AWE ATKINS

AWE Aldermaston, Burghfield and Blacknest
Historic Characterisation and Management Strategy

Final Report

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CONTENTS

1. INTRODUCTION

This document

This document provides a Historic Characterisation and Management Strategy for AWE Aldermaston, Burghfield and Blacknest. It has been prepared by Atkins for AWE, and it sits alongside a GIS based collection of data that can be used to manage the heritage resource of the sites. The document is a first for AWE, in that it draws together an evaluation of significance and proposals for management of the entire heritage of its sites - from the prehistoric period to the Cold War. The data within the AWE site GIS comprises:

- A layer that zones areas of the site according to their capacity for change (high, medium and low/no value).
- Plans showing Areas of Archaeological Potential, and phases of site development through time.
- Guidance for conservation and management contained within a linked database.
- Links to pre-selected data sets, maps and photographs.

A layer that zones areas of the site according to their capacity for change (high, medium and low/no value).

This report sets out the project methodology, and includes descriptions of the sites, the key significances of each, and provides a structure for future management of AWE's heritage.

The principles of characterisation and character based management strategies for historic sites

'Characterisation' is a means of understanding both the historic and recent development of a place which have contributed to its current distinctive character. It can be applied broadly at landscape level, but a finer grain of study is possible for urban areas or sites which fall between those categories, such as large industrial sites, small settlements, key military sites or coastal zones. The technique provides a comprehensive information base, as a starting point from which proposals for spatial planning and development can be considered. Characterisation also provides the basis for assessing archaeological potential and other environmental constraints, but focuses primarily on enabling change, rather than prohibiting it. The emphasis of Characterisation is on providing context – an understanding of the historic continuity into which current and future development should fit, if the distinctive quality of a place is to be maintained and enhanced.

Characterisation as a way of managing change in the historic landscape was pioneered in Cornwall in 1994, and has now developed into a major County level programme which covers more than half of England. Characterisation for Bletchley Park, the historic dockyards at Devonport and Portsmouth, and RAF Scampton are among the first examples of the application of Characterisation to military and industrial complexes. A county-wide characterisation for West Berkshire is almost complete, and work at AWE will need to be revisited to ensure the two are compatible.

Characterisation usually consists of the two broad phases carried out for this current project: Assessment and Strategy. Assessment is descriptive, and aids understanding. It is map based, and divides a site or landscape into character types or areas, identifying issues which contribute to the distinctive character of each as well as opportunities for future management. The Strategy proposes firm recommendations for the conservation and management of the site, to feed into spatial planning, often informing development plans, management agreements and planning policy.

Why AWE needs a heritage strategy

At the AWE sites, the heritage resource includes archaeological features such as the possible line of a Roman road, Grim's Bank, early park boundaries and avenues, the layout and buildings relating to the airfield and Royal Ordnance Factory, and of course buildings associated with AWRE and AWE development. Some of the existing buildings on the sites are quite unique to the United Kingdom and may be considered to be more important in heritage terms than the recognised archaeological features. Cold War sites are generally considered one of the categories of defence heritage which have been least understood and potentially most threatened by the process of disposal and redevelopment.

The Ministry of Defence (Defence Estates) is responsible for managing and maintaining historic buildings, landscapes and archaeology within its ownership. The care of MOD historic assets in accordance with the Government's heritage policy is defined by the 'Protocol for the Care of the Government Historic Estate' published by the DCMS (2003). The protocol encourages the MOD to conserve and maintain its historic environment and comply with heritage legislation. The DE produce factsheets to guide the MOD in terms of their heritage responsibilities as part of the 'Design and Maintenance Guides' and requires that heritage is dealt with as part of a broader Strategic Sustainability Appraisal.

AWE is obliged to look after its statutorily protected archaeology on behalf of the MOD and its company policy on the Environment sets out that the ecology and heritage of AWE sites are to be actively managed. It is already investing in the conservation and interpretation of Grim's Bank (a Scheduled Ancient Monument) and a number of archaeological evaluations and a research excavation have been carried out at Aldermaston and Burghfield. However, other important remains exist on the sites, including the layout and structures of the 1940s onwards. Some of these have already been recorded by English Heritage's Monuments Protection Programme and, as such, are also the MOD's responsibility to manage.

While there is currently no statutory obligation for the MOD to comply with heritage or planning law, it is anticipated that legislation to remove this immunity will come into force in the summer of 2006. Thus it will be necessary to adhere to the policies and proposals for development and land use set out in West Berkshire's District Local Plan 1991-2006 and relevant Supplementary Planning Documents, and to all new Local Development Framework documents as they are adopted to replace that District Local Plan. A heritage strategy will provide AWE with the framework for managing its heritage in this new planning context. The new planning laws will bring local planning authorities and statutory bodies such as English Heritage (through PPGs 15 and 16 and future PPSs) into the decision making process on site. If major heritage issues arise, before or during development work, then the process for obtaining permissions and discharging planning requirements may become lengthy, and delay projects. In addition the need for repetitive archaeological and heritage studies to support individual planning applications will be costly. An agreed baseline will save time and money. The heritage strategy will also allow AWE to ensure that the environmental consequences of projects are identified and assessed in line with the EIA Directive (EU legislation 1985, amended 1997).

Future planned changes to heritage planning policy and legislation (DCMS 2004 'Heritage Protection Reform - the way forward') will also devolve more responsibility to local authorities for heritage management, and the use of 'Management Agreements' will be more widely applied. These agreements will form an agreed baseline between land owners and authorities, within the parameters of which changes and developments will be enabled.

English Heritage interest in the AWE sites is growing, independently of changes to the planning system. A number of recent English Heritage publications and research documents mention the AWE sites by name and highlight the importance of specific buildings such as the Gravel Gerties at Burghfield, and R61 and A1.1 at Aldermaston (Cocroft & Thomas, 2003).

A number of English Heritage surveys of the MOD estate have been carried out, including a 'Survey of Military Aviation Sites' (Lake 2001) and 'Cold War Monuments: an assessment by the Monuments Protection Programme' (English Heritage 2001). A number of other publications also deal with this resource, including 'Modern Military matters: studying and managing the twentieth-century defence heritage in Britain', a discussion document edited by John Schofield (2004); 'Cold War, Building for Nuclear Confrontation 1946-1986' by Wayne Cocroft and Roger JC Thomas (2003); 'Monuments of War: the evaluation, recording and management of twentieth-century military sites' (English Heritage 1998); 'Military Wall Art: Guidelines on its significance, conservation and management', (English Heritage 2004).The importance of our historic airfields is made clear in English Heritage's 'Historic Military Aviation Sites Conservation management Guidance' (2003).

To summarise, the benefits of having a strategy in place at AWE for dealing with heritage issues are:

- MOD requirements for the way in which environmental issues are managed on sites in its ownership can be met
- AWE can be sure that they are aware of heritage issues in the design of individual projects, and manage the risk of delay though early mitigation
- Information is readily available to inform the planning process, as this changes in the near future

In addition, AWE can use heritage work developed from the strategy to generate positive publicity, potentially useful in terms of local and wider public relations.

2. METHODOLOGY

The project scope

Characterisation
The methodology for Characterisation at AWE follows the template project design for 'Characterising Heritage Places' issued in draft by English Heritage in October 2003. Specific details of the methodology employed at AWE, and described below, were agreed between AWE and Atkins Heritage in January 2005.

The work covers AWE Aldermaston, AWE Burghfield and AWE Blacknest. For security reasons, not all areas of the sites were viewed from within, in particular the Technical area at Aldermaston, and the Gravel Gerties at Burghfield. Maps, photographs, oral historical evidence and the AWE Aldermaston buildings database were used instead.

Management Strategy
The Management Strategy takes the form of proposals for the management of buildings, landscape and archaeology resources in the following broad categories:

- Retention or enhancement of features or buildings, where capacity for change is low
- Recording of features or buildings prior to their removal or alteration
- Restoration of significant features or buildings where possible
- Collection, interpretation and publication of information
- Archaeological work

Sources

Primary sources used in the production of the Characterisation and Management Strategy comprise the following:

- The AWE building databases, accessed through the AWE Intranet.
- Tithe, Estate and 1st and 2nd edition OS maps to develop an understanding of the effect the sites have had on the surrounding landscape, and to trace their development in recent history.
- A map of Aldermaston airfield as it appeared during the Second World War provided by the RAF Museum at Henley-upon-Thames.
- Aerial photographs of AWE Aldermaston provided by AWE.
- A collection of archive data for AWE Aldermaston, assembled by WS Atkins Consultants Ltd in 1996, to assist in the raising of awareness of the heritage of the site.
- The historic data was to be used to produce a series of pamphlets, information sheets and handbooks for both staff and the general public. The data included historic maps, photographs, prints/drawings, newspaper cuttings and personal accounts.
- West Berkshire Council Sites and Monuments Record (SMR) for information relating to archaeological sites within a 1km radius of the sites and an overview of the known archaeological and built heritage resource of the immediate area.
- Informal conversations with current and former site employees for additional information about particular buildings and areas.

A number of secondary sources were also consulted, including:

- The Grim's Bank Management Plan (WS Atkins Consultants Ltd, 2001).
- 'Keeping the Peace: The Aldermaston Story' (Hawkings, D J, 2000) which identifies key periods, incidents and developments in the site's history. It also discusses the contribution of Burghfield and Blacknest to the development of Britain's nuclear deterrent.
- 'Cold War: Building for Nuclear Confrontation 1946 – 1989' (Cocroft, W & Thomas, RJC, 2003), an English Heritage publication which assesses the importance of the sites to the understanding of England's Cold War heritage.
- A report on Cold War Monuments prepared as part of the Monuments Protection Programme in 2001. Special mention is made of the 'Gravel Gerties' at Burghfield.

- The independent research by Gordon Timmins into Aldermaston, Burghfield and the surrounding area. This work is self-published, and copies are held at the AWE Aldermaston Library. Gordon's work includes: 'Aldermaston Airfield Postwar 1946-1950', 'Tadley, A Village History', and 'Beorhfeldinga now known as Burghfield'.

The process of characterisation

The principle behind historic characterisation is simple: it is to map the historic dimension of today's landscape in broad areas rather than individual sites, measure the commonplace and the locally distinctive, and to determine significance based on time depth and survival. There are several stages to the characterisation process, the first in which the landscape is identified, mapped and described and a second in which value judgements are applied.

The first stage in this process involves the collection of baseline historical data and analysis of the data to identify character areas and values. The character areas are identified according to their immediately distinguishing attributes, such as:

- Age
- Form
- Materials

The defined hierarchy of key values used to evaluate the areas include: Survival, (including setting); Complexity; Function; Documentation; Rarity; Group Value; Technical Value and Social Value, all of which have been measured in relation to the character areas.

Development of phase plans

Phase plans have been produced that show the main periods of development common to all three sites. The plans show the extent and development of major areas and key features in each phase. The following phases are mapped on plans of each of the sites:

Identification of Areas of Archaeological Potential

Archaeology is potentially a rich asset at AWE. A number of archaeological evaluations and a research excavation have been carried out at Aldermaston and Burghfield but there is still much about the history of the sites which is obscure. Archaeological investigation is needed in areas of the sites to confirm how these sites fit into the wider historic landscape.

Prehistoric	500,000 BC – AD43
Roman	AD43 – AD450
Early medieval & medieval	AD450 – 1546
Post-medieval	1547 – 1901
Cold War 50s	1949 - 1959
Cold War 60s	1960 - 1969
Cold War 70s	1970 - 1979
Cold War 80s	1980 - 1989
Post-Cold War	1990 - 2005

Based on research into the known archaeological resource within the surrounding area, plans have been developed showing the likely archaeological potential within the three sites. The following Areas of Archaeological Potential have been identified:

- AWE Aldermaston: Grims Bank, the possible Roman road, areas of the WWII Airfield, areas of medieval parkland.
- AWE Burghfield: Possible prehistoric remains, a post-medieval farmhouse and original ROF structures such as pillboxes and storerooms.
- AWE Blacknest: possible prehistoric to post-medieval remains, the site of a post-medieval farm.

Development of the GIS

AWE's GIS was examined to determine how best to present the results of the Characterisation and Management Strategy, so that they can be used as an effective planning tool.

The following data sets form the package accessible through the Heritage portal on the GIS:

- The Character Areas
- Areas of Archaeological Potential
- Phase Plans
- Other data sets available through links, e.g. contamination data, building database, service plans, utility plans
- SMR (Sites and Monument Record) data from West Berkshire Council

- 1st and 2nd Series OS maps, early site layout plans and airfield plans
- Aerial photographs of AWE Aldermaston, supplied by AWE, from:
  - The early 1930s
  - The mid 1970s
  - The early 1990s

Development of the database

A database has been constructed to record the description and assessment of each character area according to fixed criteria used to determine character and value. The criteria are each represented by a database field, listed and described below with written examples of the kind of information recorded in each field. The database is linked to the GIS and can be queried in relation to each character area.

As information relating to the site is acquired through other studies of the site, the database can be developed, and additional data added.

AWE Aldermaston, 1990s

Field	Description
ID	Each character area is given a unique identifier to prevent duplication or key violation
Name	Character area name
CHARACTER DESCRIPTION Buildings Key	Buildings within the Character Area that have been identified as being significant
CHARACTER DESCRIPTION Form	Layout/plan Function Associations Complexity Survival Archaeology
CHARACTER DESCRIPTION Function (multi-entry)	Administration Laboratory Store Testing Other
CHARACTER DESCRIPTION Archaeology	Grim's Bank Roman Airfield
CHARACTER DESCRIPTION Flows	Free text, identifying the direction of movement through the area
CHARACTER DESCRIPTION Experience	Free text, identifying the overall feel of the area
CHARACTER DESCRIPTION Date of Use	Dates of construction and abandonment
VALUE ASSESSMENT Survival, including setting	As built, Building features adapted but plan form intact, Buildings altered/extended but plan form intact, Integrity of plan form compromised, Plan form no longer legible

VALUE ASSESSMENT Complexity	Continuous single use, historic to present Multi-period, varying use to present day Multi-period, varying use, abandoned Single use and abandonment
VALUE ASSESSMENT Technological value	Free text, listing significant technological processes
VALUE ASSESSMENT Rarity	Particularly rare features or layout
VALUE ASSESSMENT Group value	Features of the area that contribute towards the group value of the site
VALUE ASSESSMENT Documentation	The presence and location of any surviving documentation relevant to the area or facilities within it
MANAGEMENT ISSUES Current Use	Current use of the area as of 2006
MANAGEMENT ISSUES Capacity for change	High – change will not affect heritage significance Medium – change may affect heritage significance, or will affect it to a small degree Low – change will affect heritage significance to a large degree
MANAGEMENT ISSUES Management	Management opportunities

Launching the Characterisation & Management Strategy

The Characterisation and Management Strategy will be loaded onto the AWE site GIS for use by:

- AWE Project Managers involved in site development; and
- Archaeological advisors on AWE projects, who need the datasets and baseline information presented in the GIS to weigh up against the impact of individual projects.

In order for the Strategy to be effective in informing the planning process, the commitment of outside consultees (the MOD, Local Authorities, English Heritage) to its findings will be sought at the earliest possible opportunity.

Ascribing Value

As when applying the statutory criteria used by the Secretary of State for Scheduling Ancient Monuments, none of the particular values identified here take precedence over another, e.g. good survival does not make an area more or less significant than one demonstrating a particular technological value. The criteria should be regarded as indicators that contribute to a wider judgement based on the combine values of an area.

Area A19 WWII Bomb Stores near Grim's Bank

3. TOPOGRAPHIC, ARCHAEOLOGICAL & HISTORIC BACKGROUND

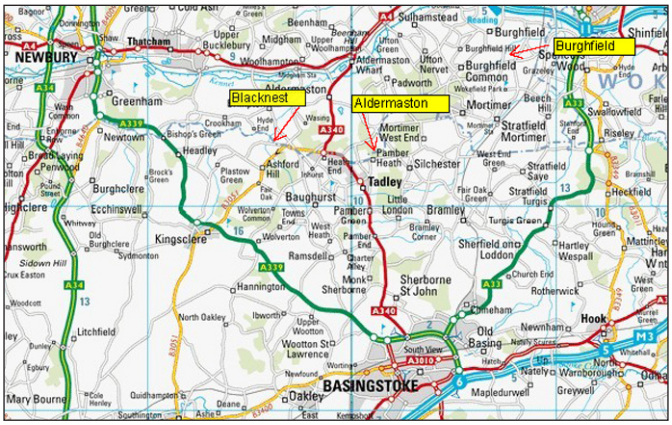
Introduction

As a first stage of the characterisation process, data about the character of the sites and a full archaeological background has been researched. This has enabled the known heritage (early and twentieth century) resource to be put into context, and provides an understanding of it's development. The background informs assessment of the likelihood for buried archaeological remains to be found at the three sites. It also assists in establishing the importance of the resource in its local, regional, national and international context.

Topographic and Geological Background

The sites of AWE Aldermaston, Burghfield and Blacknest lie within the county of West Berkshire, and within the parishes of Aldermaston, Burghfield and Brimpton respectively. The largest big towns are Reading to the east and Newbury to the west. AWE Aldermaston lies about 1 km to the east of Blacknest, and Burghfield lies roughly 11 km to the east of Aldermaston.

Locations of Aldermaston, Burghfield and Blacknest



AWE Aldermaston is located just less than a kilometre to the north of the town of Tadley, and is separated from the main settlement by Tadley Common. It lies within a predominantly rural location, within an area previously occupied by the Aldermaston Estate (Timmins, 1999). The site retains some of the original estate features, including Decoy and Fish Pond. Modern housing development has now extended to the southern boundary of the A340 which borders the site to the south. To the east and west of the site are small deciduous and conifer plantations interspersed with individual houses and small settlements. To the north lies Aldermaston Manor and it's grounds.

AWE Burghfield is located within a rural setting, surrounded by open arable fields and small, isolated settlements. The village of Burghfield is located c1 km to the north-west of the site.

AWE Blacknest is within the small village of Brimpton Common, less than a kilometre south of Brimpton. It sits within a predominantly rural setting, with the larger settlement of Heath End lying 1 km to the east. The site is surrounded by small deciduous plantations and open common and privately owned land.

The great plateau on which the sites are situated formed on the drift gravel of the Kennet river basin. These lie on beds of Oxford Clay, formed in the Jurassic period, which underlie the whole Thames Valley. The gravel 'Bagshot Beds' have become severely eroded, now existing only in patches. The gravel sheet consists mainly of sub-angular flints that have become rolled and water worn. Due to the (acidic) composition of these gravels and dense clays, the soil in the area makes a poor base for arable use (Countryside Agency 1999) but good for heather and gorse.

The area comprises a distinct stretch of unenclosed heathland and coniferous forest developed following prehistoric clearance of natural woodland for grazing and cultivation. The once extensive heathland is now largely fragmented and degraded but the landscape still maintains its open and 'heathy' character. Here, the varying seasons and weathers change the character of the open landscape through the year from colourful and exhilarating in summer to sombre and bleak in winter (Countryside Agency 1999).

Historic Background

The whole area around the three sites has a complex history of human intervention containing many known and many more potential sites of archaeological interest. Henges, long and round barrows, linear bank and ditch earthworks such as Grim's Bank, Roman settlements, traces of ancient field systems and lynchets are all frequent and characteristic features of the historic landscape of the region, as well as features representing 20th century activities and development.

Picture: Archaeological Site Location Plan

The early Prehistoric (Palaeolithic to Mesolithic) periods - 500,000BC to 4,000BC

Although some Palaeolithic occupation of the Thames Valley is indicated by flint finds from the period, these finds have been found in the more amenable irrigated floodplains (Cunliffe 1993, pp 5 – 35) and none have been recorded close to any of the AWE sites. There is unlikely to have been activity here before the Mesolithic period within the area when archaeological evidence indicates the existence of small scattered groups of people along the banks of the River Kennet (Cunliffe 1993, pp 36 - 74). These groups gradually shifted from the riverside to what was probably good grazing land on the edge of both plateau and floodplain.

Mesolittic tranchet axe

A Mesolithic flint tranchet axe was found on Burghfield Common, close to AWE Burghfield. Gravel quarrying nearby also recorded flint blades from the era. The position of the findspots near the course of Burghfield Brook, which crosses the AWE site indicates the importance of the water courses for Mesolithic activity in the area (West Berkshire SMR).

The Neolithic period - 4,000BC to 2,300BC

During the Neolithic period, the region is likely to have consisted of open pasture. Because Neolithic settlement was transient and temporary it is often difficult to identify. However, the potential for settlement is often indicated by concentrated findspots. Concentrations of flints have been recorded close to all three AWE sites by the West Berkshire Sites and Monuments record.

Flint flakes, end scrapers and burnt flint (SMR WB14523) have been recorded in Barn Ground field, to the west of the farmhouse at the Blacknest site (SMR WB11505). A concentration of flint finds was also discovered in the north of the site (SMR WB11505) in Old Barn Close Field. A Neolithic axe was found near to a round barrow on the eastern edge of Brimpton Common (SMR WB1066).

At Burghfield a prehistoric flint flake was found (SMR WB15615) just outside the south-east corner of the

Neolithic axe from Greenham Common

AWE site, flint flakes (SMR WB15614) just outside the eastern boundary in the field below Burnthouse Farm, and Neolithic pottery (SMR WB6482) to the north of the site at Amner's Wood. These illustrate the spread of activity from the banks of the Kennet to the outlying pasture areas.

At AWE Aldermaston there is less evidence for Neolithic activity, but a number of flint tools were found during the construction of the Aldermaston-Brimpton pipeline.

The Bronze Age - 2,300BC to 700BC

By the Bronze Age, the area seems to have been part of a potentially widespread funerary landscape with burial mounds (barrows) being recorded throughout the region, although it is possible that Grim's Bank, the linear earthwork situated in the north-eastern corner of the site at Aldermaston, also dates to this period. The heathland would have been suitable for animal pasture and grazing. Settlements may have been concentrated nearer to the River Kennet.

Bronze Age funerary landscapes were often situated in areas devoid of human habitation. Clusters of barrows at Mortimer Common and at Borson Cottages at Brimpton Common attest to ritual use of the plateau at selected sites. The discovery of pottery finds close to AWE Aldermaston include a buried cinerary urn (SMR 10647) thought to have been found in Wasing Park.

Bronze age cropmarks - examples from the region

Bronze Age settlements in Britain are characterised by small groupings of structures: circular dwellings and animal corrals. Evidence for settlement and agricultural activity around and within AWE Burghfield in the Bronze Age is common. In Amner's Wood, just outside the site boundary to the north, a ring cropmark is identified in the SMR WB3014) along with nearby ditch features (WB3013).

During this time the area around Blacknest would have been largely heathland. The height of the terrace will have made good pasture land for livestock, with water nearby. Findspots just outside the Blacknest boundary indicate an inhabited landscape that was probably farmed. Pottery recorded in a gravel pit opened at Lane End in 1937 just outside the northern boundary of the Blacknest site was dated to the Late Bronze Age or Early Iron Age (SMR WB3689).

The Iron Age - 700BC to AD43

Iron Age activity in the region is mainly represented by enclosed farm sites featuring rectangular enclosures and related field layout (Cunliffe 1996, pp 165). The area was occupied by the Iron Age tribe known as the Atrebates.

At AWE Aldermaston Iron Age activity is possibly represented by Grim's Bank. This section of Grim's Bank is part of a much larger monument that runs for three miles from Ufton Nervet to AWE Aldermaston. Previous studies have suggested that the Bank was constructed sometime between the Late Iron Age and the Late Roman period, although it is possible that the monument in fact has its origins in the Bronze Age. Many sections of the monument still survive. Each section is slightly different in character and state of preservation reflecting the surrounding land use and topography. The section of Grim's Bank within the site is probably the best preserved, with the bank standing at 3 metres high (WS Atkins, 2001).

The actual origins and purpose of Grim's Bank have yet to be fully understood, however a number of theories have been put forward:

- That it is a defensive earthwork associated with the Iron Age and subsequent Roman settlement at Silchester
- It is a boundary demarcation between different Iron Age social groups
- It is the boundary of an area of pasture clearance or enclosure.

The excavation of a section of the bank in 1978 by Grenville Astill of the University of Reading, just outside the AWE area included pollen analysis. The results indicated that the stretch predated the Roman period, having been constructed in an open environment of heathland, predating the introduction of pine woodland. Astill also concluded that the area had not been settled prior to the construction of the earthwork, supporting the hypothesis that the landscape was funerary and uninhabited in the Bronze Age (WS Atkins, 2001).

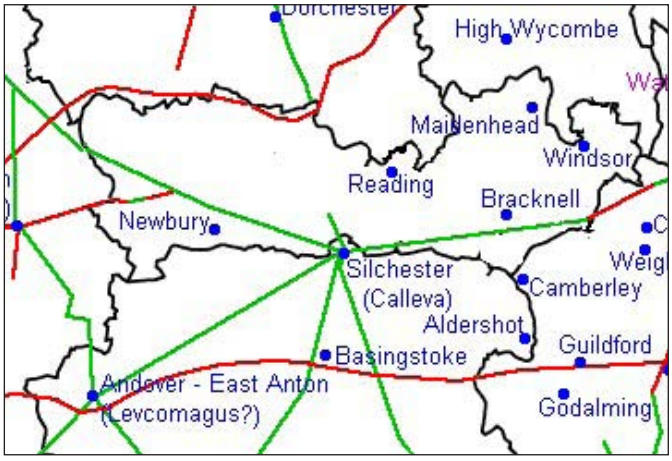
Further evidence for Iron Age activity within the wider region was recorded during excavations at Aldermaston Wharf in 1977. A Middle Iron Age assemblage of flint tempered wares, jars and saucepans was recovered, dating the site to the 3rd-1st centuries BC. Further excavations at Ufton Nervet in 1974 also recorded a similarly dated site (Proceedings of the Prehistoric Society, 1980).

Although no confirmed Iron Age finds have been identified within, or in the immediate vicinity of AWE Burghfield, the development of the Kennet River and gravels to the north of AWE Burghfield has yielded five cremation-burial vessels produced by the Belgic tribes that occupied the area before and during the Roman period.

During the Iron Age, the area now occupied by Blacknest may not have differed significantly from the Bronze Age. The lack of any evidence from the site, however, may suggest a decline in population in the period. The excavation of cropmarks adjacent to one of the Borson Barrows (SAM 122343), 400 metres to the east of the site, revealed a ringed enclosure, two circular gullies and a four-post structure, all apparently unassociated with the barrow. They probably represent an Iron Age farmstead, indicating both the decline in ritual significance of the barrow and a continuance of farming use in the vicinity with more permanent settlement on higher ground (West Berkshire SMR).

The Roman period - AD43 to AD450

Following Roman arrival in Britain, the local tribe, the Atrebates, allied themselves with Rome. A major administrative capital of Roman Britain, known as 'Calleva' was located 3 km south-east of AWE Aldermaston, close to the village of Silchester. It was located at a meeting place of roads that spread across Britain. One of them, the road to Cirencester (Corinium) passes through AWE Aldermaston, entering it between the southern terminus of Grim's Bank, and Decoy Pond (Cunliffe 1993, pp 237 – 263).



Roman roads in Berkshire (www.Romans-in-Britain.org.uk)

Calleva has long been associated with Grim's Bank which was once thought to be it's the outer boundary. It is possible that the bank was constructed or fortified using the Iron Age structure (WS Atkins, 2001).

Within 500 metres to the north-east of AWE Burghfield, a large ditch system, probably forming part of a larger field system (SMR WB6431) indicates the agricultural use of the area at this time, although no evidence of an associated Roman settlement or farmstead has been identified. (West Berkshire SMR).

There is no archaeological evidence for Roman settlement in the immediate vicinity of AWE Blacknest, although it is probable that the area continued to be farmed. The land is suitable for settlement due to it's position next to the River Enborne.

The main road to the south of Brimpton Common and Blacknest Farm (the B3051) may well follow the route of a Roman road.

The early Medieval period - AD450 to 1066

A Saxon settlement at Aldermaston is recorded in the Domesday Book of 1086, as Eldermanestone, the 'Alderman's Town'. It was identified as 'king's land', an estate formerly in the hands of the Saxon Royal Estate. Local myth has William the Conqueror stopping overnight on the estate with his army en route to London in 1066, thus giving rise to the tale of the Conqueror's tree, a feature on the area's old maps (Bettey, 1986 pp 5 – 23).

The area around AWE Burghfield at this time appears to have remained in pastoral and agricultural use. By the time of the Domesday survey the area was likely to have contained extensive lands for pasture and agriculture.

The location of Burghfield Place Farm, which has it's origins at this time close to the boundary of the AWE Burghfield site, strongly indicates the potential for the land enclosed to have been within the farm boundaries (Timmins, G, 1998).

The Domesday Book also records two manors in Brimpton, one of which was later presented to the Knights Hospitallers. Much local farming would have been for the support of this community (Bettey, JH, 1986). It is likely that the area became more densely settled during the period. A Saxon charter of 944 suggests that some kind of planted hedge or enclosure on the site was established enough to become a formal boundary. The charter commends the Saxon town of Brinningge (the town name being of a likely Celtic etymology) and eight hides of land around it to the thegn, Ordulf, a minister of King Edmund's.

The Medieval period - 1066 to 1547

The early medieval period in this part of West Berkshire was characterised by sheep farming for the wool trade, but the Black Death greatly affected the area, and as a result of the drop in population, local market towns and settlements slowly began to decline.

Like many Saxon estates, confiscated from the Saxons and awarded to invading Norman families, Aldermaston was granted by Henry I to Robert Achard on the King's accession in 1100, probably in recognition of the Norman family's involvement in the Conquest. The family held the Aldermaston Estate until 1361 when it passed to the De la Mare family. From the De la Mares it passed to the Forster family and then to the Congreves in whose hands it remained until the death of William Congreve in 1843 (Bettey, JH 1986).

During the Norman period, much of the area now occupied by AWE Aldermaston was probably part of the manorial hunting grounds of Aldermaston. Various permits were obtained for different kinds of hunt, and in 1202, William Achard, lord of the manor of Aldermaston, received royal consent to 'impark his thicket', denoting the creation of a deer park. Achard was possibly protecting a park that had existed before the invasion, but this has not be substantiated. Deer parks became increasingly popular in this period, reaching the height of their popularity around 1300 (Nash Ford).

The wool trade brought relative prosperity to much of the area, but it meant the loss of arable land, now converted into sheep pasture. This meant lost homes, lost lands, lost jobs and lost rights for many farming tenants. This was exacerbated by the 16th century trend of engrossing or combining several farms, or creating private parks out of fields and common land. There were also major changes of landownership precipitated by the Reformation and subsequent Dissolution of the Monasteries (Nash Ford).

By the medieval period, Burghfield Place on the western boundary of the AWE site was probably in existence. The SMR includes a moated pightle (small meadow or paddock) (WB15478) immediately east of the site boundary above Burghfield Place Farm. (Timmins, G, 1998).

It is likely that other farms, including the site of Saunders Court Farm on Burghfield Brook in the middle of the site, and associated dwellings also existed within what is now the AWE site boundary. Blacknest Farm was established in the medieval period, which suggests a high archaeological potential for the period, though the reuse of building materials and the removal of disused sites may preclude any structural remains from the period.

The Post-medieval period - 1547 to 1901

The wool trade continued into the post-medieval period. The development of the large neighbouring towns of Newbury and Reading meant that there were plenty of nearby markets (Nash Ford). At Aldermaston, 19th century Enclosure increased the size of Aldermaston Estate. Little Heath, including a stretch of Grim's Bank, became part of Aldermaston Park. At the time of the acquisition (1814) the area seems to have been used for pasture (Timmins, G 1999). In 1550 the acreage of the estate was 286, but by 1883, when the estate was under the ownership of Higford Burr it had become 2778 acres. Burr purchased the Aldermaston Estate shortly after the death of William Congreve. The original building at Aldermaston Court had burnt down in 1841, a tragedy that precipitated Congreve's death, and effectively ruined the family. It is also the probable reason that so few estate papers survive (Timmins, G 1999).

A new house was built in 1843. The estate, for the first time since the Norman Conquest, had passed out of the lineage of the Achards. What is now the AWE Aldermaston site remained part of the park.

At Burghfield, the site was farmland for most of the post-medieval period. Its proximity to Burghfield Place Farm probably meant that most of the site was enclosed from early on. By the time of Rocque's Map of 1761, the field boundaries are much the same as they were in the first half of the 20th century (Timmins, G, 1998).

Aldermaston Court, built 1843

The 1824 Greenwood map depicts an extensive farm structure at Saunders Court Farm. By the first edition Ordnance Survey, another building within what is now the AWE site, Robin's Cottage, was situated in the north-east corner of the site. Also depicted is Kent's Green, south of Saunders Court Farm by the southern boundary. This may have been a small roadside area of common land suggested in earlier maps. It seems to have been enclosed by the early 19th century.

By the 16th century Blacknest Farm is likely to have been established. The area around Blacknest was also subject to significant enclosure. In 1815, Blacknest was in the possession of William Goddard, who acquired the triangular section of Brimpton Common to the west of the AWE site, and also the eastern edge of the AWE site through enclosure. The latter strip became largely garden land, while its northern reach featured several small buildings including Lane End Cottage.

The Tithe map of 1815 depicts Blacknest Farm's fields and existing buildings. These are mainly centred on the farm site, including the house itself. The field names, including Old Barn Close and Barn Ground give an indication of the situation of previous buildings, possibly before the area was amalgamated into a single farm site.

On the death of William Goddard, the whole estate was auctioned, including the Pineapple Public House, several cottages and part of Brimpton Common. The whole was purchased by John Arundel, whose family owned the remaining parish land not in the possession of Falmouth or the Goddards. It was later bought by Peter Dollar who rebuilt the farmhouse almost entirely in 1903, though it was thought that the original cellars had been incorporated into the new house.

Blacknest in the 1930s

The 20th Century

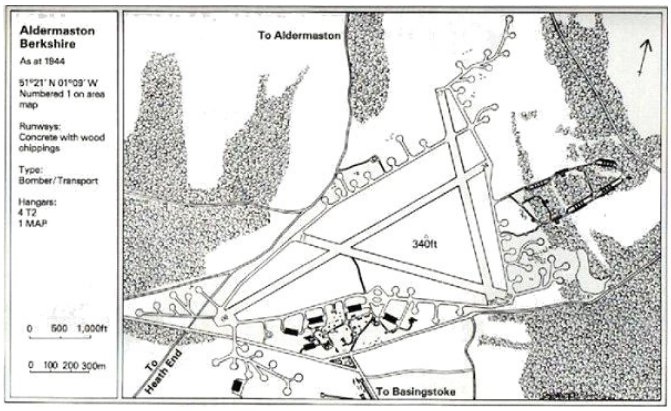
In the 20th century, Berkshire became the location for a number of military installations such as the AWE sites, Farnborough Airfield and also Greenham Common airfield (Hawkings, D J, 2000), due to it's flat topography and proximity to London and the Channel.

The Second World War

IIn 1942, the topography of Aldermaston, with it's associated good visibility, and its good drainage meant that it was a prime choice for the siting of a military airfield. The Second World War requirement for new airfields increased the pre-War total of 150 to 740. Most of these were only intended to last for the duration of the war (Hawkings, D J, 2000).

Aldermaston was designed as a bomber Operational Training Unit (OTU) and was assigned to No. 92 Group. Almost immediately however, it was reassigned to the United States of America Air Force (USAAF) in view of the proximity of the airfield to Salisbury Plain, and the desire to keep USAAF airfields within easy reach of each other in preparation for a cross-channel invasion. Large-scale construction work took place in 1942 and the 60th Troup Carrier Group of the Eighth Air Force moved in to the Class A airfield in August 1942 (Museum of Berkshire Aviation Website).

Class A airfields like Aldermaston were characterised by three airstrips, with the main strip aligned with the prevailing wind – south-west to north-east. The footprint of the runways is visible today in the triangle of roads: Halstead Road, Griffin Road and Woolwich Road.



From 'Action Stations - 9. Military airfields of the Central South and South-East' by Chris Ashworth

The main runway of Station 467 – which was the name assigned to the airfield at Aldermaston, was 6000 ft (1829 m) long, while the intersecting runways were 4200 ft (1280 m) long according to Class A stipulations. They were 150 ft (46 m) wide with a further 225 ft (69 m) levelled and grassed area alongside. Beyond this a 300 ft (91 m) strip was cleared. Airfields for USAAF use featured 50 aircraft dispersal points (hardstandings) which were in 'fryingpan' form with two of the later loop type (Museum of Berkshire Aviation Website).

Of the original four T2 hangers, peculiar to airfields with parent status (i.e. airfields that acted as the central hub to surrounding satellite airfields), two remain. They were built along the outer track, between the main runway and the perimeter fence and, unusually for Class A airfields, were constructed in a group rather than on opposite sides of the airfield. T2 hangers, approximately 240 ft (73 m) long, were necessary for storage of planes, and the 60th TCGs C-47s and C-53s were accommodated. In spring 1943 the CG-4A assault gliders of the 315th TCG arrived and were stored in the T2 hangers (Museum of Berkshire Aviation Website).

In 1943, the Ministry of Aircraft Production allocated Aldermaston to its Spitfire manufacture programme. Component parts, manufactured in Southampton, were assembled in a new MAP hanger situated south of the AWE site at Heath End, Tadley (Museum of Berkshire Aviation Website).

A 50 ft (15.24 m) wide concrete perimeter road ran around the runways with a 30 ft (9 m) clearway either side. Areas on either side of the main runway head were covered with Pierced Steel Plank (PSP) to form a trackway for taxiing (Ashworth, C 1985).

Only the main runways were lit, though a system of lights assisted aircraft into the site. This included an outer circuit of light-topped poles at a mile distant. At the south-west of the ring indicating the approach to the runway were the electric bulb illuminated identification letters, AM, of the airfield on a 20 ft (6 m) wooden scaffold. The letters were also set into the ground in the signal square in front of the control tower in white wooden planking or concrete. Class A stipulations specified 10 ft (3 m) though they were frequently set larger than this (Ashworth, C 1985).

From 'Action Stations - 9. Military airfields of the Central South and South-East' by Chris Ashworth

Class A airfield design stipulated a 12779/41 control tower design. The control tower was placed between the perimeter track and the runway.

To the north-east of the site, roughly parallel with Grim's Bank, the Class A stipulated bomb stores were built. A thin looped road ran off the perimeter track towards the edge of the park. Incendiary and other bomb stores were built into further loops around the road. The area was wooded according to specification to minimize the effect of any accidental explosion. Other buildings were placed some distance away.

At Burghfield the AWE site remained farming land until the requisition of 225 acres in 1938 by the Ministry of Defence for the construction of a Royal Ordinance Factory (ROF). During the 1930s, as war in Europe appeared imminent, the British government began a rapid rearmament programme. In 1938 several new ROFs were built on requisitioned land outside metropolitan areas, examples include Woolwich and Waltham, outside London, Wisley outside Manchester and Swynnerton outside Stoke-on-Trent (Imperial War Museum Website).

Several fields belonging to the Burghfield Place Farm estate were requisitioned and a factory built. The ROFs of the era were generally of three types: explosives (in which explosives were manufactured); engineering (in which guns, tanks and ammunition was were manufactured); and filling (in which the explosives from the first type were transferred to their casings from the second type). From the filling factories, such as Burghfield, armaments were stored and deployed. These factories were the highest risk due to the nature of the process. Their storage and deployment programmes also made them high priority targets for enemy attack (Imperial War Museum Website).

The Great Western Railway passes 3 km from the Burghfield site, at Theale. The proximity to this railway was a major reason for the choice of site, and a long siding was built to connect the factory to the Reading-Basingstoke branch line and national rail links. The ROF was served by its own steam locomotives.

A large section to the north of the site, from the Pingewood corner to the north-western corner, contains a number of bunkers branching off a tarmac road from east to west. These date from the 1940s and were used as air raid shelters during the Second World War. The development of the site necessitated the construction of accommodation for staff. Hostels were built at Clay Hill and Grazeley Green to the south of the site and still survive today (Timmins, G 1998).

AWE Blacknest was used during the war as an Officers Mess for those personnel attached to Aldermaston airfield. Prior to this it was used as the headquarters of the Enborne Valley Reservoir Scheme, a shortlived plan to flood the valley to create another water source for London, before it was requisitioned (Peter Marshall, pers comm).

The Cold War

At the end of the war Aldermaston airfield continued for some months in a military capacity, used for the demobilisation of Canadian troops, and in the continued manufacture of Spitfires. After decommissioning in 1947 the site became a civilian training airfield. Former RAF pilots were retrained in civilian aircraft. The wartime layout of Aldermaston was adapted, buildings refurbished and lighting improved. By the end of 1948 however, the school was closed down.

The British government's decision in 1947 to develop nuclear weapons resulted in the establishment of a research centre at Fort Halstead in Kent. Expansion of the industry resulted in the requisitioning of the Aldermaston site by the Ministry of Works in 1950 and work began on its conversion into the Atomic Weapons Research Establishment (AWRE) (Hawkings, DJ 2000).

The layout of AWRE Aldermaston accorded with the runway layout of the WWII airfield. The area around the site remained predominantly rural, but the commencement of building work by the firm WE Chivers and Sons saw an influx of construction workers housed in temporary camps in Tadley.

The construction of the A1.1 building was completed by 1952. Associated laboratories and staff buildings (A3, A6) enabled work to begin on the production of weapons grade plutonium. In the same year, the first British atomic bomb was tested at the Monte Bello Island in Australia under the codename 'Hurricane'. The bomb was assembled from high explosives supplied by the Royal Arsenal Woolwich, and from plutonium

discs prepared at ROF Windscale (now Sellafield). The bomb itself was put together at the AWRE centre at Foulness, without its plutonium core. The core was prepared at Aldermaston in building A1.1, the discs cast into the bomb's core which was plated with anticorrosive gold. The uranium casing and initiator were also made at Aldermaston, and were flown out to join the rest of the bomb (Hawkings, DJ 2000).

The success of the test put the Blue Danube, Britain's first atomic bomb into operation. It was constructed in a large shed that enclosed the durable gantries needed in its assembly. The arrival of Sir William Penney, a British physicist who had been instrumental in atomic weapons development in the US throughout the war, as the director of the Atomic Weapons Research Establishment in 1953 heralded an era of more tests and development (Hawkings, DJ 2000).

Construction on the site continued rapidly, as well as the building of local amenities for the staff and workers of the AWRE. Hostels and houses were built in the village of Tadley, which encouraged development of the village northward and now forms the present small town. A large residence was purpose built for Penney, Heather House (burnt down in 1995) at Heath End. Many of these residential buildings have since been lost. The original residential streets remain, though these are in private ownership (Timmins, G 2000).

The rising tide of public opposition to the nuclear project became explicit in 1958 when the first protest march to Aldermaston took place and was attended by 10,000 people. The march became an annual event organised by the Campaign for Nuclear disarmament and supported by many public figures as well as thousands of concerned citizens. At Aldermaston, the marches were characterised by the congregation of protestors at the perimeter fence, predominately by the southern (main) entrance. The emblems and banners of the movement provide a recognisable material resource that was to influence the landscape of protest marches since. Some of these articles are kept at Reading Museum (Hawkings, DJ 2000).

The development of AWRE Burghfield commenced shortly after the site at Aldermaston. In 1954 the site of the Royal Ordnance Factory was requisitioned in conjunction with nearby AWRE Aldermaston. The entrance of Burghfield into atomic production necessitated the construction of specialist building units. New bunkers were designed to withstand

The first Aldermaston march, courtesy of the AWE site archive

a new kind of explosion. These were called the 'Gravel Gerties', so nicknamed because of the gravel reinforcements on their concrete domed roof and reinforced concrete walls. In the event of destruction, the gravel was supposed to smother the impact. The design of the Gravel Gerties were initially developed at the US Pantex assembly plant at Carson, Texas. They were constructed at Burghfield in 1961.

AWE Burghfield, Cold War layout

In 1961, the Blue Steel nuclear missile, assembled at Burghfield became operational. The following decade saw the advent and development of the Polaris system, HMS Resolution becoming operational in 1968. The Chevaline programme dominated the 1970s, when AWRE was transferred to the Ministry of Defence (Hawkings, DJ 2000) and the site has further developed in the 1980s and 1990s.

AWE Burghfield continues to provide an integral role in the assembly, maintenance and decommissioning of Britain's nuclear deterrent. On the selection of Aldermaston as a centre of development for the Atomic Weapons Research Establishment in 1952, Blacknest passed into use as offices for the site, and as a hostel for Aldermaston's workers before the construction of Boundary Hall, Tadley.

Since then, Blacknest's main function has been to develop and maintain expertise in using seismic techniques to detect and identify underground explosions. This expertise and the techniques have been used in the past to provide assessments for the UK Government on nuclear explosions carried out by other countries (Marshall P, pers comm., April 2005).

AWE Burghfield, main entrance

4. THE HERITAGE SIGNIFICANCE OF AWE ALDERMASTON, BURGHFIELD AND BLACKNEST

Introduction - the established significance of the AWE sites

As part of English Heritage's Thematic Listing Programme, a study - 'Cold War Monuments: An Assessment by the Monuments Protection Programme' was published in 2001. AWE Aldermaston and Burghfield were both considered in the assessment.

The Assessment described AWE Aldermaston as 'a former Second World War airfield, which was developed in the early 1950s as the principal centre for Britain's nuclear weapons programme. Within its perimeter are many unique structures associated with Britain's nuclear weapons projects.' (Cocroft, 2001).

For AWE Burghfield the Assessment finds 'many of the structures on the site were uniquely designed for specialised activity. The 'Gravel Gerties' were remarkably similar in design to those of the main American warhead Pantex assembly plant in Carson County, Texas, and through their architecture reflect the close co-operation between Britain and the United States in the development of nuclear weapons.' (Cocroft, 2001).

Furthermore while Aldermaston's significance is reflected predominantly in its Cold War fabric (its airfield history is less remarkable), AWE Burghfield is significant both for its Cold War structures and a rare surviving WWII Royal Ordnance Factory, whose importance has only been recognised during recent heritage assessment of the site.

Identifying and promoting values

Through the process of Characterisation at AWE Aldermaston, Burghfield and Blacknest, a number of further values that underpin the overall significance of the sites have been identified. The surviving fabric of the sites both informs and reflects these values to varying degrees in different Character Areas (see Chapter 5 below). This chapter sets out these values, to provide a base from which to identify particular issues which will inform the capacity for change, enhancement or management of different areas of the sites.

Key values

The key values of the sites can be split into the themes set out below. Information relating to these categories has been incorporated into the database fields for the site, and where appropriate has been described in relation to individual character areas in Chapter 5 below.

The categories are:

- Historic and political associations & reflection of military technologies and processes
- Quality of plan and surviving fabric
- Potential for community and public appreciation
- Research potential (including archaeology)

These values are discussed in relation to each of the three sites in the paragraphs below.

Historic & political associations and reflection of military technologies & processes

Historic and political associations, and scientific and technological achievements are intimately linked, at AWE Aldermaston in particular. The three AWE sites Aldermaston, Burghfield and Blacknest played a key role in WWII and the politics and events of the Cold War. They continue to reflect the changes and nature of our defence policy and international relations in the 21st Century, and to reflect the more local and personal histories of the people who have participated in their development.

AWE Aldermaston

Aldermaston airfield, while not sharing the famous historical associations of sites such as RAF Scampton, Biggin Hill, Hornchurch and Duxford for example, nevertheless made a significant contribution to victory in the Second World War, and performed

important functions. The airfield played a key role in the organisation and implementation of the D-Day Landings in 1944, and it was from the airfield that the US Army departed in gliders to land behind enemy lines as part of the first wave of attack.

The Supermarine Spitfire, arguably the greatest fighter plane of the Second World War was built at Aldermaston airfield from 1944 to 1946.

AWE Aldermaston is better known as the venue of the development, testing and manufacture of Britain's nuclear deterrent during the Cold War through to the present day. It is the site of the development and building of Britain's first nuclear test device, leading to Britain's entry into the nuclear arms race. The performance of test devices was further refined at Aldermaston during a period of scientific and technological development which lasted until the mid-1990s and included:

- 1953 Totem series at Woomera designed to evaluate the performance of plutonium 239 and to test the effects of a nuclear blast on military equipment and structures.
- 1953 Buffalo series at Maralinga which tested the new plutonium warhead Red Beard and the first live ballistic test of the Blue Danube design.
- 1957 Antler series of tests held at Maralinga designed to enable the production of a cheaper and operationally safer tactical nuclear weapon.

Subsequent developments at AWRE/AWE Aldermaston concentrated on the new generation of weapons. All of these were conceived, designed, built, maintained and decommissioned at AWE Aldermaston and Burghfield:

- 1966 - 1988: WE177 (thermonuclear type B)
- 1968 – 1996: Polaris
- 1972 – 1999: Chevaline
- 1980 – present: Trident. It remains AWE's principal task to meet the requirements of the Ministry of Defence to maintain the Trident warhead.

AWE Aldermaston has also achieved a status in the media and in the minds of the anti-nuclear lobby, as a focus for protest. Since 1958 there has been an annual march from London to Aldermaston, and there are also similar protests aimed at blocking vehicles into the site, such as the 'Block the Builders' campaign.

AWE Burghfield

The role of ROF Burghfield during the Second World War cannot be underestimated. The Royal Ordnance Factories were one of the major successes and innovators of wartime industry. They brought work to areas blighted by unemployment in the 1930s, their facilities were often almost unrivalled and they exceeded the standards of private industry in the use of quality control, production incentives and 3 shift systems.

As a Royal Ordnance Factory it was responsible, along with the other forty-three factories throughout the country, for the production of large guns, bombs, mines and tanks, as well as most small arms, ammunition and explosives all of which were essential for the successful continuation of the war effort. AWE Burghfield represents an important and unusual survival of an almost intact Royal Ordnance Factory, as many contemporary ROFs have been extensively redeveloped with little of their original fabric surviving.

AWE Burghfield has also played an important role in the development, manufacture, maintenance and decommissioning of the UK's nuclear deterrent. The 'Gravel Gerties' are representative of the sharing of information and technology over the course of the Cold War between the UK and the USA, and the site continues to function at the forefront of our nuclear weapons programme today.

AWE Blacknest

The historical and political background of Blacknest is somewhat less evident. However Blacknest provided important support to AWE Aldermaston, and subsequently provided the British government with valuable and necessary information on underground nuclear testing being undertaken by countries in contravention of the Treaty on the Non-Proliferation of Nuclear Weapons. Blacknest Farm was used by William

Penney in the early days of the AWRE development as his office and accommodation. It was also used to accommodate senior members of the development team, and subsequently became a hostel for more staff members. In the early 1960s the development and the use of steerable medium-aperture arrays was pioneered at Blacknest. Along with the development of arrays of seismometers, Blacknest staff have worked on methods for processing the data.

In terms of computer technology Blacknest has been at the forefront of some important developments. It was one of the first non-US establishments on ARPANET, the precursor to the Internet. Other important events that AWE Blacknest scientists have contributed expertise to include:

- In 1972 what is thought to be the worlds first email was received at Blacknest (Marshall, P, pers comm., 2005).
- From 1994 to 1996 assistance in negotiations towards a Comprehensive Test Ban Treaty in Geneva was provided from Blacknest, leading to the development of the International Monitoring System (IMS) to detect and locate underground nuclear explosions.
- In 1998 readings associated with underground nuclear tests carried out by India and Pakistan were received and interpreted at Blacknest.
- In 2000 advice and information on the cause of the sinking of the Russian submarine Kursk was provided from Blacknest.
- In 2004 expert advice on the cause of the south Asian tsunami was provided from Blacknest.

Quality of plan and surviving fabric

AWE Aldermaston

The earliest surviving element of the past use of the area now occupied by AWE Aldermaston is Grim's Bank. Its protected status as a Scheduled Ancient Monument, and the fact that it is within an area with strictly controlled access means that it survives in a very good condition.

Within AWE Aldermaston there are good surviving elements from each period of development of the site, thus contributing towards our understanding of it's overall development since the 1950s. The plan and layout of AWE Aldermaston has altered significantly since it was used as an airfield during WWII. But the majority of buildings and structures that survive are associated with the 1950s.

However, at the south western end of the site there are some important surviving examples of WWII airfield buildings and aircraft hangars. They survive well in plan, and they have not been altered to such a degree that they have become illegible as a group. The plan of the runway is also still legible, and is preserved as Contractors Road, Griffin Road, Woolwich Road, South Road and Halstead Road, which form some of the main routes through the western section of the site.

The remains of buildings A1.1, A3, A6 and R61 as well as a A90 have all housed important processes and functions, unique in their time and associated with early development of our nuclear capability.

AWE Burghfield

AWE Burghfield is important because so much of the 1950s fabric continues in the purpose for which it was originally designed, that is the assembly and decommissioning of nuclear weapons. New buildings and changes have not been needed to accommodate changes in function. The main prompt for new development at Burghfield has been to accommodate administrative staff. In particular the Gravel Gerties are unique in their form function and associations.

Much of the layout of AWE Burghfield also maintains the character and landscape of the Second World War munitions factory, in part because much of the early site is no longer in use, and little has been demolished.

Also surviving within the site are a number of pillboxes, some made of brick, others of concrete with steel shells. These represent good surviving examples of structures designed to protect the ROF site from attack during the Second World War.

AWE Blacknest

Blacknest has changed little since the 1950s (when an extension was added to the main early 20th century country house). There has been no requirement for extensive development, as all computing and sensory equipment has been accommodated in existing

rooms and outbuildings. A small extension was built in the 1950s to accommodate new staff members, but this was designed sympathetically and does not detract from the appearance and character of the main house.

The site retains the feel of an early 20th century country house, surrounded by large landscaped gardens, and a visit to Blacknest is like stepping back in time.

Potential for Community and Public Appreciation

The potential for community and public appreciation of the sites is inevitably limited by the security restrictions and sensitive nature of the work carried out within them. However, AWE Aldermaston and Burghfield in particular, have always had a strong connection with their nearby local communities. Prior to the Cold War, Aldermaston were employers of considerable numbers of people from the local area, indeed roughly 50% of AWE Aldermaston employees live within 5 kilometres of the site (Hawkings 2000).

Within the sites, AWE have endeavoured to provide a public 'face' (with emphasis on their culture of corporate responsibility and client focus) within those areas used by visitors and contractors, in particular within the main reception and Building F6.1 at Aldermaston.

AWE have adopted an 'open door' policy to provide local authorities and members of the local community with details about their activities. The formation of a Local Liaison Committee (LLC) was one of the first important steps towards openness. The Committee meets four times a year and brings together AWE's senior management with elected representatives and officers from neighbouring local authorities. Issues of local concern about their activities are discussed. They explain their work in the fields of safety, health and the environment and to deal with matters raised by members.

There is also a heritage centre at AWE Aldermaston, maintained by the heritage unit in D29. Visitors are allowed access by appointment, although it is more difficult for members of the public to gain access. The AWE Corporate Archive also holds a large amount of material, including historic documents, photographs and films, which can be accessed by employees via the AWE Intranet site. The provision of a heritage centre at Burghfield, similar to that at Aldermaston, would give the employees at that site an opportunity to learn about and appreciate the important role their workplace has played in the defence of the country.

Through the LLC, the potential exists for the promotion of the heritage of the AWE sites to the local community, since the sites are just as much part of the heritage of the local community as they are to the country as a whole. The LLC would be an ideal link to promote the heritage of the AWE sites, and the production of interpretational material for distribution to the local community.

Archaeological Potential

AWE Aldermaston

The most obvious and well preserved archaeological remains within the site are the earthworks of Grim's Bank. These survive well above ground at the north eastern end of the site.

There has been a large amount of development across the majority of the site, but in those areas not previously disturbed previously unrecorded buried archaeological remains may be present. They may relate to:

- The Iron Age/Roman Period: close to Grim's Bank, there is a high potential for finds and features associated with it's construction and use. The projected line of the road running from Silchester (Calleva) to Cirencester (Corinium) runs through the Non-Metallic Components Area in a NW-SE direction. Within undisturbed areas of ground, the remains of the road and features associated with it are likely to survive.
- The Post-medieval Period: features associated with Aldermaston Park may survive.
- The WWII Airfield: within the western area of the airfield, there is the potential for structures and finds associated with the use of the airfield to survive.

AWE Burghfield

The buried archaeological potential of Burghfield is less well understood than Aldermaston. However based on the study of the known archaeological resource the following may survive on the site:

- Prehistoric Period: Neolithic flint artefacts have been found just outside the site perimeter fence, as well as possible Bronze Age settlement remains at Amner's Wood just to the north of the site. There is a small possibility for similar buried archaeological remains to survive in undisturbed areas of the site.
- Medieval Period: the SMR includes a moated pightle (small meadow or paddock) immediately east of the site boundary above Burghfield Place Farm. There is significant potential for other associated medieval field boundaries within the site having existed.
- Modern Period: buried structures and artefacts associated with the Royal Ordnance Factory may survive.

AWE Blacknest

AAWE Blacknest is the smallest and least developed of the three sites considered in this report. It sits within fairly undeveloped land, and therefore the buried archaeological potential for remains from all periods is high:

- Prehistoric Period: there is the potential for remains associated with Neolithic, Bronze Age and Iron Age settlement, funerary or agriculture
- Early medieval Period: The potential for archaeology of this period is high. Evidence given in a Saxon charter of 944 (Sawyer 500) suggests that some kind of planted hedge or enclosure on the Blacknest site was established enough to be included as a land boundary, so it is possible that the remains of this, probably a ditch, survive below ground
- Medieval Period: The remains of agricultural and small-scale settlement activity may survive.
- Post-Medieval Period: The original garden and orchard features are considered to be of historic importance.

Research Potential

The AWE sites are a valuable resource for further military historical and archaeological research projects. Research has already been carried out into the historic development of the base, both by Atkins and by AWE. There are a number of areas where additional research could augment and enhance our current understanding and appreciation of the role of the site in Britain's military history, and indeed to the growing body of material relating to our military heritage as a whole. Particular opportunities are described further in Chapter 6.

AWE Burghfield, ROF buildings top right

5. THE CHARACTER AREAS

Introduction

EEach of the three sites have been divided into Character Areas, using the methodology described above. The full attributes of each Character Area have been entered onto the database which forms part of the AWE site GIS.

In this chapter a short summary box, based on the full database of attributes, precedes the detailed description of each Character Area. The Character Area description then follows within the broad structure below:

- Location
- Origin
- Current character - including views, form, building types, survival, condition, complexity

There then follows an explanation of the value of the area in relation to the four main values listed in Chapter 4 above.

AWE Aldermaston Character Areas

Overview of AWE Aldermaston

AWE Aldermaston contains all the elements and characteristics of an independent community or academic campus – with areas for administration, research, amenity, recreation and its own emergency services. The secure nature of the site means that employees are usually confined to a single work area and spend the majority of their time at work in that location. The often secret nature of the work undertaken on site gives cohesion to this community, which also shares amenities such as the Restaurant and other recreational areas.

The site covers an area of approximately 880 acres, which is divided into 2 main functional areas, the busy and public facing Research, Development and Administration area to the south-west of Griffin Road, and the quiet, secure Non-Metallic Components Storage and Testing area to the north-east of Contractors Road. Both areas form part of the original 1950s AWRE site, but significant additions have been made over the years in the Research, Development and Administration Area, notably in N Area and south of the main Technical area. The overall character of this part of the site is provided by the 1950s buildings which line the main roads, providing a 1950s institutional feel.

The Non-Metallic Components Storage and Testing area east of the main north south road is less densely occupied, and most of the buildings within it are mounded or single storey brick offices and laboratories of the early 1950s, virtually unaltered. The boiler house and more modern laboratories line the edges of this part of the site.

AWE - 24863-28 (B1A1), in the northern part of the non-metallic components area

The site is surrounded by a double circuit of security fencing, within which a perimeter road runs. The fenceline is raised along some parts of the eastern edge of the site with a concrete under bridge for access to the burning ground. There is only one entrance to the site for visitors, the Main Entrance, and an additional entrance at the Tadley Gate (the North Gate entrance is not used so frequently).

The road system within the site is built up from the key roads – South Road, Woolwich Road, Halstead Road and Griffin road, all of which have origins in the early airfield layout of the site. The network of access roads and pathways are convoluted, and serve each individual area or group of buildings depending on security requirements and the need for vehicular, public, or specialist access. There is no overall pattern to the road network, and views and approaches are often blocked by different security fencing and gates, making the site hard to read as a visitor.

There is little landscaping on the site, with the exception of South Road, the most frequently used area of the site by visitors. South Road has an 'avenue' character, with fruit trees, ivy clad buildings and rhododendron bushes. Apart from the occasional roundabout and

AWE - 24863-55 (D29) in the administrative area

isolated stands/areas of trees, the site west of Griffin Road is otherwise flat and treeless, as an airfield would be expected to appear. To the East of Griffin Road, some of the original parkland features, such as the remains of an avenue of oaks, varying topography and areas of woodland and ponds, give the site on this side more of a parkland character.
The two main zones within the site can be broken down into the following character areas:

CT1 Technical North: the northern part of the 'Technical area', planned and built as the first phase

AWE - 24863-62 South Road

of AWRE development.

CT2 Technical South: the southern section of the Technical area, planned and built in the late 1980s early 1990s.

EX1 Southern Area Storage: the southern section of the Non-Metallic Components Area on the eastern side of the site.

EX2 Northern Area Storage: the northern, 'parkland' section of the Non-Metallic Components Area.

EX3 Reservoir: containing the infrastructure for the supply of water to the Non-Metallic Components Area.

EX4 H Area: 1950s laboratories and offices within woodland at the north end of the site.

EX5 Burning Ground: located outside of the main site, used from the 1950s onwards.

EX6 Utilities: comprising the site boiler house, with associated office and mess buildings. Altered and adapted during the 1980s, with some surviving 1950s office buildings and current construction activity.

EX7 Southeast Corner: low level 1950s offices and laboratories associated with the Non-Metallic Components Area.

A1: Site Entrance: the main entrance to the site including security infrastructure, guardhouse and offices.

A2 Administration and Amenity: the main HQ building, administration, restaurant, historical collection and other amenities and offices.

A3 Training: the AWE apprentice school and stores, built in the early 1950s.

A4 WWII Airfield: huts and hangars representing the only surviving element of Aldermaston Airfield within the site, interspersed with modern buildings and car parking.

A5 Derelict Airfield: an area previously occupied by WWII airfield buildings, which has been extensively levelled and no unaltered buildings remain.

A6 Tadley Gate: the area encompassing the Tadley Gate entrance, control buildings and terminal of South Road and Woolwich Road.

A7 Recreation: the area encompasses the AWE sports field, social club and associated club houses and gym.

A8 N Area: derelict area where infrastructure once provided facilities for testing of non-nuclear devices.

A9 D58: area once occupied by Electromagnetic Pulse Simulators and associated infrastructure – now levelled.

A9 D58: Empty area, site of pulse simulators.

A10 R & D Area: located to the north east of the Recreation Area, an open area of grassland with

low level offices and laboratories, once providing accommodation for the Home Office.

A11 Open space: area of open space between the Recreation Area and R&D Area

A12 Cold War R&D Area: located outside The Technical area, but similar in form, this is the best surviving research and development area associated with the first phase of AWRE development.

A13 Car Parking: designated car parking areas and roundabout to the south of The Technical area.

A14 Emergency Services: located to the west of Griffin Road, the area houses the AWE Fire and Ambulance Stations.

A15 Griffin Road: the central area of Griffin road which comprises the main north-south access road, car parking and temporary buildings.

A16 Site Tip & Ponds: Located at the north of the site, served by Griffin Road. The area is screened by woodland, and encompasses the site tip and pond system which controls discharges into local watercourses.

A17 Stores & Workshops: stores, laboratories and workshops built during the first phase of AWRE development.

A18 Decoy Pond: located at the southern end of the Non-Metallic Components Area, Decoy Pond is a surviving element of Aldermaston Park and retains many original trees and landscape features.

A19 Grim's Bank and Non-Metallic Components Stores: the surviving remains of Grim's Bank and early 1950s non-metallic components stores.

A20 MOD Kennels: small area of modern and prefabricated buildings housing the MOD police dogs and training unit.

CT1: Technical North

The Technical North area comprises a collection of buildings associated with the development of the components of nuclear warheads. The earliest buildings within the area were built in the early 1950s during the first phase of AWRE development. Subsequent phases of development were undertaken in the 1960s, 1970s, 1980s and 1990s.

Period:	Cold War 1950s – 1990s
Form:	Planned cluster of buildings within a grid of streets
Buildings:	Laboratories and associated infrastructure, including offices, evacuation buildings, emergency services
Survival:	Modern infilling, but original buildings remain
Condition:	As built
Complexity:	Continuous single use

The Technical Area is a combination of 1950s two-storey offices and laboratories, combined with a number of larger scale windowless metal clad laboratories with brick bases. All the buildings are flat roofed, with frequent chimneys, storage tanks, characteristic external pipe work and lighting columns and conducting rods providing the overall character of the area. Temporary buildings are interspersed with the brick 1950s and more recent concrete structures. The lighting in the area is predominantly the same as on the main runway, although also contains lamp-posts of a type also found in EX3. Key features of the area are the two sets of 4 prominent tall white chimneys with black tops, which dominate views from within the site and from outside.

CT1 is generally flat, reflecting its history as an old airfield. The area can be seen from the perimeter road and from within the site, but with the exception of the prominent chimneys, not from any publicly accessible areas. There are also long views of Aldermaston Court from along the perimeter road.

The layout of the area survives as originally built, with more recent buildings respecting the original layout and the curves in the original road network. The layout is based on an American style grid system, reflected in road names such as Third, Fourth, Fifth and Sixth Avenue There are very few trees within the Technical Area.

CT1 retains a heightened feel of security that is in keeping with its continuing association with the development of components of warheads.

AWE - 24863-03 (A70.1)

AWE - 24863-02 (A1.1X)

AWE - 24863-05 (A25.1)

Values

Buildings A1, A3 and A6 are important buildings in terms of the role they play in the development and production of the UK's first nuclear test device. Others are still active, displaying a continuity of over 50 years of single purpose use.

The original road network within the Technical Area is well preserved, and respected by later buildings. The character of the area continues to reflect the primary issues of security and safety in terms of activities undertaken within it.

The prominent chimneys in this area comprise a landmark feature, contributing to the wider character of the site. Furthermore, the external piping and lighting provide continuity with other areas of the site, adding to its group value.

Surviving documentation relating to this area is likely to exist on site, but has not been viewed.

Management

The area continues to be used for the same activities for which it was built.

The area demonstrates a low capacity for change, primarily due to the good preservation of the original layout and buildings A1, A3 and A6, which relate to the development of Britain's first nuclear test device.

If feasible, considering the working nature of the site, buildings A1, A3 and A6, and the layout of the areas in which they are located should be retained in view of their high historical, technological and social value, and the contribution they make towards the appreciation of the development of the AWE site.

Prior to any development, it is recommended that the buildings and their settings within this Character Area have a detailed historic and photographic record prepared.

CT2: Technical South

The Technical South area is less densely developed than Technical North, lacking the gridded street pattern and small specialist laboratory and office buildings. It represents a single period of development during the late 1980s and 1990s. Within this area is the main plutonium handling building.

Period:	Cold War 1980s – 1990s.
Form:	Group of large process buildings located in the middle of large open area.
Buildings:	Process buildings and associated infrastructure, evacuation buildings.
Survival:	As built
Condition:	As built
Complexity:	Continuous single use

This area was planned separately from Technical North in the 1980s with later buildings constructed in the 1990s, with the aim of these buildings being capable of taking much of the future operational capability from the older CT1 area.

The area is visible from Griffin Road and from adjacent parts of the site.

Within this area are the plutonium handling plant and associated offices, laboratories and evacuation buildings..

The boundaries are well defined by the stylistic and scale differences of the buildings within the area. The buildings here are tall (equivalent to at least 3 storey), large in area, metal clad and windowless, with external pipework and other steel framed infrastructure surrounding them, which are characteristic of the wider site. One of these gantries bridges CT2 and CT1, providing linkage between the two areas. The main buildings are set in a large open grassed area for security reasons, but this layout also adds to the sense of monumentality of the building. There are minimal road and path networks, and the buildings are surrounded by varied lamp-post types and cameras. There are few trees in the area, with the exception of numerous deciduous trees surrounding the roundabout to the south-west.

Values

This area lacks the long historical associations of Technical North as it was developed towards the end of the Cold War. However, technologically, the A90 facility represents important more recent developments in weapons technology.

External metal pipework and other steel framed infrastructure illustrate continuity with other areas and contribute to the wider character of the site.

Surviving documentation relating to this area is likely to exist on site, but has not been viewed.

Management

The area continues to be used for the same activities for which it was built.

The area demonstrates a high capacity for change, as it lacks the long historical associations of CT1.

Prior to any development, it is recommended that the buildings and their settings within this Character Area have a detailed historic and photographic record prepared.

AWE - 24863-08 (A90)

EX1: Southern Area Storage
A large relatively open area which forms the southern section of the Non-Metallic Components Area. Structures within the area are all associated with the processing and storage of non-metallic component, all constructed between 1951 and 1955.

Period:	Cold War 1950 -1959
Form:	Planned clusters of process structures, interlinked by networks of paths, located within a large open grassed area.
Buildings:	Process buildings, laboratories, stores and associated infrastructure
Survival:	As built, plan form intact
Condition:	Externally maintained
Complexity:	Continuous single use

EX1 is located at the eastern side of AWE Aldermaston, east of Griffin Road, stretching from the southern boundary to the internal division in the middle of the Non-Metallic Components Area. The area is gently undulating, criss-crossed by wire fencing, with distinct boundaries. The eastern extent of EX1 lies adjacent to Grim's Bank (in area A19), the surviving Iron Age earthwork. This is visible from EX1 as a raised bank and ditch, with a covering of trees.

The buildings in EX1 are predominantly low rise, concrete and brick built 1950s structures covered with earthen mounds. The non-metallic components stores are topped by distinctive overhanging concrete roofs, and comprise a regular feature in this area's landscape. Other buildings include single storey flat-roofed red brick office and laboratory buildings, some of which have flat roofed extensions (most with original windows and other features). These are characteristic of the wider site. Spaces between the buildings are flat and grassy.

The roads in EX1 are tarmac with pathways of concrete alongside them. Drains are set into the concrete kerbs, and a 2m demarcation exists between the roads and flat raised areas, where building foundations were once and may still be present. A different form of road by Gate 29, made up of two lines of concrete slabs with a central grass strip, may represent a pre-AWE or airfield configuration.

Although there is little modern development in the area, the infrastructure has been modernised. Simple timber disconnected telegraph poles are dispersed throughout the area, and represent the remains of an obsolete communications infrastructure. Similarly, to the west of Decoy Pond the bases of former structures are present, with associated concrete slabs and paths. Lamp-posts without lights attached also

AWE - 24863-23 (B4B5)

AWE - 24863-24 B3A19)

AWE - 24863-32 (B9D7)

reflect modernisation in this area. Lighting varies in EX1, the majority of lamp-posts are of a recent type with occasional older examples, such as near Gate 30. Black lagged pipework, characteristic of the wider site is common in the area,

The area has an open heathy character, partially due to the lack of large buildings, which contrasts with the more developed, 'industrial' feel of the rest of the site. Interspersed between the buildings are silver birches reflecting the original parkland character of this part of the site, although to a lesser degree than the northern area EX2. The parkland character is accentuated by a dense fringe of trees just outside the site to the north-east along Red Lane, and the dense patch of trees within area A18, both visible from EX1.

Values

The value of this area lies in its open heathy character, and in the more forest-like southern section, which represents a surviving element of the pre-airfield landscape.

EX1 may contain remnants of pre-AWE or Airfield features, comprising the concrete slab roadway near Gate 29, and the flat raised areas relating to building foundations.

The open character of this area means that there is a potential for buried archaeological remains associated with Grim's Bank, which is located immediately south of the area boundary.

External black lagged metal pipework represents continuity with other areas and contribute to the wider character of the site.

Surviving documentation relating to this area is likely to exist on site, but has not been viewed.

Management

The area continues to be used for the same activities for which it was built.

The area demonstrates a high capacity for change, as although the area contains a number of 1950s non-metallic components explosive stores, there are no features of particular significance.

Prior to any development, it is recommended that the buildings and landscape within this Character Area have a detailed historic and photographic record prepared.

Should development take place, archaeological watching briefs during initial construction works should be maintained with this area in order to record potential buried archaeological remains, which may relate to Grim's Bank.

As Grim's Bank is a Scheduled Monument it is a statutory requirement that English heritage are consulted on any changes that will affect it or its setting.

EX2: Northern Area Storage

A large open space with occasional structures, forming the northern part of the Non-Metallic ComponentsExplosives Area. Structures within the area are all associated with the processing, testing and storing of explosivesnon-metallic components, and were all constructed between 1951 and 1956.

Period:	Cold War 1950 – 1959
Form:	Planned clusters of process structures, non-metallic components storehouses and laboratories interlinked by networks of paths
Buildings:	Process buildings, non-metallic component laboratories, stores and associated infrastructure
Survival:	As built, plan form intact
Condition:	Externally maintained
Complexity:	Continuous single use

EX2 is located on the eastern side of the site, east of Griffin Road, stretching from the interior boundary to the north of the AWE site.

The area was planned in the early 1950s to house the development, processing, testing and storage of non-metallic components. EX2 also contains Stock Pond, situated in a depression at the north-eastern extent of the area. The pond area is characterised by tubular steel handrails, for both security and safety. These handrails characterise the ponds at AWE Aldermaston, and can also be found around Decoy Pond (A18), and Fish Pond (EX4).

The majority of the buildings in EX2 comprise a regular pattern of low rise, concrete built mounded non-metallic components stores and embankments, similar to EX1. Other buildings include single storey flat-roofed red brick office and laboratory buildings, characteristic of those found throughout AWE Aldermaston. All paths in the area are concrete and lighting in EX2 is largely the same as EX1, with some older types of lamp-post present.

The area is similar in character to EX1, but has more of a parkland feel. There has also been little alteration to the surviving buildings. The key difference is the increased amount of original woodland and other tree coverage in this area, in particular the remnants of a tree-lined alleyway leading to the Aldermaston Estate (visible on pre-war maps), one of which is nicknamed Conqueror's Oak. The northern pond area also has a feeling of enclosure and includes the deliberate planting of many rhododendrons. Maps of the airfield (1946) demonstrate fewer access roads and areas of hardstanding, with the exception of the area just inside the North Gate.

There are long views of Aldermaston Court from EX2 facing north along Griffin Road, This is unusual, as from most of the site no features of the surrounding landscape, nor any particular landmarks can be seen.

Values

The value of this area lies in the excellent survival of the layout and plan of this key element of the original AWRE Aldermaston site, and in its parkland character.
The buildings have not undergone any significant

AWE - 24863-33 (B1C2)

AWE - 24863-31 (B6C1)

alterations and retain their original spacing and style, providing an important reflection of the processes and procedures in operation throughout the site's history.

The buried archaeological potential of the area is fairly high, with the projected line of the Roman road running in a north-westerly direction across it. In areas which have not been previously disturbed it is possible that remains associated with the road might survive. There is also the potential for remains associated with the WWII airfield, as well as for prehistoric, Medieval and Post-medieval remains, in particular those associated with Aldermaston Park (the sites of early wells or small estate buildings shown on pre-airfield maps).

Surviving documentation relating to this area is likely to exist on site, but has not been viewed.

Management

The area continues to be used for the same activities for which it was built.

The area demonstrates a medium capacity for change, due to the surviving layout and plan from the original AWRE Aldermaston site, and the area's parkland character.

Prior to any development, it is recommended that the buildings and landscape within this Character Area have a detailed historic and photographic record prepared.

Should development take place, archaeological watching briefs during initial construction works should be maintained with this area in order to record potential buried archaeological remains.