the special interest of historic interiors. Demolition of original partition walls and original staircases should be avoided. Listed building consent will be required for the removal or addition of any permanent features in listed buildings [that contribute to the special interest of a building](#).

### **17 Provision of services, satellite dishes, meter boxes etc**

Internal works, which affect the character or appearance of a listed building in connection with central heating, plumbing, sanitary installations, fire detection are likely to require listed building consent [if they affect the special interest of the building](#). The location of new services should be chosen to minimise the impact on the historic fabric. The cumulative impact of modern services on the appearance of historic buildings can cause harm. Satellite dishes should be located within roof spaces where possible and the preference will be for ground mounted meter boxes or meter boxes located within communal entrance halls where this is not possible.

### **18 Means of enclosure, outdoor storage, refuse**

The campus layout and open plan landscaped setting of both the Technical site is crucial to their established character and appearance. The continued comprehensive consistent management of the site is essential to ensure this character endures. Introduction of additional means of enclosure and the personalisation of outdoor space associated with dwellings will not be appropriate.

Outdoor storage and other clutter in relation to employment uses would quickly have a detrimental impact, as would the external storage of refuse bins for both employment and particularly for domestic uses. Some buildings are pavilion style, effectively with two front elevations, and it will be difficult to identify an appropriate location for refuse and storage outside.

### **19 Part L and M of the Building Regulations**

Whilst the buildings have been in the ownership of Defence Estates they have been exempt from compliance with parts L and M of the Building Regulations. Once they are in the ownership of a private company or individual the requirement for compliance with the Building Regulations comes into effect when building works are undertaken. With respect to listed buildings compliance is required where this would not adversely affect the special interest of the building.

With respect to thermal compliance with Part L, roof insulation could be accommodated within the roof space without causing harm for example , but replacement of traditional timber vertical sliding sash windows or metal Crittal windows with double glazed units would cause significant harm and therefore a exemption from the thermal regulation would be offered. Alternative methods of achieving thermal compliance using, for example, bespoke secondary glazing would be considered provided that this reflected the window style and caused no internal harm. With regard to the insulation of what are in the main 9" brick walls with poor thermal performance, it is normally expected that if more than 25% of the area of the thermal element is renovated e.g. re-plastered, then the whole of that element should be brought up to compliance (within the limits given in Approved Document L). Exemptions would be given where this would involve damage to internal features of special interest such as skirting, coving, window detailing etc. There is an existing CHP plant on the Domestic site that generates more energy than is utilised on site. Rather than selling the surplus back to the grid, there is the option to provide the technical site with energy as well. This would not only use an existing building fully for its intended purpose but would have the benefit of not requiring numerous condensing gas boiler flues to be fitted onto listed buildings.

With respect to compliance with Part M, this will be required, not on occupation for the same use but potentially where the use changes or where new works are proposed, for example a change to residential use or the insertion of new doorways or new WC facilities. Some buildings on the Domestic site are already DDA compliant with level access, but additional works may be required through the new owner's role as employer or service provider. Access to upper floors by lift may be required and the type of mechanism chosen will need to ensure it can be entirely housed within the existing building envelope.

## **20 Potential for Article 4 Directions and restrictive covenants**

The Council will aim to ensure comprehensive management of the campus style landscape and consistent maintenance of buildings. However, many aspects of this are not covered by normal planning controls, even those pertaining to listed buildings and conservation areas. The Council will be seeking to secure agreement on a Comprehensive Conservation Management Plan for the Technical site and this will be appended to any planning consent through legal agreement. The Council will also consider introducing Article 4 directions to remove specific permitted development rights where it is considered that such development would cause harm to the special character.

## **21 Public Art**

The Council has a policy of facilitating public art as an integral part of major development and this is supported by Policy D5(v) of the Non Statutory Local Plan. This site is an excellent opportunity to introduce art into the public realm and to involve local people in the design of the new future of sites from which they had previously been excluded. Once a new owner is drawing up proposals, the preference is for a public artist or artists to be involved on the design team from an early stage.

## **22 Management body, composition, powers**

A formally constituted body will be required to be set up to oversee the management of the site that cannot be covered by formal planning or listed building consent. This requirement will be attached to the granting of any consent by condition or legal agreement. The Council will seek a Conservation Management Board or Trust that will have as its objective to reflect the conservation objectives and ensure that these are implemented through the development of a successful balance of conservation, economic and social activity. Representatives on the body should include owner and users of the site, local councils, heritage, [ecology](#) and other interest groups.

## **23 Review period**

An annual report should be submitted to English Heritage and the Council outlining the ways in which the conservation objectives have been met and also any conflicts or underperformance that has been identified.





**PART B2**  
**FLYING FIELD AND TECHNICAL SITE**  
**APPENDIX 1**

**Structural report on 17 buildings at RAF Bicester Technical Site By Monson Engineering Ltd.**  
**June 2009**

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The RAF Bicester Technical Site was visited on 5th June 2009. Only the buildings itemised below were viewed. External inspections were made from ground level only with little time for close examination. Most of the buildings were inspected internally but these also were made without the use of ladders and so internal roof spaces etc were not viewed.

The buildings inspected are listed below with comments on their condition as seen. The buildings are listed in the order in which they were viewed and the degree of access to each is noted. The condition of the finishes, windows and doors is not noted except where it indicates an underlying structural problem. In general the windows are boarded up making assessment of the condition of the lintels very difficult.

## Building 147



The Station Offices Building 147 is a two storey structure that is connected via a single storey corridor to the Operations Block Building 146 at the rear. The building has a cellar below the south west part of the building accessed from the rear. It was not possible to access this area although it was possible to see that there was a moderate depth of water flooding the basement.

The station offices building appears to be in its original form with red brickwork solid external walls that are generally in good condition. The dpc appears to have been constructed with asphalt which has deteriorated and hardened with time and which has partly been extruded from the joint in many places. The effectiveness of the dpc may have been compromised in places. The brickwork is water stained in places where rainwater handling has failed, this is noticeable at the front at the edges of the porch where the flashing detailing is very poor and the hoppers etc have been overtopping etc. The parapet to the flat roof area at the centre of the front of the building is also badly stained, with plant growth appearing in the capping. The capping detail of brick on edge over a double course of tiles appears to be failing. The lintels and cills appear to be in reasonable condition. The lime mortar is badly eroded in many of the areas affected by damp and by water overflowing from ineffective rainwater goods. The mortar is also seriously damaged in the parapet area.

The majority of the building has a shallow pitched slate covered hipped roof forming a U-shape while the front central area has a flat concrete roof behind a parapet. The condition of the slate roof is poor with slipped slates forming holes in some places. It is likely that the fixings for the slates have come to the end of their life as the holes appear to be caused by slippages not breakages of the slates. There are several roof lights / roof access points that have lost their coverings and are leaking / missing. It could be seen that the leaks in the roof have caused damage to some of the timber rafters and loft ceiling joists, particularly at the eaves. The ridge and hip capping appear to be intact but uneven suggesting that the bedding is failing, the condition of the valleys could not be

seen but is expected to be poor considering the leaks inside. The brick chimney is in reasonable condition although it was not possible to view the flashing. The guttering, down pipes and hoppers are in very poor condition.



The concrete flat roof area is in very poor condition. There is an opening in the roof with no covering. There is also a circular hole in the roof of the central front second floor room that is reported to have housed a camera obscura. The hole is effectively closed off. The underside of the concrete roof has several areas where the concrete is spalling revealing rusting reinforcement. The concrete was very damp with mould and staining indicating continuously damp conditions. It is assumed that the finish to the concrete roof, which was not viewed, would have been asphalt that has now become brittle, cracked and failed.

The inside of the front external wall on both storeys below the flat roof area was very damp with plant roots showing on the face this also affected the adjacent internal walls for part of their length. Otherwise the internal walls and internal faces of the external walls show little signs of damp, apart from areas affected by rain ingress through the roof openings and other damaged areas of roof. The ground and first floors appear to be solid concrete generally with a timber boarded finish in very poor condition. As far as could be seen the concrete floors were in reasonable condition. The stair is constructed in concrete with a very thin section, this appears to be in acceptable condition. No significant cracking was observed in the internal walls or the internal face of the external walls. Lintels and beams appear to be in satisfactory condition. Damage was observed to the lath and plaster top floor ceilings where the roof is leaking above. The decorative finish of the interior is extremely poor in every room.

There is a large porch built off the front of the building. The frame to the porch appears to be in reasonable condition but the covering is relatively modern and is in poor condition.

### **Building 146**

The Operations Block Building 146 is a single storey structure that is connected via a single storey corridor to the Station Offices Building 147 at the front.



The Operations Block Building appears to be in its original form with red brickwork solid external walls that are generally in good condition. The dpc appears to have been constructed with asphalt which has deteriorated and hardened with time and which has partly been extruded from the joint in many places. The effectiveness of the dpc may have been compromised in places. The parapet to the flat roof area over the west room that is almost separated from the main block is damp and stained in places. The concrete capping detail to the small length of parapet round the flat roof appears to be generally sound. The lintels and cills appear to be in reasonable condition. The lime mortar is badly eroded in many of the areas affected by damp and by water overflowing from ineffective rainwater goods. The mortar is also seriously damaged in the parapet area.

The majority of the building has a shallow pitched slate covered hipped roof while the north west side has a flat roof and west end room probably has a flat roof behind a parapet. The condition of the slate roof is poor with slipped slates forming holes in some places although work has been done to patch some areas. It is likely that the fixings for the slates have come to the end of their life as the holes appear to be caused by slippages not breakages of the slates. There are several vents and other penetrations of the roof with very poor flashing detailing which is causing local leaks. It could be seen that the leaks in the roof have caused damage to some of the timber rafters and ceiling joists, particularly at the eaves. The ridge and hip capping appear intact but uneven suggesting that the bedding is failing. Neither the roof over the west end room nor the flat roof to the north west rooms could be viewed. The roof to the link corridor with Building 147 appears satisfactory. The guttering, down pipes and hoppers are in very poor condition.



The internal walls and internal faces of the external walls show little signs of damp, apart from areas affected by rain ingress through damaged areas of roof. The ground floor appears to be solid concrete generally with a timber boarded finish in very poor condition. As far as could be seen the concrete floor is in reasonable condition. No significant cracking was observed in the internal walls or the internal face of the external walls. Lintels and beams appear to be in satisfactory condition. Damage was observed to the lath and plaster ceilings where the roof is leaking above.

### **Building 123**

The Station Armoury and Lecture Rooms Building 123 is a two storey Tee-shaped structure with a single storey section to the east. The building has a cellar below the central north part of the building accessed from the front. It was not possible to access this area although it was possible to see that there was a shallow depth of water flooding the basement.



The Station Armoury and Lecture Rooms Building appears to be mainly in its original form with red brickwork solid external walls apart from a small section at the east end of the single storey section which has been added relatively recently. The walls of the two storey section are in good condition. The dpc appears to have been constructed with asphalt which has deteriorated and hardened with time and which has partly been extruded from the joint in many places. The walls of the single storey section are generally in good condition apart from where they are affected by the damp penetrating from the roof area to the masonry below the parapet where there is water staining and damage to the mortar. The parapet to the flat roof area over the east single storey section is constructed in engineering brick that appears to be in reasonable condition however there are areas where plants are growing out of the mortar coursing. The capping detail to the parapet walls is a special blue brick on edge and appears satisfactory. The lintels and cills appear to be in reasonable condition as viewed from the outside. However the lintels over the openings in the south face of the single storey section appear to be deteriorating when viewed from inside. Damp appears to be penetrating through the parapet and the wall below the parapet, this moisture is reaching the head of the lintels and appears to be causing damage with considerable rust staining around the area. The south facing wall of the single storey section is very damp throughout its height. The chimney in the two storey section appears to be in satisfactory condition. The walls forming the stairwell down to the basement is in poor condition with cracks and spalling detectable. The cellar stairwell retaining walls are very damp with moss and plant growth between the courses. The mortar is generally in reasonable condition except in the cellar stairwell where it is seriously damaged.

The two storey section of the building is T-shaped and has a shallow pitched slate covered hipped roof. The condition of the slate roof is moderate with slipped slates observed from the outside. It is

likely that the fixings for the slates have come to the end of their life as the holes appear to be caused by slippages not breakages of the slates. There appear to be just a few leaks from the slate roof. The ridge capping is missing in places and the hip capping appears intact but uneven suggesting that the bedding is failing. The valleys appear sound. The flashing to the chimney appears to be in reasonable condition. It is likely that the some of the minor leaks in the roof may have caused damage to some of the timber rafters and ceiling joists. The guttering, down pipes and hoppers are in moderate condition.

The single storey east end of the building has an asphalt covered flat roof with parapets all round. The asphalt is old, cracked and has failed in numerous places. The most obvious failures are in the upstand of the asphalt on the inside of the parapet walls. In many areas these have cracked and fallen away from the parapet creating a scoop to direct water to the base of the parapet and the top of the concrete roof slab underneath the asphalt waterproofing. The flat roof covering was not inspected in detail so it is not possible to be sure if it has failed in every location, however it would appear likely that this is the case. The hoppers and down pipes are in moderate condition.



The internal walls and internal faces of the external walls show little signs of damp in the two storey part of the building. The ceilings and floors of this part of the building are generally in reasonable condition apart from one room that overlooks the flat roof where the finishes are generally mouldy. The stair is constructed in concrete with a very thin section, this appears to be in acceptable condition. In contrast the inside faces of the external walls in the single storey part of the building are generally damp and in poor condition. The ground floor appears to be solid concrete and in moderate condition. No significant cracking was observed in the internal walls or the internal face of the external walls. Lintels and beams appear to be in satisfactory condition in general but are in poor condition below the parapets on the south side as mentioned above, steel beams are built into the walls in this location and these are likely to be rusting. The finishes in the single storey section are generally painted only and in moderate or poor condition. Some of the windows in the single storey section below the parapet area have metal grilles fixed over the inside. These are corroding where they are built into the walls and beginning to cause damage to the walls.





### Building 119

The Fire Fighting Mechanical Transport (FFMT) shed is a large single storey store building. The building is rectangular and originally had opening doors along the full length of both long sides.



The Fire Fighting Mechanical Transport (FFMT) shed appears to be in its original form with red brickwork solid external end walls. The lower part of the side walls are openings with three large doors down each side, the upper part of the walls is a masonry parapet wall which is supported by a large concrete beam and overhanging band that runs all round the building. The end walls are in reasonable condition apart from the staining due to the rainwater overflowing from the three hoppers and down pipes at each end. The masonry parapet wall above the concrete band is generally in poor condition and there are areas where plants are growing out of the mortar coursing. There does not appear to be a special capping detail to the parapet walls and the tops are seriously damaged by frost. The concrete band course and overhang are in poor condition throughout with spalling of the top surface and staining of the underside in all locations. The mortar is generally in reasonable condition below the concrete band and in poor condition above.

The building has two shallow pitch duo-pitch roofs with hipped ends and with a valley gutter between, the roofs are formed of slate. There is also a valley all round the roof behind the parapet wall. The roof was not visible from the outside. The inside of the roof is lined with timber boarding. Several holes were observed in the roof mainly near the central valley. The roof is supported by a light weight steel truss arrangement supported on a deep steel beam under the valley. The truss members appear to be in reasonable condition generally but there was damage near the leaking areas of roof. The valley beam is damaged in places by the leaking roof. The roof is divided into several bays with columns on the outside edges and valley. The columns are formed from steel channel sections facing each other infilled with concrete. There is corrosion at the base of several of the columns. The rainwater is lead via the valleys to hoppers and down pipes, these are in moderate condition but are ineffective in most cases as the leadwork does not lead the water into the hopper and most is running down the walls.



The main doors down each side used to open one at a time. The east doors have been fixed shut and the central door has been taken off its track so that all the doors are in line. The west doors are still in their original places but do not look as if they could move. The doors are formed with a steel frame and cladding with a line of glazing top and bottom. The condition of the doors is very poor and they will need major refurbishment. The bottom tracks are very damaged.

There are a couple of internal walls at the south end subdividing the space. The condition of the internal walls and internal faces of the external walls is moderate and were generally damp. The floor is solid concrete and in reasonable condition. No significant cracking was observed in the internal walls or the internal face of the external walls. Lintels to some of the windows in the south end elevation show spalled concrete and rusting reinforcement while the remainder were generally damp suggesting similar problems. The whole of the inside of the building has a painted finish that is in poor condition.

### **Building 103**

The Link Trainer Building is a small single storey building. The building is mainly rectangular with a small entrance lobby. Entrance could not be made to this building nor could the roof be viewed.



The Link Trainer Building appears to be mainly in its original form with red brickwork solid external walls apart from the entrance area which has rendered masonry walls. The main part of the building has a concrete band at flat roof level with a brick parapet wall above. The lower parts of the walls of the main section are in moderate condition although there is some water staining and there are some frost damaged bricks. The parapet walls above are in poor condition. There are stepped cracks in some of the masonry at the parapet corners. There does not appear to be a special capping detail to the parapet walls and the tops are seriously damaged by frost. There are areas where plants are growing out of the parapet mortar coursing. The concrete band course is in poor condition throughout with spalling of the surface in many locations with rusting reinforcement exposed in some areas. The mortar is generally in reasonable condition below the concrete band and in poor condition above. The rendered entrance is in moderate condition with some poor areas where there is spalling and cracks. The concrete cills of some of the windows are damaged and spalling.

The flat roof to the main building could not be viewed. However the rainwater is lead to hoppers and down pipes, these are in moderate condition but they have overflowed in the past. The flat roof to the entrance appears to be of asphalt but it could not be inspected.

### **Building 105**

The Petrol Tanker Shed is a three bay single storey rectangular building.



The Petrol Tanker building appears to be mainly in its original form with red brickwork solid external walls and has three large garages with doors at both end of each garage. The walls have a concrete band at flat roof level with a brick parapet wall above. The lower parts of the walls are in moderate condition although there is some diagonal stepped cracking at both ends of the south western face and there are some frost damaged bricks. The parapet walls above are in poor condition. There does not appear to be a special capping detail to the parapet walls and the tops are seriously damaged by frost. There are areas where plants are growing out of the parapet mortar coursing. The concrete band course has a small projection to throw off water at the lower edge. The concrete is in poor condition throughout with spalling of the surface in several locations with rusting reinforcement exposed in some areas. The mortar is generally in reasonable condition below the concrete band and in poor condition above.

The roof appears to be flat but could not be seen. The roof rainwater is lead to hoppers and down pipes, these are in moderate condition but they have overflowed in the past. The condition of the roller doors could not clearly be seen but appear to be moderate. The concrete floors appear to be in moderate condition but were lower than some of the surrounding surfaces so are likely to flood occasionally.

### **Building 108**

The Type C Aircraft Hanger was occupied until 1993. It was not possible to view the single storey offices on both sides of the main space.



The Type C Aircraft Hanger appears to be in its original form with red brickwork solid external side walls. The lower part of the end walls are openings with six large doors each end, the upper part of the walls is a parapet wall which is supported by a large beam and overhanging band. The side walls are in reasonable condition. The masonry parapet wall above the concrete band is generally in reasonable condition. There appears to be a concrete capping detail to the parapet walls that look from the distance to be deteriorating. There is a concrete band course that is in moderate condition. There are large sections of glazing down the sides and these appeared to be in moderate condition.

The roof is formed with 12 shallow pitch duo-pitch roofs with hipped ends and with a valley gutter between, it was not possible to confirm the roofing material but it appeared to be a sheet material. The roof was not easily visible from the outside. The inside of the roof is lined with timber boarding this is in good condition. The valleys appear to be functioning and the whole roof appeared sound. The roof is supported by a light weight steel truss arrangement supported on steel lattice beams. The truss members appear to be in reasonable condition generally. The lattice beams appear to be supported by steel columns in masonry or concrete surrounds, these appear to be in good condition. The rainwater is lead via the valleys to hoppers and down pipes inside the building, these are in good condition.

The main doors at each end have been modified so that they no longer open fully as the outriggers to support them have not been maintained. The doors are formed with a steel frame and full height cladding on the outside with half height cladding inside. The condition of the doors is moderate with some corrosion that needs treatment and repainting. The bottom tracks are in reasonable condition. The outriggers that used to support the open doors are in poor condition and need corrosion treatment to remain standing.



The condition of the internal faces of the external walls is good. The whole of the interior of the hangar is painted, the paintwork is in good condition on the walls and moderate condition on the underside of the roof. The floor is solid concrete and in good condition.

### **Building 99**

The Main Workshop Building is single storey structure formed round a small courtyard. There appears to be a small cellar entered from the courtyard but neither the cellar nor the courtyard was accessible.

The Main Workshop Building appears to be in its original form with red brickwork cavity construction external walls that are generally in good condition, however there is some impact damage near the south east corner. The masonry walls to the courtyard appear to be in solid construction and in very poor condition, water leaking from above has reached steel grille items built into the masonry which are now rusting and lifting the masonry and roof above. The dpc appears to have been constructed with asphalt which has deteriorated and hardened with time and which has partly been extruded from the joint in many places. The effectiveness of the dpc may have been compromised in places. There is a flat roof area near the middle of the building that it is believed has a parapet wall but this was not visible. The lintels and cills appear to be in reasonable condition in most areas but a few lintels showed signs that damp penetration was affecting the concrete with evidence of spalling at the bottom, some concrete cills are deteriorating with sections missing of the face and underside. The lime mortar is badly eroded in some areas affected by damp and by water overflowing from ineffective rainwater goods. There are two brick chimneys, these could only just be seen but they appear to be in poor condition with plants growing from the tops and evidence of deterioration of the brickwork, it was not possible to view the flashing, although evidence from inside suggests that the flashing must be damaged.



The majority of the building has a shallow pitched slate covered hipped roof forming a U-shape while the lower central courtyard area has some flat concrete roofs. The roofs over the main spaces have lightweight steel trusses supporting timber purlins and boards. The truss members appeared to be in reasonable condition generally but there was damage near the leaking areas of roof. The main spaces have continuous glazed rooflights on both pitches covering about one third of the roof slope. The condition of the slate roof is moderate with a few slipped slates forming holes in some places. It is likely that the fixings for the slates have come to the end of their life as the holes appear

to be caused by slippages not breakages of the slates. The roof lights have been maintained recently but they are a cause of leakage and require further work to produce a permanent solution. The valleys are generally in a poor condition with leaks in all of them. It could be seen that the leaks in the roof have caused damage to some of the timbers, particularly at the valleys. The ridge and hip capping appears to be intact and in reasonable condition. The guttering, down pipes and hoppers have been replaced and are in reasonable condition.

The concrete flat roof areas are in very poor condition. The concrete appears to have an asphalt finish that has failed and water is penetrating the concrete roofs. This is sufficiently bad to affect the walls below. The underside of the concrete roof has several areas where the concrete is spalling revealing rusting reinforcement. The concrete was very damp with mould and staining indicating continuously damp conditions. Steel beam sections support one section of flat roof in the centre of the building which shows signs of continual damp penetration that is beginning to damage the steel beams.



The condition of the internal faces of the external walls is reasonable except in areas where there is damp penetration e.g. below the valley gutters. The whole of the interior of the building is painted, the paintwork is in poor condition throughout. The floor is solid concrete and in reasonable condition although one space has a parquet floor in poor condition over the concrete. The tree and other plants should be removed from the courtyard.



### **Building 90**

The Main Stores Building is a large rectangular single storey building with a smaller rectangular building attached to the north side.



The Main Stores Building appears to be in its original form with red brickwork cavity construction external walls that are generally in good condition. There is some impact damage to the south east corner of the main block with diagonal cracks and one missing brick. There is a vertical crack from the lintel of the opening adjacent to the south east corner. The smaller attached north part of the building has solid masonry walls that are in good condition. The dpc appears to have been constructed with asphalt which has deteriorated and hardened with time and which has partly been extruded from the joint in many places. The effectiveness of the dpc may have been compromised in places. The masonry has moved horizontally on the dpc due to thermal expansion but this is not a serious structural issue. The lintels and cills appear to be in reasonable condition in most areas but a few lintels showed signs that damp penetration was affecting the concrete with evidence of spalling at the face. The lime mortar is badly eroded in some areas affected by damp and by water overflowing from ineffective rainwater goods.

The main part of the building has a shallow pitched slate covered hipped roof forming a U-shape with a long thin area of flat concrete roof in the centre. The north part of the building has three duo pitched slate roofs connected by valleys. All the pitched roofs have lightweight steel trusses supporting timber purlins and boards. The truss members appear to be in reasonable condition generally but there was damage near the leaking areas of roof. The main spaces have continuous glazed rooflights on both pitches covering about one third of the roof slope. The condition of the slate roof is moderate with a few slipped slates forming holes in some places. It is likely that the fixings for the slates have come to the end of their life as the holes appear to be caused by slippages not breakages of the slates. The roof lights have been maintained recently but they are a cause of leakage and require further work to produce a permanent solution. The valleys are generally in a poor condition with leaks in all of them. It could be seen that the leaks in the roof have caused damage to some of the timbers, particularly at the valleys. The ridge and hip capping appears to be intact and in reasonable condition. The guttering, down pipes and hoppers have been replaced in a few places but the majority are in poor condition.



The concrete flat roof areas are in very poor condition. The concrete appears to have an asphalt finish that has failed and water is penetrating the concrete roofs. The condition of the flat roof areas is so poor that it has been propped in many places. The leaks are sufficiently bad to affect the walls below. The underside of the concrete roof has numerous areas where the concrete is spalling revealing rusting reinforcement. The rainwater down pipes are lead through the concrete flat roof giving more places for leaks.

The condition of the internal faces of the external walls is reasonable except in areas where there is damp penetration e.g. below the valley gutters and below the central flat roof. The whole of the interior of the building is painted, the paintwork is in poor condition throughout with smoke damage in one area. The floor is solid concrete and in reasonable condition. The roof in the smaller part is supported by ten steel columns that are in good condition except for one, which has been hit and deformed, although it is still structurally stable. There are numerous internal walls in the south part of the main building that do not appear to be original and are generally in poor condition with poor condition modern drop ceilings.

### Building 82

The Power House is a large single storey building although two thirds of the building is the height of a typical two storey structure. The inside of the building was only viewed from a doorway.



The Power House appears to be in its original form with red brickwork cavity construction external walls that are generally in poor condition. The brickwork is seriously affected by water and frost damage causing spalling of large areas. The dpc appears to have been constructed with asphalt which has deteriorated and hardened with time and which has partly been extruded from the joint in many places. The effectiveness of the dpc may have been compromised in places. The lintels and cills appear to be in moderate condition in most areas but a few lintels showed signs that damp penetration was affecting the concrete with evidence of spalling at the face, some concrete cills were deteriorating with sections missing of the face and underside. The lime mortar is badly eroded in some areas affected by damp and by water overflowing from ineffective rainwater goods. There is ivy growing over a large portion of the north east end of the building. There is a chimney at the north end of the building but it was not possible to assess its condition as it was fully covered in ivy

The building has a shallow pitched slate covered roof set at two levels for the high and low sections of the building. Both the pitched roofs have lightweight steel trusses supporting timber purlins and boards. The truss members appear to be in reasonable condition generally but there was damage near the leaking areas of roof. The condition of the slate roof is poor with slipped slates forming holes in many places. It is likely that the fixings for the slates have come to the end of their life as the holes appear to be caused by slippages not breakages of the slates. There is one roof light in the low roof that is entirely missing leaving a large hole in the roof. There is a timber lantern at the centre of the lower roof. The lantern is in very poor condition. It can be assumed that the leaks in the roof have caused damage to some of the timbers and boarding. The ridge capping appears to be intact and in reasonable condition. The guttering, down pipes and hoppers are in very poor condition.



The condition of the internal faces of the external walls is moderate except in areas where there is damp penetration. The whole of the interior of the building is tiled up to about 1.2 m and is painted above that, the paintwork is in poor condition throughout. The floor is tiled in the areas observed and is in moderate condition.

### **Building 92**

The Parachute Store is a small rectangular single storey building with a lantern along a large portion of its length.

The Parachute Store appears to be in its original form with red brickwork cavity construction external walls that are generally in reasonable condition. The lintels and cills appear to be in moderate condition. The lime mortar is in reasonable condition.



The building has a shallow pitched slate covered roof with a large timber lantern. The roof is formed with timber rafters and purlins supported by timber trusses. The truss members appear to be in reasonable condition generally although they appear to be deflected adjacent to the lantern. The condition of the slate roof is moderate with a few slipped slates forming a few holes. It is likely that the fixings for the slates have come to the end of their life as the holes appear to be caused by slippages not breakages of the slates. There is a timber lantern at the centre of the lower roof. The lantern is in very poor condition and the flat timber roof over the lantern area was badly affected by water penetration. It can be assumed that the leaks in the roof have caused damage to some of the timbers and boarding. The ridge capping appears to be intact and in reasonable condition. The guttering, down pipes and hoppers are in reasonable condition.

The condition of the internal faces of the external walls is moderate except in areas where there is damp penetration. The whole of the interior of the building is painted, the paintwork is in poor condition throughout. The floor is concrete and is in moderate condition.

### **Buildings 129, 130 and 131**

The Protected Long Bay and Motor Transport Sheds are a series of workshops and garages laid out round a square of hard standing.



The Protected Long Bay and Motor Transport Sheds appear to be in their original form with solid red brickwork external walls that are generally in reasonable condition. The fronts of all the building have roller shutter doors. The front of the southern end of the Protected Long Bay has been stressed and has become detached from the gable walls at either end. The roller doors are supported by a steel frame that is fixed to the adjacent brickwork, this brickwork has a large vertical crack at each end. The lintels and cills appear to be in moderate condition. The lime mortar is badly eroded in some areas affected by damp and by water overflowing from ineffective rainwater goods. The steel frames supporting the roller doors and roof above are in poor condition with the bases of the columns being seriously corroded.



The buildings have shallow pitched slate covered roofs. The roofs have lightweight steel trusses supporting timber purlins and boards. The truss members appear to be in reasonable condition generally but there was damage near the leaking areas of roof. The condition of the slate roof is poor with slipped slates forming holes in many places. It is likely that the fixings for the slates have come to the end of their life as the holes appear to be caused by slippages not breakages of the slates. It can be seen that the leaks in the roof have caused damage to some of the timbers and boarding. The ridge capping appears to be intact and in reasonable condition. The guttering, down pipes and hoppers are in very poor condition.

The condition of the internal faces of the external walls is moderate except in areas where there is damp penetration. The whole of the interiors of the buildings is painted, the paintwork is in poor condition throughout. The floors are concrete and are in moderate condition.

### Building 87

The Fire Party House is a small rectangular single storey building.



The Fire Party House appears to be in its original form with solid red brickwork external walls that are generally in reasonable condition. However very small vertical cracks were observed below the windows on three sides at the north western end. These do not appear to be structurally significant but may be caused by adjacent trees. The lintels and cills appear to be in moderate condition in most areas but a few concrete cills are deteriorating with sections missing of the face and underside. The lime mortar is in moderate condition. There is a chimney on the north east face that is in moderate condition although the top may be beginning to deteriorate.

The building has a shallow pitched slate covered hipped roof. There are ceilings in all the rooms so it was not possible to see the roof construction. The condition of the slate roof is reasonable. The ridge and hip capping appears to be intact and in reasonable condition. The guttering, down pipes and hoppers appear to have been replaced are in good condition.

The internal walls and internal faces of the external walls show little signs of damp and are in reasonable condition. The ground floor appears to be solid concrete generally. As far as could be seen the concrete floor is in reasonable condition. No significant cracking was observed in the internal walls or the internal face of the external walls. Lintels and beams appear to be in satisfactory condition. The plaster finish to the walls and ceiling are intact in all rooms except the garage which is painted only and in poor condition.



### **Building 89**

The Guard House is a single storey building at the entrance to the site. It was not possible to enter the building.



The Guard House appears to be in its original form with solid red brickwork external walls that are generally in reasonable condition. However vertical cracks were observed in the walls at the north west corner of the building very close to a tree. These appear to be being caused by the adjacent tree and do not appear to be structurally significant at present, however they are likely to continue to deteriorate and require repair in the future. The lintels and cills appear to be in moderate condition. The lime mortar is in moderate condition. There is a chimney on the north east face that is in moderate condition although the top may be beginning to deteriorate.

The building is mainly covered by a shallow pitched slate covered hipped roof. It was not possible to see the roof construction. The condition of the slate roof is poor with slipped slates in many places. It is likely that the fixings for the slates have come to the end of their life as the holes appear to be caused by slippages not breakages of the slates. It is likely that the leaks in the roof will have caused damage to some of the timbers and boarding. The ridge capping appeared intact and in reasonable condition. The hip coverings appear to be mainly missing and in poor condition. The guttering, down pipes and hoppers to the pitched roof appear to have been partly replaced and are in moderate condition with a few small sections missing.

The small areas of flat roof could not be viewed but appear to be of asphalt on concrete construction. The guttering, down pipes and hoppers to the flat roofs appear to have been partly replaced and are in moderate condition.

### Building 109

The Watch Office with Tower is located on the aerodrome and is a square three storey building.



The Watch Office with Tower appears to be mainly in its original form with red brickwork solid external walls with concrete bands and detailing. The ground floor of the building has a concrete band at flat roof level with a brick parapet wall above. The lower part of the walls of the ground floor section is in moderate condition although there is some water staining and there are some frost damaged bricks. The parapet walls above are in poor condition. There are stepped cracks in some of the masonry at the parapet corners. There is a concrete capping detail and parts are damaged by frost. The concrete band course is in poor condition throughout with spalling of the surface in many locations with rusting reinforcement exposed in some areas. The mortar is generally in reasonable condition below the concrete band and in poor condition above. The concrete cills and lintels to the windows and doors are generally damaged and spalling. The upper floors are similar with significant failures in the concrete elements of the band courses and the cills and lintels being seriously damaged particularly on the top floor where there are parts missing and gaps up to 30 mm wide.

The concrete flat roof areas are in moderate condition. The concrete appears to have an asphalt finish that has been repaired and appears to be mainly water tight. However there are signs of water

penetration of the top roof and small areas in the lower roof. The down pipes and hoppers are in poor condition.

The internal walls and internal faces of the external walls show signs of damp and are in moderate condition, poor in places. The ground floor appears to be solid concrete generally. As far as could be seen the concrete floor are in reasonable condition. The first floor appears to be of concrete construction and in moderate condition. The second floor is constructed of timber and is in poor condition. No significant cracking was observed in the internal walls or the internal face of the external walls. The plaster finish to the walls and ceiling is intact in all rooms but is in poor condition mainly due to damp penetration.



17 Buildings at RAF Bicester Technical Site					PART B2 APPENDIX 2
Structural Survey by Monson Engineering Ltd. June 2009					
Location of Work Required					
Building	External Walls	Roof	Waterproofing Details	Internal including Finishes	Others
Building 147 Station Offices Building	Repointing 20% Rebuild parapet wall 100% Advise add dpc below new parapet wall	Pitch roof repair 10% Advise remove all slates and re-fix Repair timbers 2% Flat roof re-finish 100% Repair concrete 20% Replace roof lights and hatches 100% Ridge / hip cappings re-fit 100%	Repair / replace guttering hoppers and down pipes 100% Repair / Replace flashings 100%	Re-plaster ceilings 80% Replaster walls 80% Refinish floors 70 % Redecorate 100%	Replace porch covering 100% Work may be required to the basement and access to the basement which are unseen
Building 146 Operation Block	Repointing 10% Rebuild parapet wall 100% Advise add dpc below new parapet wall	Pitch roof repair 10% Advise remove all slates and re-fix Repair timbers 2% Flat roof re-finish 100% Replace roof lights and hatches 100% Ridge / hip cappings re-fit 100%	Repair / replace guttering hoppers and down pipes 100% Repair / Replace flashings 100%	Re-plaster ceilings 100% Replaster walls 80% Refinish floors 100 % Redecorate 100%	
Building	External Walls	Roof	Waterproofing Details	Internal including Finishes	Others

Building 123 Armoury	Repointing 5% Rebuild parapet wall 10% Repoint parapet wall 100% Rebuild retaining wall to basement steps 10% Repoint stairs to basement 100% Repair concrete lintels 6 No. Advise add dpc below new parapet wall if possible	Pitch roof repair 5% Advise remove all slates and re-fix Repair timbers 1% Flat roof re-finish 100% Repair concrete flat roof 15% Replace roof lights and hatches 100% Ridge / hip cappings re-fit 100%	Repair / replace guttering hoppers and down pipes 100% Repair / Replace flashings 100%	Re-plaster ceilings 10% Replaster walls 5% Refinish floors 5 % Redecorate 100%	Check condition of steel beams in single storey section Work may be required to the basement which was unseen
Building 119 FFMT Building	Repointing 15% Rebuild parapet wall 20% Repoint parapet wall 100% Form new capping to parapet wall 100% Repair concrete roof level band and overhang 40% Repair concrete lintels 6 No. Advise add dpc below new parapet wall if practical	Pitch roof repair 15% Advise remove all slates and re-fix Repair timbers 4% Form new valley gutters 100% Ridge / hip cappings re-fit 100% Strip and repaint steel trusses 100% Replace steel sections in trusses 1%	Repair / replace hoppers and down pipes 100% Repair / Replace flashings 100%	Remove ceilings from subdivided rooms 100% Refinish floors 5 % Redecorate 100%	Strip and repaint steel beam under valley 100% Check condition of valley steel and repair damaged areas 5% Strip and repaint steel doors both fixed and moving 100% Patch repair steel doors 20%
Building	External Walls	Roof	Waterproofing Details	Internal including Finishes	Others

Building 103 Link Trainer	Repointing 20% Rebuild parapet wall 100% Advise add dpc below new parapet wall Strip render and repair brickwork below 15%	Flat roof re-finish 100%	Repair / replace guttering hoppers and down pipes 100% Repair / Replace flashings 100%	Unknown	
Building 105 Petrol Tanker Shed	Repointing 20% Rebuild parapet wall 100% Advise add dpc below new parapet wall Repair concrete roof level band and overhang 40%	Flat roof re-finish 100%	Repair / replace guttering hoppers and down pipes 100% Repair / Replace flashings 100%	None	Repair roller doors 50% Replace roller doors 50%
Building 108 Hanger	None	None	None	Re-paint roof underside of roof 100%	Strip and repaint exterior of main end doors 100% Repair steelwork to doors 5% Repair and repaint outriggers for doors 100%
Building	External Walls	Roof	Waterproofing Details	Internal including Finishes	Others

<p>Building 99 Workshops</p>	<p>Repointing 5%  Repair concrete lintels and cills 10 No.  Take down and rebuild top 50% of 2 No. masonry chimneys  Remove steel grille fixings from masonry 4 No. grilles  Locally take down and rebuild damaged masonry 1%</p>	<p>Pitch roof repair 5%  Advise remove all slates and re-fix  Repair timbers 4%  Flat roof re-finish 100%  Repair concrete flat roof 15%  Remove and refit roof lights and hatches 100%  Ridge / hip cappings re-fit 100%  Strip and repaint steel trusses 100%  Replace steel sections in trusses 2%</p>	<p>Repair / replace guttering hoppers and down pipes 100%  Repair / Replace flashings 100%  Repair / replace valleys 100%</p>	<p>Refinish floors 5%  Redecorate 100%</p>	<p>Check condition of steel beams in single storey section Work may be required to the basement and access to the basement which are unseen</p>
<p>Building 90 Main Stores</p>	<p>Repointing 5%  Repair concrete lintels and cills 6 No.  Locally take down and rebuild damaged masonry 1%</p>	<p>Pitch roof repair 5%  Advise remove all slates and re-fix  Repair timbers 4%  Flat roof re-finish 100%  Repair concrete flat roof 80%  Remove and refit roof lights and hatches 100%  Ridge / hip cappings re-fit 100%  Strip and repaint steel trusses 100%  Replace steel sections in trusses 2%</p>	<p>Repair / replace guttering hoppers and down pipes 100%  Repair / Replace flashings 100%  Repair / replace valleys 100%</p>	<p>Refinish floors 5%  Redecorate 100%</p>	<p>There are numerous internal non-structural walls in the south part. These together with false ceilings will require removal or repair works</p>



Building 82 Power house	Repointing 20% Repair concrete lintels and cills 8 No. Locally take down and rebuild damaged masonry 5%	Pitch roof repair 40% Advise remove all slates and re-fix Repair timbers 20% Refit roof lights and hatches 100% Replace lantern 100% Ridge / hip cappings re-fit 100% Strip and repaint steel trusses 100% Replace steel sections in trusses 5%	Repair / replace guttering hoppers and down pipes 100% Repair / Replace flashings 100% Repair / replace valleys 100%	Refinish floors 5% Redecorate 70% Clean and retain tiles in floor and walls 100%	Full extent of damage to interior not seen Remove ivy from structure
Building 92 Parachute Store	Repointing 5%	Pitch roof repair 15% Advise remove all slates and re-fix Repair timbers 20% Replace lantern 100% Ridge / hip cappings re-fit 100%	Repair / replace guttering hoppers and down pipes 100% Repair / Replace flashings 100%	Refinish floors 5% Redecorate 100%	Full extent of damage to interior not seen

Buildings 129, 130 & 131 workshops.	Repointing 10% Locally take down and rebuild damaged masonry 2% Strip and repaint steel frames and columns in elevations 100% Repair damaged steel column baseplates 20 No.	Pitch roof repair 20% Advise remove all slates and re-fix Repair timbers 10% Ridge / hip cappings re-fit 100% Strip and repaint steel trusses 100% Replace steel sections in trusses 5%	Repair / replace guttering hoppers and down pipes 100% Repair / Replace flashings 100%	Refinish floors 10 % Redecorate 100%	Repair roller doors 50% Replace roller doors 50%
Building 87 Fire Party House	Repointing 10% Repair minor cracks in masonry 5%	Pitch roof repair 5% Advise remove all slates and re-fix Repair timbers 2% Ridge / hip cappings re-fit 100%	Repair / replace guttering hoppers and down pipes 100% Repair / Replace flashings 100%	Refinish floors 5 % Redecorate 50%	Repair / replace timber sliding door 1 No.
Building 89 Guard House	Repointing 10% Locally take down and rebuild damaged masonry 2% Take down and rebuild top 20% of chimney	Pitch roof repair 20% Advise remove all slates and re-fix Repair timbers 10% Ridge / hip cappings re-fit 100% Flat roof re-finish 100% Repair concrete flat roof 15%	Repair / replace guttering hoppers and down pipes 50% Repair / Replace flashings 100%	Unknown	Interior not seen

<p>Building 109 Watch House with Tower</p>	<p>Repointing 25% Rebuild parapet walls at both levels 100% Retain and reuse capping to parapet wall 100% Repair concrete ground floor roof level band and overhang 25% Repair concrete lintels and cills 10 No. Repair concrete top floor roof level band and overhang 50% Advise add dpc below new parapet wall if practical</p>	<p>Flat roof re-finish 100% Repair concrete flat roof 15%</p>	<p>Repair / replace hoppers and down pipes 100% Repair / Replace flashings 100%</p>	<p>Re-plaster ceilings 50% Replaster walls 50% Refinish floors 5 % Replace / repair top floor 100% Redecorate 100%</p>	<p>Top balcony not seen</p>
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