#### WILTSHIRE ARCHAEOLOGY FIELD GROUP



# Savernake Second World War Project: Recording Savernake's Second World War Heritage

### Part 1: Iron Gates Camp



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#### Summary

A measured tape survey, aerial photographic analysis and documentary research was undertaken which has revealed that extensive extant remains of Iron Gates Camp. This was one of the domestic camps that provided accommodation for troops based at the Second World War ammunition depot in Savernake Forest. The extant remains provide us with a much better understanding of the camp's layout, composition and role within the depot. They reveal the footprint of the camp's distinctive dispersed layout, which made use of tree cover to protect it from aerial reconnaissance, as well as the rare use of railway carriages as accommodation huts. The project has provided a narrative for the establishment, development and abandonment of the camp and has provided a detailed plan of the remains which will aid in the future management of the forest.

#### **Date of Investigations**

The field work and documentary research was undertaken between 2015-16 by Iain Fry, Roger Day and Dan Miles, and members of the Wiltshire Archaeological Field Group.

#### Site Owner

The Site is owned by the Forestry Commission, who not only gave permission for the archaeological investigation but actively encouraged and enthusiastically supported the project.

#### **Authorship**

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#### **Acknowledgements**

We would like thank the Forestry Commission, and in particular Tom Blythe, Beat Forester Bristol and Savernake, for his continued support and enthusiasm of this project. Thanks also to members of the Wiltshire Archaeology Field Group for help with the site survey.

#### 1 INTRODUCTION

Extensive extant remains of Iron Gates Camp, one of the domestic camps that provided accommodation for troops working at the Second World War ammunition depot at Savernake Forest have been revealed by this survey. The survey has identified a number of new features additional to those already recorded by the English Heritage mapping survey in 2007-8. It has also shown that a large number of remains still survive in the camp, including hut bases, supports for railway carriage accommodation, passive air defences and the camp's services and utilities. These remains are significant as they reveal the footprint of the camp's distinctive dispersed layout, which made use of tree cover to protect it from aerial reconnaissance, as well as the rare use of railway carriages as accommodation huts. By undertaking a holistic approach combining a ground level survey, aerial photographic analysis and documentary research we have been able to identify a number of the individual features and put them into context within the camp's layout and composition and within the larger scheme of the wartime ammunition depot, providing a narrative for its establishment, development and abandonment.

#### 2 SITE LOCATION

Savernake Forest borders the south eastern fringe of the Wiltshire market town of Marlborough. It is a remnant of the ancient woodland that once cloaked much of Britain and today covers an area of over 4,500 acres. Iron Gates camp is located at SU 2101668176, on the northern edge of the forest, and bordered by the A4 London to Bath Road.

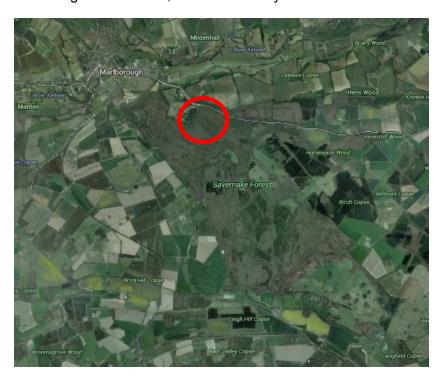


Fig. 1 – Location of Savernake Forest, Marlborough, Wiltshire with the site of Iron Gates highlighted (©2016 Google Imagery).

### 3 INVESTIGATIONS OF THE SECOND WORLD WAR AMMUNITION DEPOT IN SAVERNAKE

The only archaeological investigation to date of the Second World War remains in Savernake Forest, was undertaken as part of the English Heritage (now known as Historic England) National Mapping Programme (NMP) survey of Savernake Forest between October 2007 – July 2008 (Crutchely, S., Small, F. and Bowden, M., 2009). This project analysed and mapped the multi-period remains in the forest identified from aerial photographs and lidar survey. A large number of Second World War remains were identified and mapped, including domestic camps and ammunition stores. The survey did not include any ground visits of the Second World War remains and therefore the identification of individual remains is limited and no information on their survival up to that time was provided.

The survey mapped 51 individual features (Fig. 2) including different sized and shaped huts and buildings, tents, a boundary bank or barbed wire entanglement that defined the southern edge of the camp and two circular earthwork features that have been interpreted as gun or mortar emplacements. The results of the survey were used to create a Wiltshire Historic Environment Record monument record MWI44966 and a National Record of the Historic Environment (NRHE) monument record, No. 1471538.

There has been one definitive historical study of the Second World War ammunition depot in Savernake Forest. Undertaken by local military historian, Roger Day, this resulted in the publication "Savernake at War" (2007). This book, a product of Roger's extensive documentary research of both US and UK military and civilian records, as well as local oral history, provides a comprehensive overview of the ammunition depot, covering its historical setting within the framework of the Second World War, as well as a detailed record of the different units, functions and uses of the depot. The detailed plans and illustrations also provide valuable insights into the depot's infrastructure, organisation and material culture. However, the focus of the book is very much on the people and the stories associated with the depot rather than on the physical remains that still exist from that period in the forest's history.



Fig. 2. Features mapped from the English Heritage National Mapping Project 2007-8. See appendix 1 for a larger image.

#### 4 INTRODUCTION TO THE SAVERNAKE AMMUNITION DEPOT

Savernake Forest is owned by the Ailesbury Estate and in 1939 was leased to the Forestry Commission for a period of 999 years. Before the outbreak of the Second World War, Britain's stockpiles of explosives were stored in three Central Ammunition Depots (CADs), but as the War intensified, output from the ammunition factories increased significantly, and the CADs quickly reached saturation point. As a direct result temporary outdoor sites were hurriedly established and in July 1940 Savernake Forest was requisitioned by the War Department for use as an ammunition store. The depot was conveniently located in central southern England about 70 miles west of London and a similar distance north of the Channel port of Southampton. The now disused Midland and South Western Junction Railway provided for excellent north - south rail communications, as it passed along the western edge of the forest and interchanged with the west of England mainline at its southern boundary, linking London with the west-country. The majority of the ammunition was brought in by rail, unloaded at Marlborough Station and later at North Savernake sidings which were opened in 1943. The forest's mature, predominately broad-leaved woodland provided excellent natural concealment from aerial observation and the trees had the potential to absorb the effects of explosions – accidental or otherwise.

The official British title of the ammunition depot at Savernake was the "22 Ammunition Sub-Depot" (22 ASD). When opened it had an official capacity of 10,000 tons and included both conventional and chemical weapons. Preparation of the site was undertaken by the 154 Pioneer Corps and a detachment from the Royal Army Service Corps (RASC). Much of this work took place between 1940 and 1941 and included the resurfacing of many of the woodland rides and the construction of new tracks; the creation of parking areas and garages for vehicles and equipment; the establishment of communication and utility networks; the clearing of ground for storage space, and the erection of 22 large earth covered magazine stores and hundreds of corrugated-iron ammunition shelters all over the forest. Accommodation and facilities for the troops working at the depot – Royal Army Ordnance Corps (RAOC), Pioneer Corps and Royal Army Service Corps - was required and five camps were established at Tottenham House (SU2493563940), Warren Farm (SU2460265367), Cadley Vicarage (SU2114366214), Postern Hill (SU1968168108) and Iron Gates (SU2101668176).

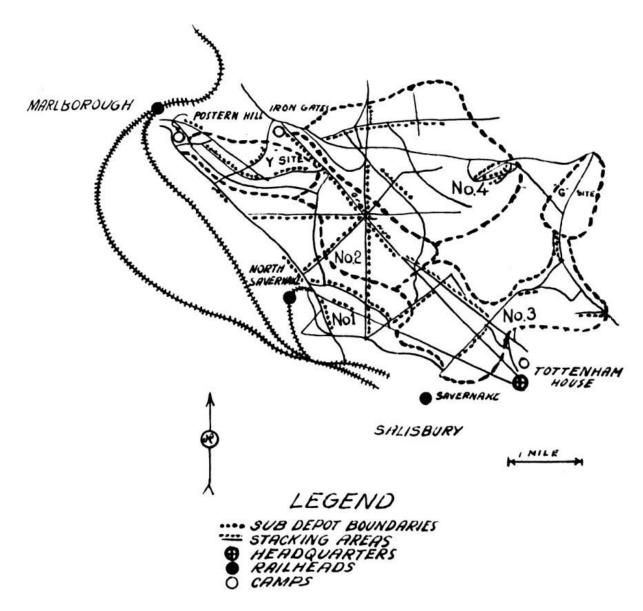


Fig. 3 Plan of Savernake Depot O-675 (under US control) in September 1943 (US National Archive MP63-9\_0103/563-5, 11<sup>th</sup> Sept 1943).

Towards the end of 1942 the Depot was gradually passed from British to American control and became known as depot O-675. British ammunition was removed to other British controlled ammunition depots and American ammunition was brought in and stored in the forest. American troops also moved into Savernake at this time, taking over, expanding and modernising the existing accommodation camps. Over the course of the next 18 months or so stocks of ammunition increased in anticipation of Operation 'Overlord', the Allied invasion of Europe. The increase in stocks was so great in the immediately preceding months to June 1944 (up to 140,000 tons) that ammunition was routinely stored in adjacent fields and woodland, as well as alongside public roads (US National Archive MP63-9\_0103/563-5, 11<sup>th</sup> Sept 1943).

At the end of the War, running of the depot reverted to British control and the depot was used to store redundant ammunition brought back from Europe. The site remained busy recycling

and coordinating the disposal of ammunition until the depot was finally closed in 1949, however the clearance of wartime military remains was at best piecemeal, and demolition and clearance in some areas took many years.

#### 5 INTRODUCTION TO IRON GATES CAMP

Iron Gates camp was located at SU 2101668176, strategically positioned at the entrance to the Grand Avenue which was, and still is, the main road through the forest. Iron Gates was one of five camps constructed to accommodate troops that worked at the depot.





Fig. 4. Entrance to Iron Gates Camp post 1945 (via Rob Dickens) and 2016.

When construction of the depot commenced in July 1940 accommodation in the Marlborough area was at a premium and work on the camp started almost immediately. The first mention of establishing a domestic camp at Iron Gates can be found in the War Diary of the No. 22 A.S.D. R.A.O.C entry for 19<sup>th</sup> July 1940 where it states that discussions between Major Knapp Fisher and other representatives of the Royal Engineers concluded that a "complete camp" should be built at the entrance to the Grand Avenue. The entry also mentions that a plan would be submitted when it had been decided what camp structures were to be supplied - railway coaches, tents or huts. Unfortunately few details survive regarding the exact numbers of troops billeted there or the numbers, types and function of the buildings constructed. However, in June 1942, shortly before the depot was handed over to the American Army, a report was prepared which stated that Iron Gates was being used by the British as a lorry park with accommodation for 370 men in old railway carriages (US National Archive MP63-9 0103/563-5,11<sup>th</sup> Sept 1943). However, only 140 of the 370 personnel accommodated at Iron Gates were from the transport unit. The camp was reported as being self-contained, but no indication was given regarding mess or bathing facilities. When the British moved out American troops took their place, but again few facts survive regarding exact numbers or unit details.



Fig. 4 Aerial photograph of Iron Gates taken by the US in 1944 (US\_7PH\_GP\_LOC209\_V\_5010 (6887 8 March 1944) Historic England USAAF Photography.

Unlike today, where the camp area is covered with thick undergrowth; brambles, ferns and smaller trees, mixed with a few larger older trees, the area during the Second World War was cleared of undergrowth with just the larger, predominately beech, oak and horse chestnut trees, providing cover. This made for a relatively cleared and open area within which to construct an army camp, though with the added protection of the large tree canopies to provide camouflage from the air.

#### 6 BACKGROUND TO THE PROJECT

In 2014 Iain Fry, a military historian and local resident, noticed that a number of trees in the area of Iron Gates Camp had been marked for felling as part of a programme of Forestry Commission coppicing work. He was concerned with the potential damage this might have on the extant archaeological remains of the camp and contacted local historian Roger Day and Dan Miles (member of the Wiltshire Archaeology Field Group) to discuss what could be done to alert the Forestry Commission about the archaeological significance of the Second World War remains in the area. Extensive remains still exist which show the footprint of the

camp and include individual components of hut bases and footings for railway carriage accommodation huts – which we believe are of national importance due to their unusual and relatively rare nature. There are reports of railway carriages being used elsewhere nationally but none have been found locally.

Meetings and a site visit were set up with Tom Blythe (Beat Forester, Bristol and Savernake) and Tim Yarnell (Historic Environment Adviser) of the Forestry Commission and Rachel Foster and Tom Sunley of Wiltshire Archaeology Service to look at the range of remains that survive in the forest. As a consequence a research project was set up and a project design submitted to the Forestry Commission for a survey to be undertaken of the Iron Gates area to record all extant features associated with the Second World War camp. The initial findings of the project, in the form of digital mapping, were sent to the Forestry Commission to be added to their Geographical Information System (GIS). This was sent, along with an identification guide of the remains, before the programme of coppicing work began in order to provide constraint mapping around the significant Second World War remains and to help contractors identify the remains on the ground.

This report contains the full survey results and interpretation of the remains.

#### 7 AIMS AND OBJECTIVES

- 7.1 The overall aim of the Recording Savernake's Second World War Heritage project is gain a better understanding of the extent, composition and significance of the extant Second World War remains in Savernake Forest.
- 7.2 This part of the project is to understand the remains found at Iron Gates Camp, which was one of the domestic camps associated with the ammunition depot.

This is to be achieved through:

- Identifying, recording and mapping the extant Second World War remains;
- Assessment of the significance of these remains to inform their management (including the production of this report);
- Production of an identification guide to the remains in Iron Gates Camp and other parts of the forest for contractors.
- 7.3 The first outcome is to provide the Forestry Commission with a better understanding of the extant remains in order to inform its management of the forest.
- 7.4 The main research outcome is to understand better the Second World War remains and assess their significance in a regional and national context. The project

contributes directly to the South West Regional Research Framework in improving our understanding of 20<sup>th</sup> Century military logistics, in particular:

 Research Aim 64: Improve our understanding of the less-researched areas of Post-Medieval to Modern defence and warfare.

"There is massive scope in the later period, one in which the ratio of civilian and support activity to the front-line has developed to meet rapid technological change and "total" war in the later Twentieth Century. Particular areas in urgent need of study are logistics (depots, dumps, repair and transport facilities), command and control resources, personnel services (training, medical care, recreation, security for service people) and "civilian" aspects, such as railways in war, temporary housing and fire/rescue services".

#### 8 METHODOLOGY

#### 8.1 Tape survey

Due to the thick foliage and undergrowth it was not possible to undertake a GPS or a Total Station survey of the remains, therefore an offset tape survey was carried out. However, this was very difficult to undertake due to the thick undergrowth, lack of visibility and reduced number of easily identifiable areas upon which to set out a baseline. Surveying in forests can be very difficult and disorientating.

The survey area was divided into a number of quadrants with overlapping base points established and reused for the different sections of the survey. This allowed the different areas of the survey to be tied into a grid, but also provided a degree of quality control as adjoining areas overlapped and the same features could be surveyed thus acting as common reference points of the overall survey. The individual surveyed sections were then "stitched" together to provide a single GIS layer of the extant remains.

This data set was then compared with that produced by the English Heritage 2008 aerial and lidar survey data and the spatial data of tagged heritage trees provided by Forestry Commission. Although accuracy was lost on individual 200 metre transects through the forest, this was compensated by the overlapping and repeated surveys from established base lines of the Grand Avenue, the Loop Road and White Road, which cut through or form boundaries to the camp area.

#### 8.2 Photographic survey

A photographic survey of the remains was undertaken with digital photographs taken of the main feature types found in Iron Gates.

#### 8.3 Recording of surface finds

Although the aim of the project was not to collect any surface finds, a few associated with different aspects of the camp were inevitably found. These were photographed in situ so that they could be identified. The finds, for example domestic refuse or parts of stoves, are very useful as they can aid in the identification of some of the components of the camp, providing further evidence of details of the features – whether structural or of their use and function.

#### 8.4 Analysis of documentary evidence

Original documents were re-examined as part of the project. The majority of these were provided by Roger Day who had kept copies used in the production of his book, Savernake at War and include both official British and US army records. The National Archives at Kew was also visited and the Wiltshire Archive at the History Centre in Chippenham. These documents include the minutes of meetings by the Wiltshire branch of the Committee for the Protection of Rural England that reported on the clearance of wartime remains from the forest.

#### 8.5 Analysis of the aerial photographs

The aerial photographs covering Iron Gates camp held by the Historic England Archive in Swindon were re-examined as part of the project. This was focused solely on the 20th Century military sites associated with the ammunition depot rather than using the multiperiod approach undertaken by the English Heritage survey in 2007-8. The analysis of the aerial photographs was also undertaken at the same time as the ground survey at Iron Gates. This combined approach aided greatly in the identification and understanding of the features seen in the aerial photographs.

The following aerial photographs were examined in the project to identify the Second World War features at Iron Gates:

RAF/HLA/573/IPRU\_6 (3<sup>rd</sup> June 1942)
US\_7PH\_GP\_LOC209\_V\_5010 (6887 8 March 1944)
US\_7PH\_GP\_LOC209\_V\_5024 (6887 8 March 1944)
RAF/106G/UK/1648\_1024 (424 10 JUL 1946)
RAF/CPE/UK/1821\_5103 (501 04 NOV 1946)
RAF/CPE/UK/1821\_5104 (501 04 NOV 1946)
RAF/540/958\_3065 (3026 01 DEC 1952)
RAF/540/958\_3067 (3026 01 DEC 1952)
RAF/540/958 4171 (3026 01 DEC 1952)

A number of new sites were identified from the aerial photographs, in addition to those recorded by the English Heritage NMP project. All the sites identified from the aerial photographs were cross checked on the ground and against the contemporary ground level photographs that exist of Iron Gates camp. This has enabled the features on the aerial photographs to be identified. The analysis of the aerial photographs, in addition to aiding in

the identification of different components of the camp, has led to our much better understanding of the sequence of events that took place at the camp. This has allowed us to create a timeline for the establishment, development and abandonment of the camp.

### 9 RESULTS OF THE SURVEY – DESCRIPTION OF INDIVIDUAL STRUCTURES OF THE CAMP

The field survey identified a large number of individual remains and components of the camp. These have been identified by comparing the surveyed remains to aerial photographic evidence, contemporary photographs and other documentary sources. These include the bases for huts and accommodation, passive air raid defences (PADs,) drains, rubbish pits, utilities (including drainage and communication) and camp defences. The survey has added a considerable number of new sites and features to those identified from the aerial photographic and lidar surveys and has enabled us to have a much better understanding of the camp, its layout and development. This section describes the main features of the camp identified by this project.

#### 9.1 The Loop Road

The metalled inner Loop Road was the main arterial access of Iron Gates camp, running from the Grand Avenue to White Road and was the focus for many of the communal huts in the camp.



Fig. 5 Entrance to the inner circular road from the Grand Avenue

#### 9.2 Vehicle Park

A large concrete hardstanding is still visible at SU2117068182. This was used as a vehicle park and a vehicle inspection pit, associated with the park, was visible until it was filled in sometime around 2000.



Fig. 6. Hardstanding of the vehicle park.

#### 9.3 Railway Carriage Accommodation

Pairs of standard dimension (3.0-3.10 metres length by 0.45-50 metres width) concrete blocks both ends of the railway carriages. The blocks were shuttered made using a high pebble and aggregate ratio to cement. They differ in height depending on the gradient of the slope. On a flat piece of ground they average between 0.45 and 0.50 metres high. However, on steeper ground one of the pairs of blocks was significantly higher. An example is at SU2112367913 with the block on the downslope measuring 0.76 metres high. The different heights of the blocks indicate that they were made in situ dependant on the local topography. The concrete blocks were positioned between 10.6 and 11 m (c. 36 ft) apart, most likely supporting the area of the carriage which would have originally been connected to the bogey assembly.



Fig. 7 Concrete block used to support each end of the railway carriage accommodation huts.



Fig. 8 High ratio of aggregate to cement mix of concrete support blocks.

The foundations of steps have been found associated with a number of the railway carriages, indicating the entrances to the carriages. One example has steps at both ends of the carriage, which may indicate that the carriage had been internally divided to create two separate compartments, accessed individually.



Fig. 9 Carriage step foundations



Fig. 10 Contemporary photographs show these huts supported by the concrete blocks and with steps leading to the entranceways. Copyright US National Archives (public domain).

#### 9.4 Passive air defence trenches

Linear or V-shaped slit trenches have been found associated with the majority of railway carriages. They are positioned directly underneath or part-underneath where the railway carriages would have been, and some have survived up to 1 m in depth. Their shape and length differ – from a classic V- shaped slit trench to linear trenches, and from c.3 m to 8 m. These trenches have now been interpreted as air raid trenches, known as Passive Air Defences (PADs).

No slit trenches have been found associated with the concrete hut bases or other non- accommodation structures (for example latrines) within the Iron Gates area.



Fig. 11. V-shaped slit (passive air defence) trench running under the carriage.



Fig. 12. Dug out earth piled above the air raid trench over 1 metre high in some examples.

A number of the railway carriages accommodation huts are located next to or near a number of large trees that have been tagged by the Forestry Commission – "heritage trees". For example railway carriages on the southern side of the Loop Road are located next to tagged trees 5219, 5343, 5337. Others are located near to tree throws where large trees once stood. The close association of these railway carriages with the large tagged trees shows that they were deliberately positioned underneath the trees to provide them with aerial cover by the tree canopy.

#### 9.5 Hut bases

Two types of huts were identified by the survey; those with solid concrete bases and those with brick or block foundation footings, laid out lines corresponding with probable dimensions of the outer walls of wooden huts. Some of these have been positively identified through comparison with contemporary photographs of the camp. Only four huts have been measured accurately due to the thick undergrowth. These are:

1 Nissen hut south of the Loop Road at SU2111468065.

The solid concrete base measures 12 m x 5 m and there is a small drain just outside its south east corner. This base is the nissen hut seen on the right of the Loop Road in the contemporary photograph (fig.10).

#### 2 Nissen hut at SU2106568080

This large hut base measures 21 m x 8 m and in its southern end measures 0.30 m thick to provide a level surface. It has three steps at its southern end indicating an

entrance and is surrounded by a ditch, potentially a roof drip trench. There are a number of concrete blocks with iron bars which may have been used to tie down camouflage netting. The hut has been identified as a nissen type hut from the aerial photographs, and due to its size —the largest in the camp and its central position has been identified as potentially being the camp's mess.





Fig. 13 & 14 Concrete base of the large nissen hut in the centre of the camp and one of the concrete blocks with iron bar, possibly to hold down camouflage netting.

#### 3 Two huts at SU2110068203

There are two large hut bases side by side located just off the Grand Avenue close to the pillars at the entrance to the camp. The eastern base is very large (21 m x 8 m) and is formed by a single solid line of concrete marking out the perimeter outline of the hut. The second is a solid concrete base, smaller in size (13.2 m x 7.6 m) with a small drain just outside its southern end. Two drains (a large drain 1.5 m x 0.7 m and a smaller one 0.7 m x 0.5 m) appear to be associated with these huts as there are two ceramic drain pipes leading from them into the larger drain. The size of this drain may indicate that these huts (or at least one of them) potentially be an ablutions or shower block.

#### 9.6 Latrine SU2113168128

A rectangular feature was identified by the English Heritage aerial mapping survey in an area that is badly overgrown and which has been significantly disturbed leaving a jumbled mess of broken concrete and brick debris. However, two sections of concrete found have been identified as two urinals measuring c. 3 m in length, 1m in height and 0.5 m wide. These have a distinctive tarred splash back, open half drain pipes and down pipes. A small rectangular drain was identified next to one of the urinals. These have been identified as two urinals probably situated at either end of a rectangular latrine block.





Figs. 15 & 16 Urinal splash back and associated drain for latrines.

#### 9.7 Utilities – drains and soakaways

A number of drains of differing size and construction and some broken ceramic drain pipes have been found in the camp. Nearly all of these have been found associated with the remains of wooden or nissen huts. The size of the drains differ from smaller soakaways measuring 0.50 m by 0.25 m to larger drains with ceramic pipes leading into them 1.5 m by 0.7 m - for example the one associated with the two huts alongside the Grand Avenue at SU2110068203. Although the majority of the drains have been interpreted as soakaways, there are a number of larger ones with ceramic drainpipes leading from buildings into them. These drains and soakaways would have been for draining dirty water from washing or cooking facilities, rather than for sewage as the camp did not have mains sewers.



Fig. 17 Large drain with two ceramic pipes entering it from the huts adjacent to the Grand Avenue at SU 2110068203.

#### 9.8 Water tank

9.8.1 The remains of a round brick water tank, known as an Emergency Water Tank was found at SU2107168134. It measures 5.60 m in diameter and would have been used to supply water in a fire emergency.

#### 9.9 Utilities - telephone and electricity

Two ceramic insulators have been found during the survey. The first is still in situ in one of the beech trees (Forestry Commission tag 5340) along the Loop Road at SU2110668026 are of the telephone/telegraph type. The second large electrical type insulator was found close to the large nissen hut located in the centre of the camp at SU2106568080. Cabling for electricity has also been found at various places within the camp area.



Fig. 18 Ceramic telephone/telegraph insulator in situ on a tree on the Loop Road 2016.

#### 9.10 Large rubbish pits

Three large pits have been found in the northern part of the camp around SU20950 68210 and one very large pit is located in the south western part close to the most southern carriages at SU 2111067894. These pits range in size from 4.6 m x 4.6 m to over 8 m x 8 m in size. They seem to have been dug as rectangular pits though appear curved due to infill and collapse. They have been filled with domestic waste from the camp, including large amounts of clinker, probably from domestic stoves, pottery and glassware – from containers and crockery, used personal items, as well as structural waste – barbed wire, rubble etc.... The material culture from these rubbish pits (though not examined in detail) indicate that the pits were used as domestic rubbish pits whilst the camp was in use and then as clearance pits when the camp was dismantled and abandoned. Large amounts of burnt material (including burnt white War Office crockery) was found in the largest pit in the south western part of the camp. It appears that some of the domestic waste was set alight as part of its disposal.



Fig. 19 Large rubbish pit at SU20950 68210.

#### 9.11 Firing points/pits

There is an enigmatic set of eight small rectangular shaped pits (2 x2 and 2 x1 metre) in three groups of 4, 2, and 2 respectively around SU20976824 in the north west corner of Iron Gates, close to White Road and the entrance to the Loop Road. Although some rubbish has been deposited in the bottom of some of these, they seem to be too small for rubbish pits. Their size and dimensions are also uniform and correspond roughly to the size of two-man slit trenches and have been interpreted as potential firing points or defensive positions in case of ground attack.



Figs. 20 & 21 Small pits possibly used as defensive firing points at SU2092668197.



#### 9.12 Material culture remains



Figs 22-25 Material culture remains found within the camp area, associated with the carriages. a. end part of a railway carriage, b. stove hood, c. razor, d. brylcreem bottle

Some material culture remains were found associated with the camp. This comprises predominantly of two types of material culture; that associated with the railway carriage structure and components and the other as domestic waste. The remains associated with the railway carriages includes structural components, such as iron braces, front end of the carriage, window glass, pieces of carriage wood and bolts. Internal components of the carriages include a flue pipe and parts of a belly-stove. The majority of the domestic waste found is clinker from the stoves, followed by standard War Office white glazed ceramic, bottle glass, and other ceramic and waste. Most of this has been found in the rubbish pits, but much is also scattered on the forest floor with significant spread suggesting that it was scattered in order to dispose of it during the life of the camp, or was dispersed during the demolition and clearance period post war.

#### 10 UNDERSTANDING THE CAMP

#### 10.1 Sequence of camp construction and abandonment

The plan to establish a camp at Iron Gates was agreed on 19th July 1940 (TNA WO 166/5323,19<sup>th</sup> July 1940) and work began soon after.

The Loop Road, White Road and the Grand Avenue all appear in the 1942 RAF aerial photograph (RAF/HLA/573/IPRU\_6) as metalled roads. The Loop Road and White Road were newly constructed as they do not appear on the Wiltshire (1943) Pre War "County Series" Historic OS maps. These roads were all part of the road construction and resurfacing work undertaken by the Pioneer Corps during 1940 and 1941. The Loop Road was an integral part of Iron Gates camp being the central route connecting the Grand Avenue and White Road and the central focus for a number of camp buildings. Some camp buildings can be seen in the June 1942 aerial photograph, including the large central nissen hut, the two gable roofed huts on the Loop Road and some railway carriages on the east side of the camp near to the Grand Avenue. In addition the large rubbish pits in the northern part of the camp and the two circular features (one in construction) can also be identified. However, very few railway carriages can be seen, compared to the number located on the ground.

We do know from the 22 ASD War Diary that some carriages were brought on site during 1940 and these are almost certainly still there beside the Grand Avenue, but hidden by the tree canopy. Colonel Primmer, the officer in charge of 22 ASD, made a point of flying over the depot during 1940 to check how successful the camouflage arrangements were and seemed pleased with what he saw (TNA WO 1665323, June 1940). Another source, the January 1941 entry in the War Diary of the 154 Pioneer Corps, describes work to remove the bogies from 15 railway coaches and erect them on cement footings. Therefore, it well may be that a number of carriages have been erected in the camp, but many are hidden from sight in the 1942 aerial photograph. However, comparing this photograph with the US 1943 aerial photograph, there seems to be much more evidence of disturbance and occupation. This suggests that the camp was enlarged with more huts and accommodation carriages erected post 1942, in order to accommodate newly arriving US troops.

#### 10.2 Closure and abandonment of Iron Gates Camp

There are no official documentary sources that record the closure and abandonment of Iron Gates camp. We do know that the depot was returned to British control at the end of the War (1945) and remained busy recycling and coordinating the disposal of ammunition until it was finally closed in 1949. The dismantling or part dismantling of the camp can be seen in the 1946 aerial photographs in particular RAF/106G/UK/1648\_1024 (424 10 JUL 1946) with the removal of one of the circular features, a reduction in number of railway carriages visible and two large open rubbish pits at SU20950 68210. These appear as disturbed ground suggesting that they were actively being used to dispose of the cleared remains of the domestic camp. However, as they can be seen on the June 1942 RAF photos it seems that these pits were dug for waste disposal during the camp's use

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(RAF/HLA/573/IPRU\_6 (3rd June 1942)). The content of these pits – a mixture of domestic and construction materials, suggests that these were indeed rubbish pits.

It appears that Iron Gates Camp was at least to some extent, out of service and partially abandoned, by 1946. However, a letter dating to 8th October 1948 states that men were to continue to be accommodated at Iron Gates for guard duties and that not all carriages would be removed in the near future. The minutes of the Wiltshire Branch of the Council for the Protection of Rural England (CPRE) of 16th September 1949 report on the state of clearance and disposal of military facilities at Iron Gates. This confirms its abandonment, however many of the buildings and services were still in place and although the timetable for removing the now sold railway carriages was originally to be completed by the end of 1949, this had been considerably delayed.

In the 1949 CPRE minutes it was recorded that the removal of telephone wires was still on going, however the removal of concrete hardstandings was out of scope of the Ministry of Works which was responsible for the forest clearance and apparently came under the jurisdiction of the Temporary Defence Committee (WSHC 322365/1, 16<sup>th</sup> Sept 1949). In regard to the process of clearing Iron Gates, the minutes state that although the carriages and huts were to be sold off (some of the huts to the Forestry Commission) and removed from the site as complete units, the purchase of the wooden huts had fallen through and it had been decided to break them up and remove the material as scrap. The carriages were to be removed complete, and this can be confirmed by the relative small amount and nature of the material remains of the carriages found in the camp. Only small and vulnerable features, such as window glass, bolts and other fittings have been found, which represent parts of the carriages broken or damaged when they were removed.

In the CPRE minutes of November 9th 1950 Iron Gates Camp was described as being in a worse state than ever with fragments of huts lying about amongst live ammunition debris and that water pipes still protruded from the ground. The final date for clearance was February 1951, however it is possible that some railway carriages can still be seen on the 1952 aerial photographs, and it wasn't until 1954 (WSHC 322365/1, 27<sup>th</sup> Aug 1954) that the war time debris had been finally cleared from the forest.

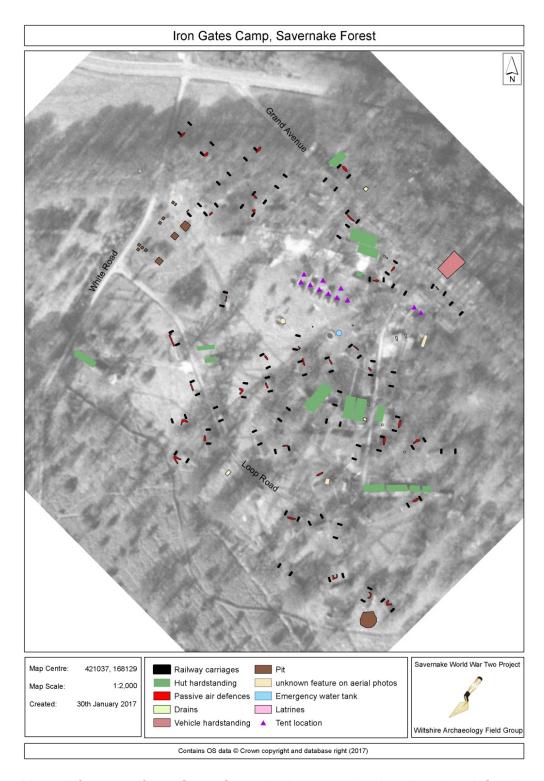


Fig. 26 Mapped features of Iron Gates Camp (2016) transcribed on the .1944 USAAF aerial photograph (US\_7PH\_GP\_LOC209\_V\_5010 (6887 8 March 1944) Historic England USAAF Photography. See Appendix 2 for larger image.

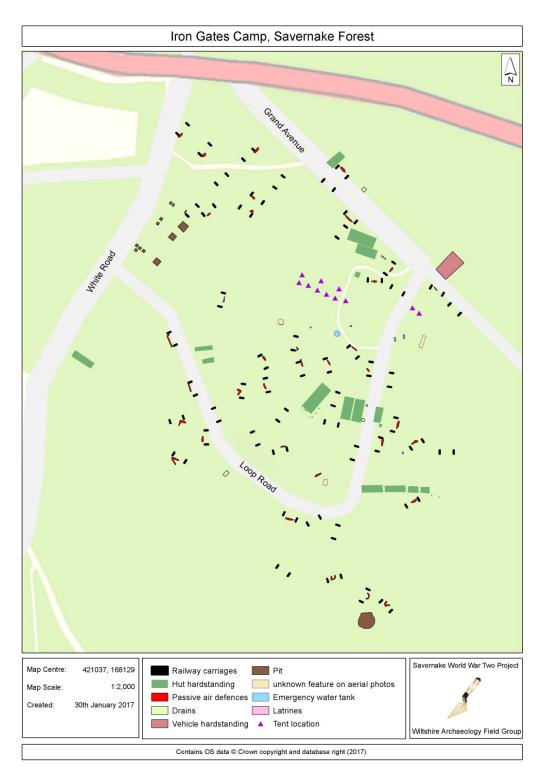


Fig. 27 Mapped features of Iron Gates Camp (2016). See Appendix 3 for larger image.

#### 10.3 Layout and facilities

Iron Gates has a distinctive and unusual dispersed layout, determined almost entirely by the natural canopy coverage provided by the large, predominantly beech and oak, trees. It was laid out around a curved inner metalled road known as the "Loop Road", which linked White Road to the Grand Avenue. It was bordered to the north by the main A4 London – Bath road, to the east by the Grand Avenue, the north-west by White Road and apparently to the west and south by an earlier earthwork. A number of standard First and Second World War iron pickets with barbed wire have been found along this earthwork boundary indicating that there was a barbed wire fence running to the west and south of the camp. Two other minor, though metalled tracks provided access to the northern part of the camp. Although these have to some extent been traced in areas of their trajectory, their exact location and duration of use is unknown.

Various small paths and tracks are visible on the contemporary aerial photographs, which criss-cross the camp area linking the different areas and buildings to one another. These worn tracks could have been made initially by the plant and machinery used to bring in the railway carriages and establish the camp, but many may also be small paths or tracks used by the troops accessing different parts of the camp, including the accommodation and communal buildings. The fabric of the camp comprised of a number of wooden huts, railway carriages and tents which were used for accommodation, storage, administration, messing and ablutions. Iron Gates was described as being a "complete camp" in the 19th July 1940 entry of the War Diary of the No. 22 A.S.D.

#### 10.4 Administrative and communal buildings

A number of hut bases were identified by the survey positioned in various locations within the camp area – again in a dispersed manner, though more focused than the accommodation carriages around the Loop Road. The hut bases differ in size and manufacture and when compared to the aerial and contemporary photographs, two types of huts have been identified: wooden gabled-roofed huts and nissen type huts. These appear to be standard War Office type buildings.

Various huts have been identified from the survey as a result of their extant concrete foundations. Two types of foundations have been identified – solid concrete bases and single skin lines of concrete blocks marking the perimeter outline of the hut. Two different sized nissen huts have been identified from the photographs and these correspond to the solid concrete bases.

The functions of the majority of the huts remain unknown as we have not been able to find a wartime plan of the camp during our research. However, as we know that railway carriages were used for accommodation, it is believed that the huts – wooden and nissen – would have been used as the communal and administration buildings in the camp. The only building that has been comprehensively identified is a latrine building at SU2113168128. This latrine block has been identified from the distinctive urinal screens that, although partially broken, are indicative of the function of the building. The other archaeological evidence that suggest the huts were communal is that the majority of the drains and

soakaways found during the survey are associated with these huts, indicating that there was some sort of water use in these huts – for example sinks, basins, or showers. The large drain (alongside a smaller one) located next to the large hut bases along the Grand Avenue at SU 2110068203, has two ceramic drainpipes entering the drain from the direction of the huts. This established drainage system could suggest a large use of water, possibly a shower or ablution block.

To attempt to understand the function of these huts, we do know that Iron Gates was a "self-contained" or "complete" camp. Therefore it would have contained all the essential services and functions of an army camp – for example kitchen, canteen, mess, ablutions etc.... There is some official documentary evidence that indicates there was a telephone exchange and guard huts at Iron Gates with "Iron Gates Headquarters" having the internal telephone extension "I.G. 17 or 18" (TNA WO 166/5323, 27<sup>th</sup> Sept 1941). However, the main source of evidence actually comes from an obscure source – namely the trial documents of an US solider, tried for the murder of one woman and rape of another Marlborough woman in 1943. The trial transcript and newspaper reports mention some of the facilities at Iron Gates, namely a shower room, latrines, canteen, NAAFI, guard room, ammunition store and a mess hall (The Army Library APO 871, 3<sup>rd</sup> Dec 1943).

A number of US M1934 Pyramid tents (18ft x 18ft x 12ft) can be seen in the 1943 US aerial photographs at Iron Gates. Nine are located in a large central grouping at SU2107868148 and just south of the Loop Road near its junction with the Grand Avenue at SU 2115168153. This type of tent had multiple functions including use as temporary stores and accommodation.

#### 10.5 Accommodation - Railway Carriages

In contrast to the huts described above, the troops at Iron Gates Camp were accommodated in railway carriages (US National Archive MP63-9\_0103/563-5, 11<sup>th</sup> Sept 1943). The position of these railway carriages is marked today by the location of pairs of concrete blocks that were used to support the railway carriages. To date 53 pairs of concrete blocks have been identified at Iron Gates. This could be interpreted as representing the total number of carriages at the camp, however, it is also possible that some carriages were moved around (leaving the old concrete blocks in situ) indicating a change of location or layout of the camp.

Associated with virtually all the railway carriage accommodation huts were linear or v-shaped trenches dug into the ground. These vary in length and are positioned directly beneath or partly beneath the railway carriages. Some of these survive as features up to 1m in depth. Originally these were thought to have been defensive slit trenches dug to defend the carriages from potential ground attack. However, they do not have any consistency in their direction or orientation in order to have provided defensive firing cover, and they have now been interpreted as being air raid trenches, known as Passive Air Defences (PADs). Many similar V-shaped air raid trenches are found on Second World War aerodromes and the Departmental Orders of Lieutenant-Colonel H. R. Primmer, commanding officer of the 22 A.S.D., dating to 31st July 1940 describes the digging of similar slit trenches as part of the preparation of P.A.D. schemes at Marlborough Common Camp (TNA WO 166/5323, 31st July 1940).

We know relatively little about the history of the railway coaches used as accommodation huts in terms of where they came from or their capacity. But From the contemporary photographs available it appears that there were different types and models of carriages used – although all were a standard length. The concrete supporting blocks were positioned c. 11 metres apart (c. 36ft) and would have supported the carriages in the same place where the bogeys had been (removed before positioning on site). This suggests that the carriages would have been about 45ft in length (c. 14m). One type of carriage has been identified from a letter's page response to an article on Savernake railway station in the Steam Railway magazine (undated). In the letter the writer describes first hand seeing underground coaches from the Hammersmith and City line with 'Metropolitan and Great Western' painted above the windows.

In terms of the capacity and furnishings of the carriages again we do not have a clear picture. The US Army trial report (The Army Library APO 871, 3<sup>rd</sup> Dec 1943) describes the defendant living in one of the railway carriages; sleeping in bunks with 8 men per carriage. The domestic nature of the carriages is also supported by the finding of parts of small belly type stoves, stove pipes and large amounts of clinker (residue from the stoves) all over the camp area. A central stove pipe can also be seen projecting from the side of the railway carriages in the contemporary photograph (Fig. 10 Contemporary photograph of huts along the Loop Road). The accommodation of 8 soldiers per carriage may be the norm, but we cannot be certain of this as this description was for a carriage of black US soldiers during the US occupation of the camp. Some of the carriages may have had more occupants or indeed, fewer. This could be the case for two of the carriages which have two sets of steps leading to them, suggesting that they had been divided into two separate spaces. This could potentially be for lower ranked officers or sergeant's accommodation – senior officers were billeted at Tottenham House.

It is also likely that not all the railway carriages were used for the accommodation of troops and that some may have had administrative or other functions. This could be indicated by the location of some of the carriages, close to the communal huts in the central area along the Loop Road of the camp and others, located at SU2107568257, either side of the entrance to the Grand Avenue, by the gate posts – the Iron Gates. These latter carriages may also have had a role as guardhouses. Also, some of the carriages do not seem to be associated with PAD trenches which could also indicate their non-residential use. The carriages with the double sets of steps leading to them could have been offices.

The only information we have on the capacity of Iron Gates Camp comes from the survey and report undertaken in June 1942 shortly before the depot was handed over to the American Army. This stated that Iron Gates could accommodate 370 men in old railway carriages (US National Archive MP63-9\_0103/563-5, 11<sup>th</sup> Sept 1943). If all 53 railway coaches (identified by the concrete blocks) were in use at the same time then this would give a capacity (using the 8 occupancy from the trial documents) of 424. This is very close to the 370 figure in the 1942 report and suggests that some of the carriages could have been used for non-domestic uses. Other reports also suggest that the camp was used for temporary overnight accommodation for visiting individual soldiers or units.

#### 10.6 Utilities and Services

Documentary sources show that Iron Gates had electricity and water supply as well as a telephone exchange. The water supply was provided through a mains water pipe fed by a 6,000 gallon water tank, located near to the reservoirs on Salisbury Hill, near Postern Hill Camp, at SU 19536796. It was supplied through a 3" asbestos mains pipe to a ring main that supplied Iron Gates Camp (WSHC G8/132/3, 1947; US National Archive MP63-9\_0103/563-5, 11<sup>th</sup> Sept 1943).Remains of the water mains ring were still sticking out of the ground in 1950 (WSHC 3223/65/1, 9<sup>th</sup> Nov 1950). The camp did not officially have mains drainage or sewage. The toilets in the other camps in Savernake had bucket toilets which were cleaned regularly (US National Archive MP63-9\_0103/563-5, 11<sup>th</sup> Sept 1943) and we believe this was also the case for Iron Gates. Two urinal blocks have been found which would have been at either end of a hut, probably with bucket toilets in cubicles arranged on both sides of the hut.

There are a number of small soakaways and a few larger drains. All of these are associated with huts, rather than railway carriages, and indicate that they have a communal function — washing facilities etc... The large drains have ceramic pipes leading into them from the direction of nearby huts. This suggests that localised drainage systems were constructed for removing larger amounts of waste water, and that the huts associated with these drains could be interpreted as being ablution or shower blocks.

There was at least one emergency water tank, though this was not to supply domestic use water but was as a precaution for firefighting.

The documentary evidence of a telephone exchange being located at Iron Gates is supported by the finding of a ceramic telegraph/telephone insulator still in situ on a tree on Loop Road. An electricity supply at the camp is confirmed by the finding of an electrical insulator near the large nissen hut in the centre of the camp, and various findings of insulator wire. The contemporary photograph of the entrance to Iron Gates (see cover photograph of the report) also shows clearly a number of telegraph poles and electricity and telephone wires criss-crossing the entrance to the camp.

#### 10.7 Defence of the Camp

In terms of defence, the English Heritage aerial survey interpreted two circular features in the centre of the camp (SU2107168134) as anti-aircraft gun or mortar emplacements. Only one of these has been identified on the ground, whilst the other, which appears to have been completely removed in the 1946 aerial photograph, is located in an area of thick brambles and inaccessible. However, the circular feature which was surveyed was brick walled and has been identified as an emergency water tank (EWT). The other circular feature is unlikely to have been an anti-aircraft gun emplacement as it is sited in completely the wrong location for this type of weapon - there are too many trees surrounding the site to give the gun a clear field of fire in any direction. At the moment this feature has not been identified.

Some potential slit trenches have been identified to the north near to the junction of White Road and the inner circle track of the camp, the Loop Road. Their position on one edge of the camp alongside one of the main entrance tracks could indicate a defensive position and they could be interpreted as being firing points providing covering fire to both the entrance to the Loop Road and the entrance to White Road. However, this is really uncertain and it could be that they were dug as practice defensive positions rather than having any real defensive function. A possible guard hut/position has also been identified from the aerial photos at the entrance to the Grand Avenue from the A4 road at SU2107868291. Finally a potential barrier has been identified in the 1942 and 1944 aerial photos across the entrance to the camp area at the junction of the Loop Road and White Road at SU2092168186.

Barbed wire fencing was used a great deal in Savernake Forest to delimit areas and prevent unauthorised access. It appears from the 1944 aerial photographs that the south western edge of the camp was marked out by an earlier boundary bank and barbed wire. Various barbed wire pickets have been found within the camp area and along this boundary bank.

#### 11 DISCUSSION AND CONCLUSIONS

#### 11.1 Methodological discussion

The project has highlighted the value of undertaking a multi-technique approach to recording the remains at Iron Gates. However, it has also highlighted various issues in both investigative methodologies to accurately map the features at Iron Gates. Although the NMP survey combined aerial mapping with lidar, it was not able to pick up a number of significant features, the most important of which were the passive air raid trenches. This is partly due to the one metre resolution of the lidar survey undertaken in 2007 and also due to the thick undergrowth that covers this area of the forest which affected the penetration of lidar to map the ground surface. It should also be remembered that the depot was designed to use the natural foliage and forest canopy as camouflage during the War.

Accurately mapping the features has also been difficult. The features plotted in the NMP survey appear displaced compared to the modern Basemap as they were transcribed using control information from digital OS 1:2500 scale base maps with an expected level of accuracy of +/- 2 m. The accuracy of the results produced by the ground survey undertaken has also had its issues as GPS was not able to be used due to the thick canopy coverage. Therefore an off-set tape survey was undertaken which was very difficult due to the large areas covered and the thick undergrowth encountered. However, by cross referencing the different parts of the surveys, reusing control points and revisiting the aerial photographs with knowledge of the extant ground remains, a more accurate map has been produced.

#### 11.2 Conclusions

This survey has shown the value of undertaking a ground survey of the remains at Iron Gates Camp. Not only has it significantly added to the number of remains recorded by the English Heritage NMP project, but it has aided considerably with the identification of the remains, provided us with a deeper understanding of the camp, its layout, function and sequence of development and closure. Furthermore, it has provided a record of what still survives today in the forest which is essential for their future conservation and protection.

The mapping of the extant features and the assessment of their significance in terms of their role and function within the ammunition depot, as well as within a national picture of this type of Second World War site, has provided the Forestry Commission with a very useful dataset and tool to help in their decision making when commissioning coppicing or other types of ground works. The new map can provide a buffer zone around the significant features to prevent any future damage by plant working in the forest.

The project has also provided a much better understanding of the camp within the context of the ammunition depot, showing for example the requirements for domestic accommodation for troops who worked at the site, including an increase in capacity during 1941/2 and certainly in the run up to the change of occupants from a British Army run depot to an American run site. It has also clearly shown the significance of the distribution and layout of the domestic camp, similar to that of the ammunition storage itself, in terms of utilising the natural coverage provided by the forest. This camp was designed to be protected from the air by being concealed beneath the natural tree canopy - a situation which is also reflected in the problems of identifying the features through aerial photographic analysis.

The use of different types of buildings is also significant. First, for the unusual use of railway carriages for accommodation, and secondly as the remains of buildings and associated features can be used to identify to some extent the types and functions of some of these buildings. For example, in general the huts bases with drains signify communal buildings (canteens, ablution blocks) whilst the railway carriages (blocks and associated air raid trench shelters) indicate accommodation buildings. This is important as no plan or description of the camp buildings has survived from documentary sources.

Finally, the most significant aspect of the archaeological remains of the camp buildings is that they provide very good evidence of the layout of the camp – they are the footprint of the camp, showing how the camp was set out in a dispersed layout making use of large beech and oak trees to protect them. Trees are an integral part of this layout, providing cover but also being used as supports for electrical and telephone cabling. The presence of large Forestry Commission tagged trees next to the concrete blocks and hardstandings are evidence of this close relationship between the natural and heritage assets.

#### 12 RECOMMENDATIONS

A number of recommendations for further research and work have been made:

- There is great potential for researching the material culture left behind in the camp area. Although not the focus of this survey, a number of objects were recorded which have the potential to provide a great deal of information on the camp and its occupants throughout the period of its use.
- There is the opportunity to provide some sort of interpretation of Iron Gates Camp, either through interpretative panels or a guidebook. This could be part of a larger public interpretation project of the Second World War remains in the forest.
- This report should be revised when more documentary and archaeological evidence appears.

#### 13 ARCHIVE

All archive material (hard and digital copy of this report and digital photographs) will be deposited with the Wiltshire Museum, Devizes, Wiltshire. A digital copy of this report will be made publically available to the Wiltshire's Historic Environment Record and the Archaeology Data Service's Digital Library, through the online OASIS recording system.

#### 14 REFERENCES

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#### 15 APPENDICES

- Appendix 1 Mapped features of Iron Gates Camp (2016) transcribed on the 1944 USAAF aerial photograph (US\_7PH\_GP\_LOC209\_V\_5010 (6887 8 March 1944))
- Appendix 2 Mapped features of Iron Gates Camp (2016) transcribed on the OS OpenData StreetView map.
- Appendix 3 Shapefiles of the mapped features