



# Bolton Anti-Aircraft Battery

Bolton upon Dearne  
Historic Building Recording

ArcHeritage 2019

**Bolton Anti-Aircraft Battery, Bolton upon Dearne**  
**Historic Building Recording**

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## Key Project Information

Project Name	Bolton Anti-Aircraft Battery, Bolton upon Dearne
Report status	Final
ArcHeritage Project No.	663
Type of Project	Historic Building Recording
Client	Dearne Valley Landscape Partnership
NGR	SE 46333 02379
OASIS Identifier	Archerit1-366447
NHLE Identifier	1019872
Author	Chris Curtis
Illustrations	Chris Curtis
Editor	Rowan May
Report Number and Date	2019/58 6 <sup>th</sup> September 2019
Version and filename	Version 1 Bolton Anti aircraft battery report V1.pdf

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## **NON-TECHNICAL SUMMARY**

On 28<sup>th</sup> May 2019, ArcHeritage conducted a building recording exercise and training session at the Bolton Anti-Aircraft Battery with members of the local community. Local volunteers played an integral part in the project and received training and guidance on the practices and methods of recording of historic buildings. The Heavy Anti-Aircraft Battery was designed to engage enemy bombers, and consists of the remains of four gun emplacements, a command post and a Nissen Magazine.

The Heavy Anti-Aircraft Battery was built in a single phase of construction, probably not before 1942. The battery is a good example of its type and despite years of neglect and agricultural reuse its function remains broadly legible. Some areas of the site are in a poor condition, including erosion of the concrete roofs and flooding to the interior of the command block, though the flooding does assist in preventing vandalism to the interior. Threats to the condition of the structure include vegetation damage, including trees growing on or within the structures, weather erosion and vandalism.

## 1 INTRODUCTION

On 28<sup>th</sup> May 2019, ArcHeritage conducted a building recording exercise and training session at the Bolton Anti-Aircraft Battery with members of the local community. Local volunteers played an integral part in the project and received training and guidance on the practices and methods of recording of historic buildings. The Heavy Anti-Aircraft Battery was designed to engage enemy bombers, and consists of the remains of four gun emplacements, a command post and a Nissen Magazine.

The project is part of the Dearne Valley Landscape Partnership (DVLP), a HLF-funded, five-year programme of projects focusing on the historic buildings and landscapes of the Dearne Valley. By working with local communities, the Partnership aims to protect, preserve and enhance the area. Established as part of the DVLP, the Archaeology and Geology Project has enabled more of the Dearne Valley's historic environment to be surveyed through the archaeological investigation of ten sites, one of which is the Bolton Anti-Aircraft battery. The aims of the Archaeology and Geology Project were to enhance the understanding of the heritage of the area and develop skills, knowledge and capacity within local communities.

## 2 LOCATION

The anti-aircraft battery is located in a field to the south-east of Bolton upon Dearne, approximately 650m from the train station. The gun emplacements surround the command unit and are accessed from a track leading north to a ruined Nissen hut and Lowfield Road. The battery overlooks open countryside to the north and east, suburban development to the west, and the River Dearne to the south. The site is a Scheduled Monument (NHLE 1019872).

## 3 AIMS & METHODOLOGY

The purpose of the recording was to determine and identify the phasing and context of the extant building and to provide a basic record of the fabric and features of Bolton Anti-Aircraft Battery before the site deteriorates further.

This survey will enable a more complete understanding of the development of the structures. The survey follows guidelines set out by Historic England in *Understanding Historic Buildings* (2016) and broadly correlates to a Level 2 survey as defined therein.

Digital photographs, detailed notes and sketches of the site were used to create a full record of the buildings. Photogrammetry was undertaken to provide rectified images of the structures, utilising a telescopic pole.

Due to internal flooding in the command post and structural instability to the concrete buildings, the interiors of the structures could not be investigated in detail.

Some vegetation clearance was undertaken at the site prior to the building recording. Scheduled Monument Consent was obtained for the archaeological works.

## 4 HISTORICAL BACKGROUND

The historical background of the site is summarised from information contained in the Dearne Valley Heritage Audit (ArcHeritage 2013) and information in the Scheduled Monument description. Station H17 was a Second World War Heavy Anti-Aircraft (HAA) battery designed to engage enemy bombers. Surviving features at the site include the standing, buried and earthwork remains of four gun emplacements, a command post, a Nissen magazine and part of the station's service track. The site would also have included a radar platform, although its position is currently unknown. The earliest surviving record of the site dates from June 1942, when the station was described in an Anti-Aircraft Command letter as 'unarmed'. H17 is unlikely to have been completed by June, as the gun emplacements and command post include features that were built to the Directorate of Fortifications and Works 55414 design, which was not issued until October 1942.

Documentary evidence demonstrates that Station H17 was staffed by 626 (m) HAA Battery and 646 Battery, between 1943 and 1944. During this period, female staff from the Auxiliary Territorial Service (ATS) operated radar and communications systems, while male staff operated the guns. H17 does not appear to have ever been used in action, however, and the staff were transferred to coastal batteries in 1944.

Station H17 included elements from two different anti-aircraft battery designs: the twin entrances of the March 1938 design and the external ammunition recesses and shelters of the October 1942 model. It is not clear how many other anti-aircraft batteries incorporated elements of both designs. The gun emplacements are arranged in a semi-circle around the east side of the command post and are approximately 8m in diameter with 2m-high concrete and breeze block walls.

The surrounding walls form three compartments, with the central space providing access to a shelter at the rear. The remaining recesses were used for stacking ammunition and fuses. The gun holdfasts at H17 are octagonal concrete pads positioned in the centre of each of the emplacements.

The command post is semi-sunken and approximately E-shaped in plan. Elements of the post's metal fittings and pipe work remain extant, while various instrument mounting bases survive in an enclosed, unroofed area at the front of the building. Former features that would have been mounted in this area include an identification telescope, a height-finder and a device known as 'the predictor'. These relayed information to the plotting room, situated in the covered part of the command post, where the bearing, elevation and range of enemy aircraft were calculated and relayed to the guns.

The Nissen magazine, which held reserve ammunition, is situated approximately 100m north-east of the command post, along a narrow service track. Domestic sites were also a feature of sites such as H17 and huts, ablutions blocks, offices, stores and amenities were also situated to the north-east of the gun battery.

Only the command post of H17 was shown at the site on the 1958 Ordnance Survey map, suggesting that the remaining features had not been exposed by the erosion of their earthen bank defences by that date. The remainder of the site's surviving features were marked on the 1972 OS map.



Of the almost 1,000 heavy anti-aircraft sites in operation during the Second World War, less than 200 have surviving remains. H17 is one of only 60 such sites to retain sufficient features to enable an understanding of their original form and function.

## 5 DESCRIPTION OF THE BUILDINGS

The four gun emplacements are grouped in a roughly circular manner around a central command post. The battery itself is accessed from Lowfield Lane to the north via a short access track. The Nissen hut which served as a magazine is located at the northern end of the access track. No evidence for any other huts, ablution blocks, offices or stores was seen during the building recording.

### The Command Post

The command post sits in an off-centre position to the west of the site with easy access to each of the gun emplacements. Like the emplacements, the command post is constructed of concrete block walls sunken into earth banks (Plate 1). The building has a flat roof of reinforced concrete slabs. The building is roughly E-shaped in plan and contains a large central room in the body of the structure with a number of smaller ancillary rooms. The building's openings are limited to doorways and small ventilation windows set at regular intervals at the top of the doors.

### The Gun Emplacements

The gun emplacements (A-D) all have identical designs and remain broadly similar (Plate 2). Any differences between them are due to modern alterations. Each emplacement consists of two symmetrical concrete ammunition lockers, roughly semicircular in plan, built around an octagonal concrete gun platform. Some of the concrete platforms retain evidence of circular metal fittings, the fixing points for the gun mountings (Plate 3), as well as narrow linear gutters set into the concrete.

The ammunition lockers are built of concrete blocks topped with a flat concrete roof and surrounded externally by an earth bank. Each structure has six recesses facing towards the gun platform. Two of the recesses lead to small shelters with baffled entrances, with four wider recesses or lockers probably used for storage. Several of the lockers have been bricked up. Anecdotal evidence suggests they were modified by a farmer to use the emplacements as pig sties (Plate 4).

The southern emplacement (D) has remnants of paint on the blockwork consisting of an unidentifiable number and the word Porcupine (Plate 5). Presumably the number was either a serial number for the emplacement or for the battery as a whole and Porcupine was a code name for the emplacement. There are no traces of paint on any of the other emplacements, nor is there any other evidence for the gun emplacements' wartime use.

### The Nissen Hut

The Nissen hut at the northern end of the site has been badly damaged in recent years but its method of construction is still discernible. The rectangular hut is built on a concrete slab and would have had brick walls at each end of the building (Plate 6). The brick-and-a-half thick walls have been demolished but their ruins have been left on the site. The roof of the hut was

formed from concrete cast between corrugated steel shuttering, leaving a corrugated effect in the remaining concrete. The concrete does not appear to be reinforced, and it is likely that it relied on the corrugated steel sheets being left in place as reinforcement. These have either been removed or have corroded away. The substantial construction of the Nissen hut, from concrete rather than steel is evidence of its use as a magazine, as it would have required a greater level of protection from enemy attack.

## **6 DISCUSSION**

The Heavy Anti-Aircraft Battery was built in a single phase of construction, probably not before 1942. The battery is a good example of its type and despite years of neglect and agricultural reuse its function remains broadly legible. Some areas of the site are in a poor condition, including erosion of the concrete roofs and flooding to the interior of the command block, though the flooding does assist in preventing vandalism to the interior. Threats to the condition of the structure include vegetation damage, including trees growing on or within the structures, weather erosion and vandalism.

## **7 REFERENCES**

ArcHeritage. 2013. Dearne Valley Landscape Partnership: Heritage Audit. Unpublished ArcHeritage report 2013/27.

Historic England. 2016. *Understanding Historic Buildings: A Guide to Good Recording Practice*. Historic England: Swindon.

## **8 ACKNOWLEDGEMENTS**

ArcHeritage would like to thank the Dearne Valley Landscape Partnership for commissioning this report and Janet Fletcher for organising the volunteers.

## PLATES



Plate 1: Aerial view of the command post, facing west



Plate 2: Aerial view of gun emplacement C, facing east



Plate 3: Metal gun fittings at the centre of emplacement A, facing north



Plate 4: Interior of gun emplacement B, facing north-west



Plate 5: Painted writing on emplacement D, facing west



Plate 6: Nissen hut at the north of the site, facing north

## FIGURES

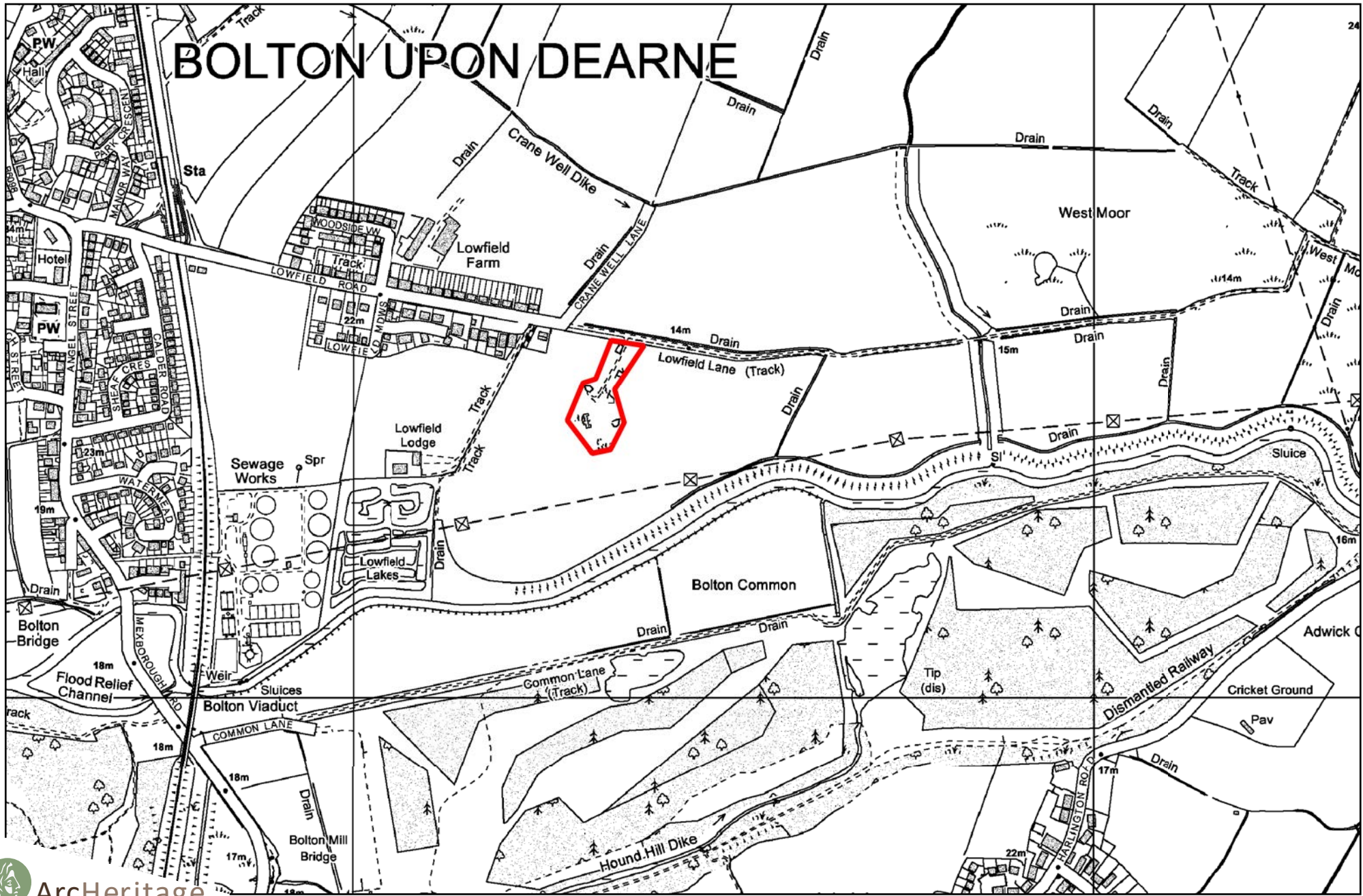
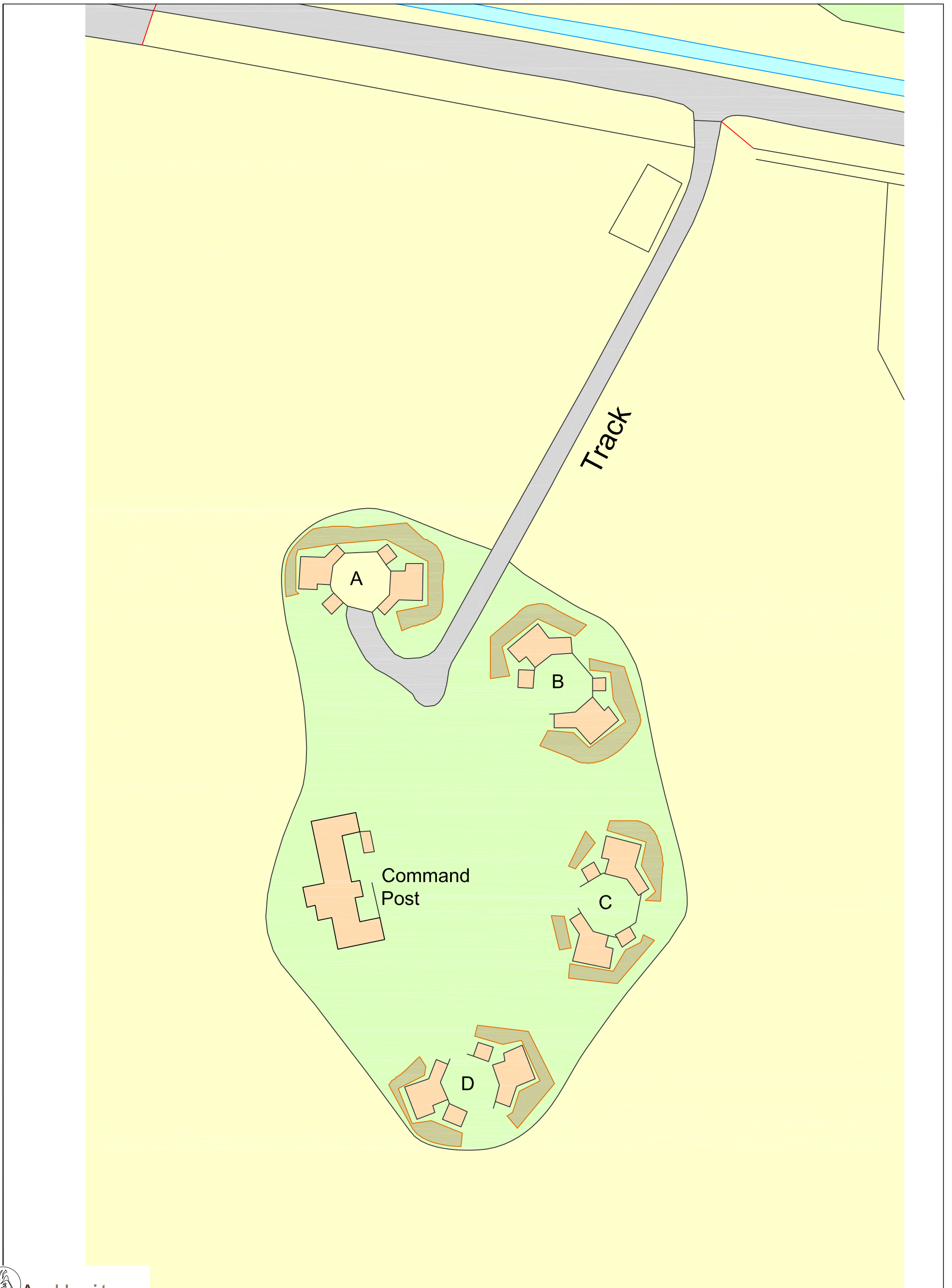


Figure 1: Site location





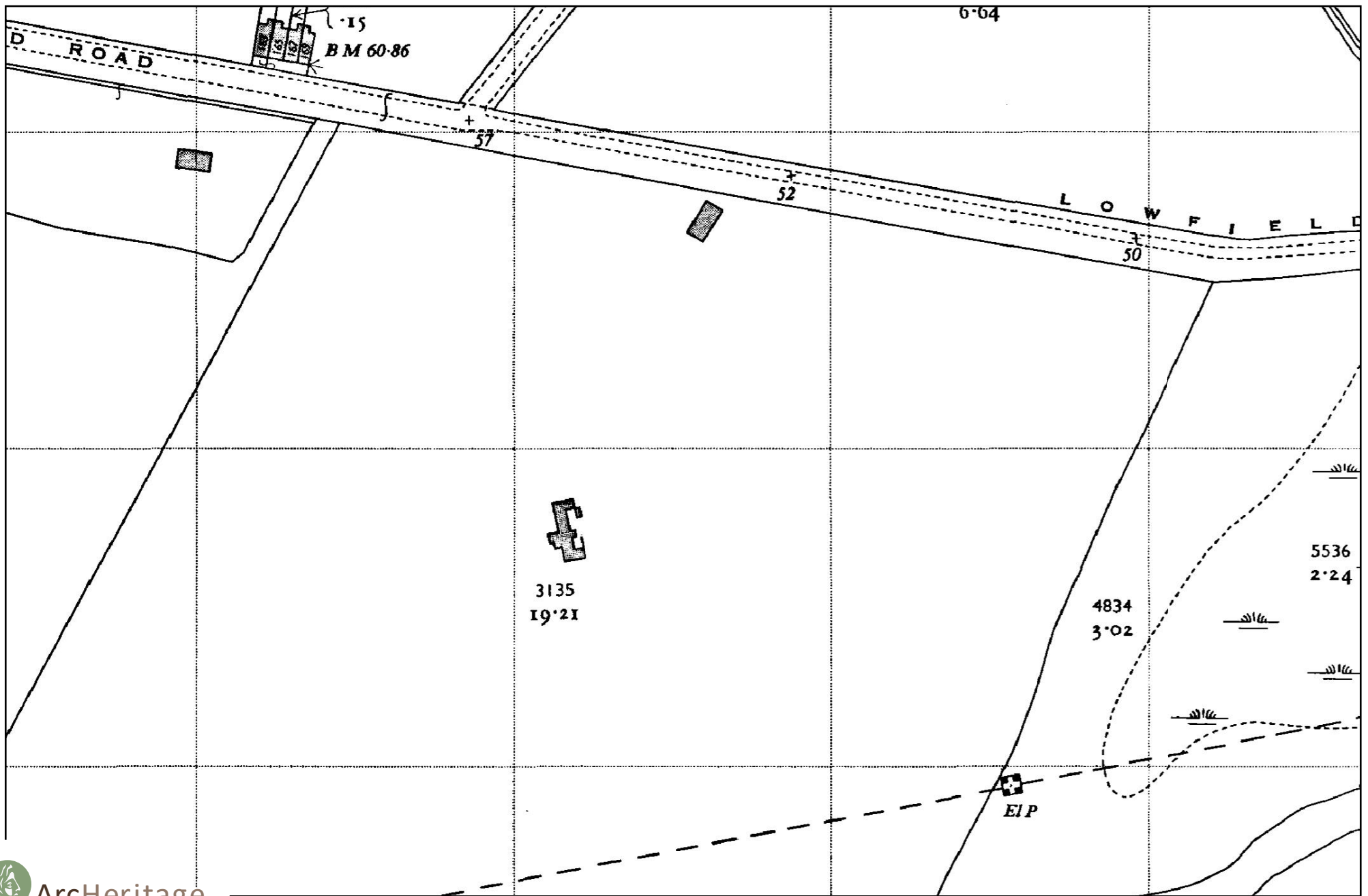


Figure 3: 1957-62 OS map

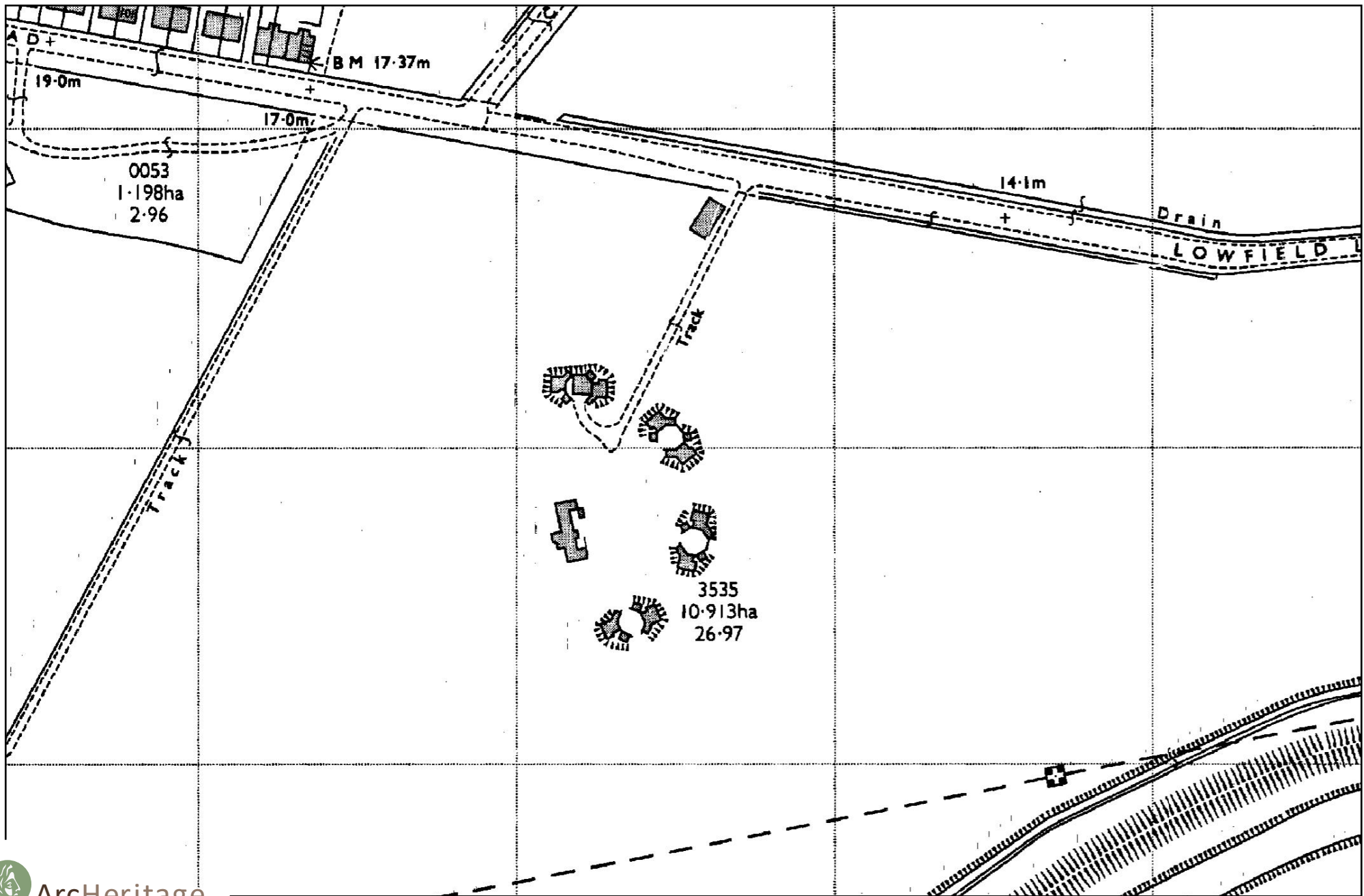
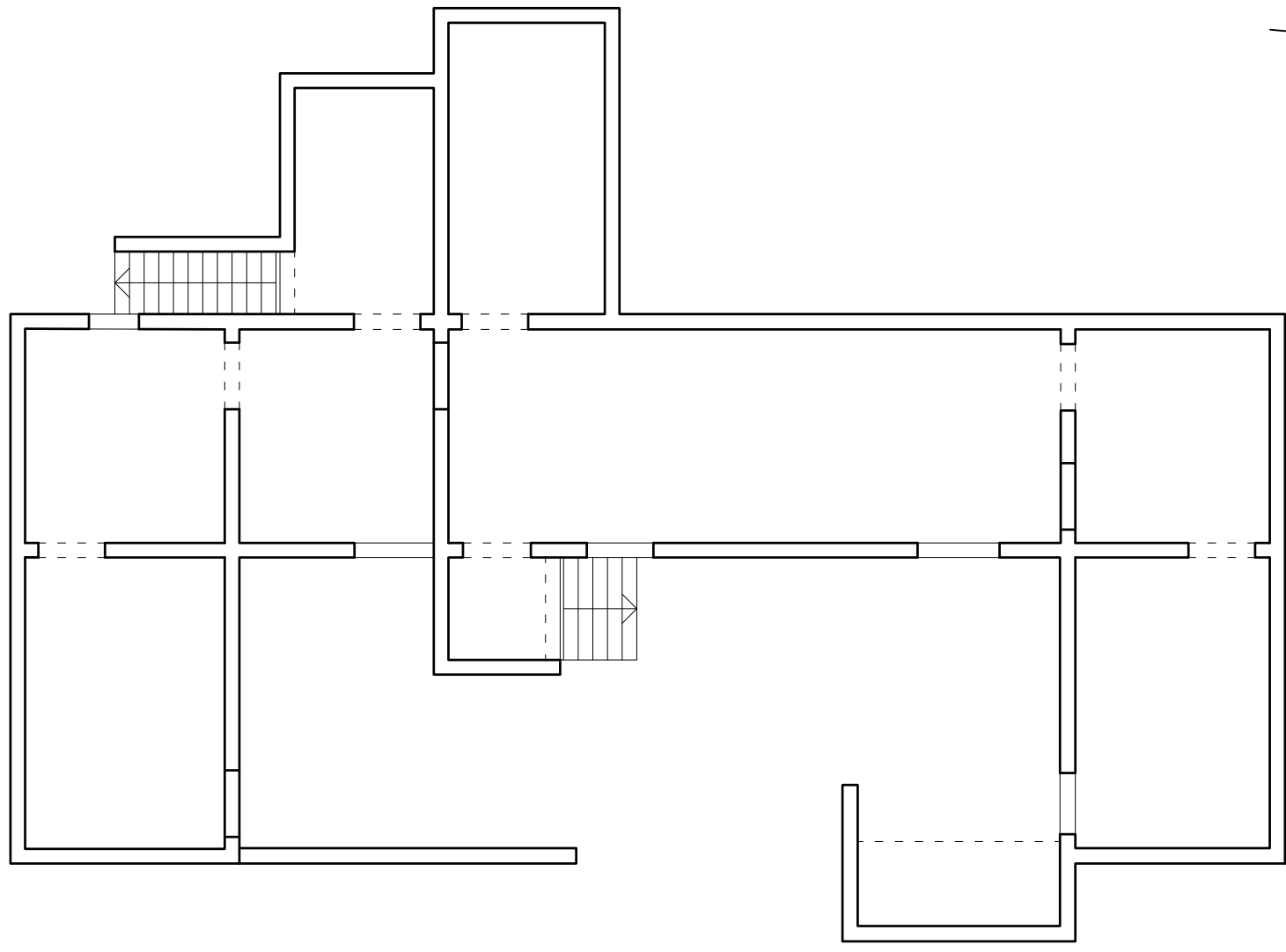
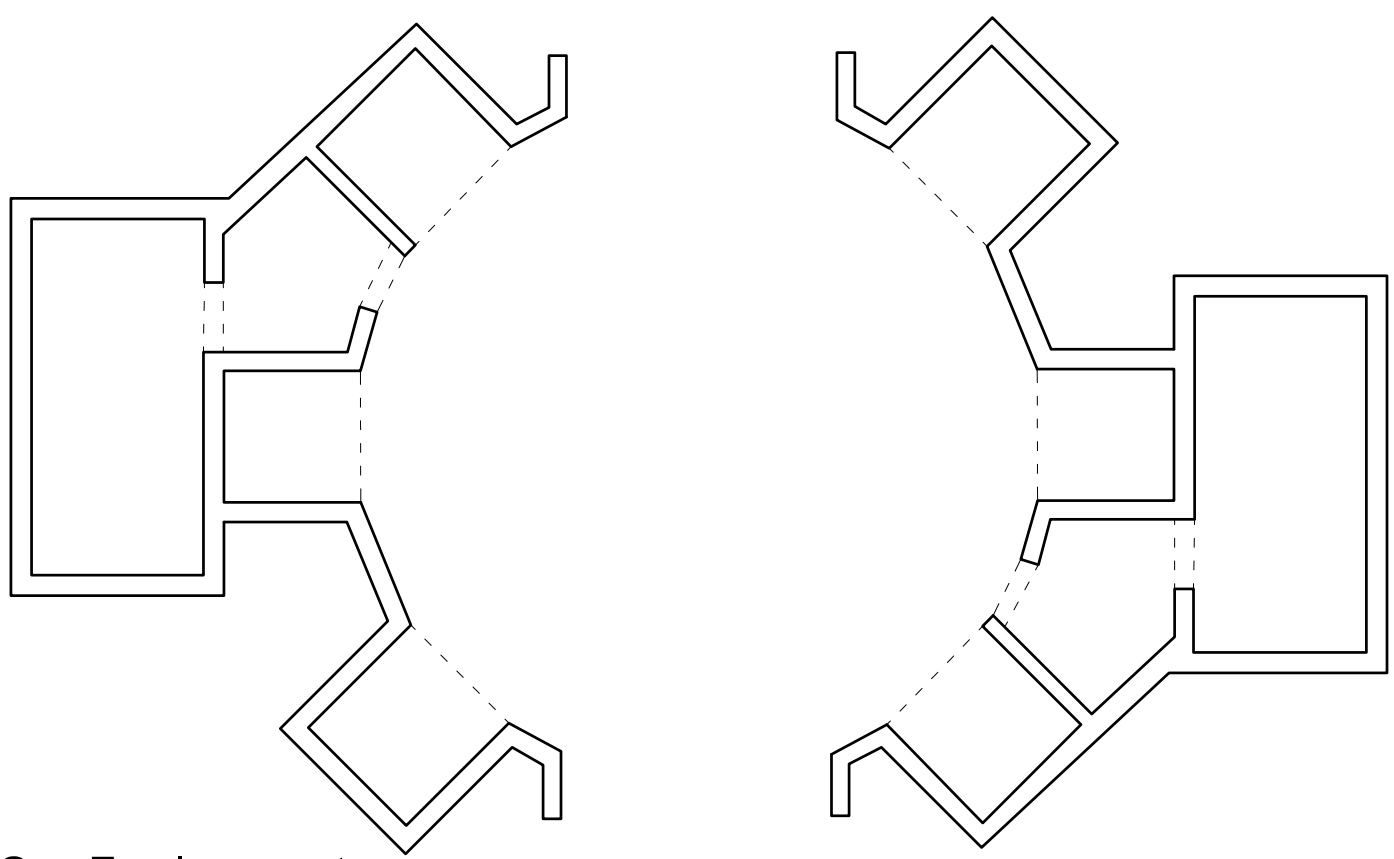


Figure 4: 1972-74 OS map



Command Post



Gun Emplacement



## APPENDIX 1: INDEX TO ARCHIVE

The site archive is held by Barnsley Museum. Accession Number **BMBC.TH.2534**.

Detail of the archive content is listed below.

Item	Quantity
Sketch Plans	5
Report	2

## APPENDIX 2: SCHEDULING DESCRIPTION

Heavy Anti-aircraft gunsite 330m south east of Lowfield Farm

NHLE: 1019872

List Entry Description:

Reasons for Designation

Although of comparatively recent date, 20<sup>th</sup>-century military sites are increasingly seen as historic survivals representing a defining episode in the history of warfare and of the century in general; as such they merit careful record and, in some cases, preservation. One of the more significant developments in the evolution of warfare during this period was the emergence of strategic bombing in World War II, and this significance was reflected by the resources invested in defence, both in terms of personnel and the sites on which they served. During the war, the number of people in Anti-aircraft Command reached a peak of 274,900 men, additional to the women soldiers of the ATS who served on gunsites from summer 1941, and the Home Guard who manned many sites later in the war. A national survey of England's Anti-aircraft provision, based on archive sources, has produced a detailed record of how many sites there were, where they were and what they looked like. It is also now known from a survey of aerial photographs how many of these survive.

Anti-aircraft gunsites divide into three main types: those for heavy guns (HAA), light guns (LAA) and batteries for firing primitive unguided rockets (so called ZAA sites). In addition to gunsites, decoy targets were employed to deceive enemy bombers, while fighter command played a complementary and significant role. Following the end of World War II, 192 HAA sites were selected for post-war use as the Nucleus Force, which was finally closed in 1955. The HAA sites contained big guns with the function of engaging high flying strategic bombers, hence their location around the south and east coasts, and close to large cities and industrial and military targets. Of all the gunsites, these were the most substantially built. There were three main types: those for static guns (mostly 4.5 and 3.7 inch); those for 3.7 inch mobile guns; and sites accommodating 5.25 inch weapons. These were all distinct in fabric, though they could all occupy the same position at different dates, or simultaneously by accretion. As well as the four or eight gun emplacements, with their holdfast mountings for the guns, components will generally include operational buildings such as a command post, radar structures including the radar platform, on-site magazines for storing reserve ammunition, gun stores and generating huts, usually one of the standard Nissen hut designs. Domestic sites were also a feature of HAA gunsites, with huts, ablutions blocks, offices, stores and amenities drawn from a common pool of approved structures. Sites were often also provided with structures for their close defence; pillboxes are the most common survivals, though earthwork emplacements were also present.

The layout of HAA gunsites was distinctive, but changed over time, for example to accommodate the introduction of radar from December 1940, women soldiers from summer 1941, and eight gun layouts from late 1942. Nearly 1,000 gunsites were built during World War II, and less than 200 of these have some remains surviving. However, at only around 60 sites are these remains thought sufficient to provide an understanding of their original form and function. This includes 30 of the 192 examples which continued in use until 1955. Surviving

examples are therefore sufficiently rare to suggest that all 60 well preserved examples are of national importance.

The heavy Anti-aircraft gunsite 330m south east of Lowfield Farm is a well- preserved example of an early to mid-World War II gunsite. It retains the functional core of the station, the command post, gun emplacements, gun holdfasts, Nissen magazine and the service track.

#### Details

The monument includes the standing, buried and earthwork remains of a World War II Heavy Anti-aircraft (HAA) gunsite known as Station H17. The site includes four gun emplacements, a command post, a Nissen magazine and part of the service track. The site is situated to the east of Bolton Upon Dearne and 200m north of the River Dearne. It is unclear exactly when Station H17 was established but it is known to have been unarmed in June 1942 when the site is mentioned in an Anti-aircraft Command letter. Guns were often moved from one site to another during the war and the fact that a site was unarmed at any particular time does not necessarily mean it had been totally abandoned.

A book of signatures from Her Majesty's Forces Rest and Recreation Room at Bolton Upon Dearne camp records that between 1943 and 1944, the site was staffed by mixed sex batteries known as 626 (m) HAA Bty and 646 Bty. Women were employed from the Auxiliary Territorial Service (ATS) to operate radar, communications systems and other support roles whilst men continued to operate the guns. The site was probably connected with the defence of Sheffield which lies approximately 16km to the south west. The Anti-aircraft (AA) guns were used not only for destroying enemy aircraft but, more importantly, for preventing accurate bombing and for preventing enemy aircraft reaching their objectives, particularly at night. The effect of AA gunfire was, generally speaking, to keep all enemy aircraft at a high altitude and to deter them from flying on the straight and even course necessary for accurate bombing. Another important function of AA guns was to indicate the position of enemy aircraft to their own fighters. Often, when an enemy plane was out of range, the guns would fire one or two rounds to burst as near as possible, simply to draw the fighters attention to the enemy.

The monument survives as a series of standing, buried and earthwork remains. The HAA gun emplacements and command post are constructed out of concrete and breeze block and broadly follow standard designs. The gun emplacements are arranged in a semi-circle around the east side of the command post and incorporate characteristics of both the March 1938 pattern which was octagonal in plan and had twin axial entrances, and the Directorate of Fortifications and Works (DFW) 55414 design, which was issued by the DFW on 10th October 1942. This had a single entrance and external ammunition recesses and shelters. Both types were designed for 3.7in guns although some of the earlier examples were designed for 4.5in guns. At Bolton Upon Dearne the emplacements incorporate the twin entrances of the earlier model and the external ammunition recesses and shelters of the later model. They measure approximately 8m in diameter with 2m high concrete and breeze block walls. The surrounding walls form three roofed compartments of which the central one leads to a shelter at the rear. On one side the shelter was typically used as a relaxed duty shelter for the gun crew, the other for gun maintenance. The other recesses were used for stacking ammunition and fuses of different, preset lengths. The twin axial entrances align directly with the command post. The gun holdfasts are octagonal concrete pads positioned in the centre of each gun emplacement.

They are set level with the ground surface with a standard ring of holding down bolts for fixing the gun mounting. Although not all the holding down bolts survive, their position is evident on the ground in most cases.

The command post is roughly E-shaped in plan, semi-sunken and is constructed of breeze block and concrete with some metal fittings and pipe work surviving. The bases of various instrument mountings survive in an area at the front of the building which is enclosed although open to the sky. In operation these mountings would have housed an identification telescope, the predictor (a mechanical computer), and height finder. These fed information to the plotting room, a long room in the covered part of the command post where the bearing, elevation and range were calculated and relayed to the guns. Other rooms in the command post acted as offices, stores and communication rooms. The building faces to the east so that the Gun Position Officer (GPO), who was in charge of the command post, could control the firing of the guns, watch the effects of the fire and take responsibility for the identification of enemy aeroplanes.

The Nissen magazine has brick built ends, a curved, corrugated, metal roof, ventilating facilities, and a double iron door at its southern end. The magazine was provided for storage of reserve ammunition, beyond the ready for use supply kept in the recesses within the gun emplacements. The magazine is situated approximately 100m north east of the Command Post along a narrow service track.

From the summer of 1941, many HAA Regiments used women to operate equipment. Station H17 was designed to accommodate mixed sex batteries and had a large domestic camp to the north of the protected area. An aerial photograph taken in 1979 shows one or two surviving buildings but the structures have now been removed and the area developed into a housing estate. This area is not therefore included in the scheduling. All the buildings and structures are surrounded by earth and turf embankments. These would not only have reinforced the structures but would also help to camouflage the site from air attack. The HAA battery complex would, originally, have included a radar platform but the exact position of this is unknown. All modern fences are excluded from the scheduling, although the ground beneath these is included.

## APPENDIX 3: PROJECT DESIGN



## Project Design For Building Recording and Survey at the H17 Heavy Anti-Aircraft Battery, Bolton Upon Dearne, South Yorkshire

**Site Location:** Lowfield Lane, Bolton Upon Dearne, S63 8GX  
**NGR:** SE 4633 0238  
**Prepared for:** DVLP, South Yorkshire Archaeology Service (SYAS), Historic England

### 1. SUMMARY

- 1.1. This project design has been prepared for a community building survey and recording at the H17 Anti-Aircraft Battery, Bolton Upon Dearne, South Yorkshire. The work will be carried out in accordance with this Project Design, and according to the principles of the Chartered Institute for Archaeology (CIfA) Code of Conduct and all relevant standards and guidance.
- 1.2. This work is being carried out as part of the Dearne Valley Landscape Partnership (DVLP), a HLF-funded 5-year programme of projects focussing on the historic buildings and landscapes of the Dearne Valley. By working with local communities, the Partnership aims to protect, preserve and enhance the area. As part of the DVLP, the Archaeology and Geology Project has been established which will enable more of the historic environment of the Dearne Valley to be surveyed through the archaeological investigation of ten sites, of which the anti-aircraft battery is one. The project will enhance understanding of the heritage of the area as well as developing skills, knowledge and capacity within local communities.
- 1.3. Local volunteers will play an integral part in this project and receive training and guidance on the practices and methods of recording of historic buildings. This will focus primarily on members of the Barnsley Big Local group.

### 2. SITE LOCATION & DESCRIPTION

- 2.1. The site is located off Lowfield Lane at the south-eastern end of Bolton Upon Dearne, South Yorkshire, (centred NGR: SE 4633 0238; Figure 1). The site is accessible to the public and access is via a track that is currently blocked to prevent vehicular access.
- 2.2. The site is small, comprising approximately half a hectare, and contains the H17 anti-aircraft battery which is in a semi-ruinous state. The site is overgrown with scrub and the low profile structures are almost completely covered by the vegetation.
- 2.3. Surviving features at the site include the standing, buried and earthwork remains of four gun emplacements, a command post, a Nissen magazine and part of the station's service track. The site would also have included a radar platform, although its position is currently unknown. The battery platforms and associated structures still exhibit many original features, such as the metal mounts for the guns. The interior of the former command is currently flooded and inaccessible.

- 2.4. Vandalism has occurred but, due to the strength of the construction employed in building these structures, they remain in relatively good condition. In contrast, the Nissen magazine structure has suffered greatly from vandalism and is now in a poor condition, with many walls having collapsed or been pushed over.

### **3. DESIGNATIONS & CONSTRAINTS**

- 3.1. H17 Anti-Aircraft Battery, Bolton Upon Dearne, is a Scheduled Monument (Scheduled Monument 1019872) and as such, Scheduled Monument Consent (SMC), granted by Historic England, will need to be agreed for this site. No work will take place until SMC has been secured.
- 3.2. The thick vegetation present across the site may hinder access to the remaining structures. It is understood that the Barnsley Big Local group may carry out some clearance work before the survey and recording commences.
- 3.3. The interior of the former command post is currently flooded and inaccessible, due to a bunker dug into the ground with a concrete floor well below ground level. Other parts of the site do not appear likely to flood, with concrete surfaces being at ground level, but safe working areas will be assessed at the time of the survey and any flooded areas will be excluded from the survey area. The areas available for survey will be determined by both the state of vegetation and presence of any flooded areas.

### **4. ARCHAEOLOGICAL INTEREST**

- 4.1. The following summary of the site is taken from the Dearne Valley Heritage Audit (ArcHeritage 2013).
- 4.1. Station H17 was a Second World War Heavy Anti-Aircraft (HAA) battery designed to engage enemy bombers. Surviving features at the site include the standing, buried and earthwork remains of four gun emplacements, a command post, a Nissen magazine and part of the station's service track. The site would also have included a radar platform, although its position is currently unknown.
- 4.2. Station H17 was designed to accommodate mixed-sex crews, which suggests that it was not built prior to summer 1941 when female staff began to perform support roles at anti-aircraft batteries. The earliest surviving record of the site dates from June 1942, when the station was described in an Anti-aircraft Command letter as 'unarmed'. H17 is unlikely to have been completed by June, as the gun emplacements and command post include features that were built to the Directorate of Fortifications and Works 55414 design, which was not issued until October 1942.
- 4.3. Documentary evidence demonstrates that Station H17 was staffed by 626 (m) HAA Battery and 646 Battery, between 1943 and 1944. During this period, female staff from the Auxiliary Territorial Service (ATS) operated radar and communications systems, while male staff operated the guns. H17 does not appear to have been used in action, however, and the staff were transferred to coastal batteries in 1944.

- 4.4 Station H17 included elements from two different anti-aircraft battery designs: the twin entrances of the March 1938 design and the external ammunition recesses and shelters of the October 1942 model. It is not clear how many other anti-aircraft batteries incorporated elements of both designs. The gun emplacements are arranged in a semi-circle around the east side of the command post and are approximately 8m in diameter with 2m-high concrete and breeze block walls.
- 4.5 The surrounding walls form three compartments, with the central space providing access to a shelter at the rear. The remaining recesses were used for stacking ammunition and fuses. The gun holdfasts at H17 are octagonal concrete pads positioned in the centre of each of the emplacements.
- 4.6 The command post is semi-sunken and approximately E-shaped in plan. Elements of the post's metal fittings and pipe work remain extant, while various instrument mounting bases survive in an enclosed, unroofed area at the front of the building. Former features that would have been mounted in this area include an identification telescope, a height-finder and a device known as 'the predictor'. These relayed information to the plotting room, situated in the covered part of the command post, where the bearing, elevation and range of enemy aircraft were calculated and relayed to the guns.
- 4.7 The Nissen magazine, which held reserve ammunition, is situated approximately 100m north-east of the command post, along a narrow service track. Domestic sites were also a feature of sites such as H17 and huts, ablutions blocks, offices, stores and amenities were also situated to the north-east of the gun battery.
- 4.8 Only the command post of H17 was shown at the site on the 1958 Ordnance Survey map, suggesting that the remaining features had not been exposed by the erosion of their earthen bank defences by that date. The remainder of the site's surviving features were marked on the 1972 OS map.
- 4.9 Of the almost 1,000 heavy anti-aircraft sites in operation during the Second World War, less than 200 have surviving remains. H17 is one of only 60 such sites to retain sufficient features to enable an understanding of their original form and function.

## 5. AIMS

- 5.1. The aims of the building recording are:
- to create a lasting record of the surviving structures, before any further element of the site is lost to erosion and collapse;
  - to train volunteers in building recording techniques;
  - to produce a descriptive report on the site and its condition
  - to collate and incorporate the results of previous research by local volunteers into the report in order to enhance our understanding of the site and its use.
- 5.2. This survey will enable a more complete understanding of the development of the building. Generally this survey will follow guidelines set out by Historic England in their "Understanding

Historic Buildings” publication (2016), and will broadly correlate to a level 2 survey as defined therein.

## **6. BUILDING RECORDING METHODOLOGY**

- 6.1. The information contained in the Dearne Valley heritage Audit (ArcHeritage 2013, summarised in Section 4, above), will be used to provide more background information on the development of the site.
- 6.2. The buildings will be surveyed using a combination of hand-tape measurements, photogrammetry and written records. Existing plans/drawings may be used as a base, and will be checked for dimensional accuracy. The buildings will be located to their surroundings by measured survey, or identified on existing maps at a suitable scale (e.g. 1:50,000 and 1:1250).
- 6.3. Floor plans and elevations will be produced at an appropriate scale.
- 6.4. Rectified photography (photogrammetry) will be carried out using a digital camera and tripod. A 3D model produced with Agisoft software will help in the production of all elevations.
- 6.5. A separate photographic record of elevations and smaller internal and external details will also be made, each shot taken with appropriate scales.
- 6.6. A detailed written description of the building will be produced. This will include a general description of the development of the site as a whole, plus a detailed description of the building. Attention will also be given to any other features such as: fixtures, fittings, decorative elements, evidence for power generation/transmission, manufacturing processes. A brief record will also be made of any more recent use of the buildings, as evidenced through graffiti or any other modifications.
- 6.7. Lighting and access equipment will be brought in where necessary to facilitate the survey.

## **7. REPORT & ARCHIVE PREPARATION**

- 7.1. Upon completion of the site work, a report will be prepared to include the following:
  - A non-technical summary of the results of the work.
  - An introduction which will include the, grid reference and dates when the fieldwork took place.
  - An account of the methodology and detailed results of the work undertaken
  - Description of the building with conclusions and discussion.
  - A summary of the information collated from local volunteers on the history and use of the site.
  - A selection of photographs and drawings, including a detailed plan of the site.
  - Details of archive location and destination (with accession number, where known), together with a context list and catalogue of what is contained in that archive.
  - A copy of the key OASIS form details
  - Copies of the Brief and WSI

- Additional photographic images may be supplied on a CDROM appended to the report
- 7.2. A digital copy of the report will be submitted to the DVLP. A bound and digital copy of the report will be submitted direct to the SYAS for inclusion into the SMR.
  - 7.3. A field archive will be compiled consisting of all primary written documents, plans, sections and photographs. Catalogues of, plans, sections and photographs will be produced. ArcHeritage will liaise with the Barnsley Archives prior to the commencement of fieldwork to establish the curatorial requirements of the archives.
  - 7.4. The owner of the Intellectual Property Rights (IPR) in the information and documentation arising from the work, would grant a licence to the Local Authority and the museum accepting the archive to use such documentation for their statutory functions and provide copies to third parties as an incidental to such functions. Under the Environmental Information Regulations (EIR), such documentation is required to be made available to enquirers if it meets the test of public interest. Any information disclosure issues would be resolved between the client and the archaeological contractor before completion of the work. EIR requirements do not affect IPR.
  - 7.5. Upon completion of the project an OASIS form will be completed at <http://oasis.ac.uk/pages/wiki/Main>.

## **8. HEALTH AND SAFETY**

- 8.1. Health and safety issues will take priority over archaeological matters and all archaeologists will comply with relevant Health and Safety Legislation.
- 8.2. A Risk Assessment will be prepared prior to the start of site works.

## **9. PRE-START REQUIREMENTS**

- 9.1. Scheduled Monument consent will need to be secured before any work takes place in the site.
- 9.2. The Barnsley Big Local group will carry out vegetation clearance work at the site prior to the recording work commencing.
- 9.3. Prior to commencement of fieldwork, ArcHeritage will complete and submit a Project Initiation Form. This and other templates relating to the joint deposition policy documentation are available to download from the SYAS website at: <https://www.sheffield.gov.uk/planning-and-city-development/urban-design--conservation/archaeology/tech.html>

## **10. STAFFING**

- 10.1. The ArcHeritage Project Officer (Built Environment) will lead the onsite work with volunteers.

## 11. COPYRIGHT

- 11.1. ArcHeritage retain the copyright on this document. It has been prepared expressly for the named client, and may not be passed to third parties for use or for the purpose of gathering quotations.

## 12. KEY REFERENCES

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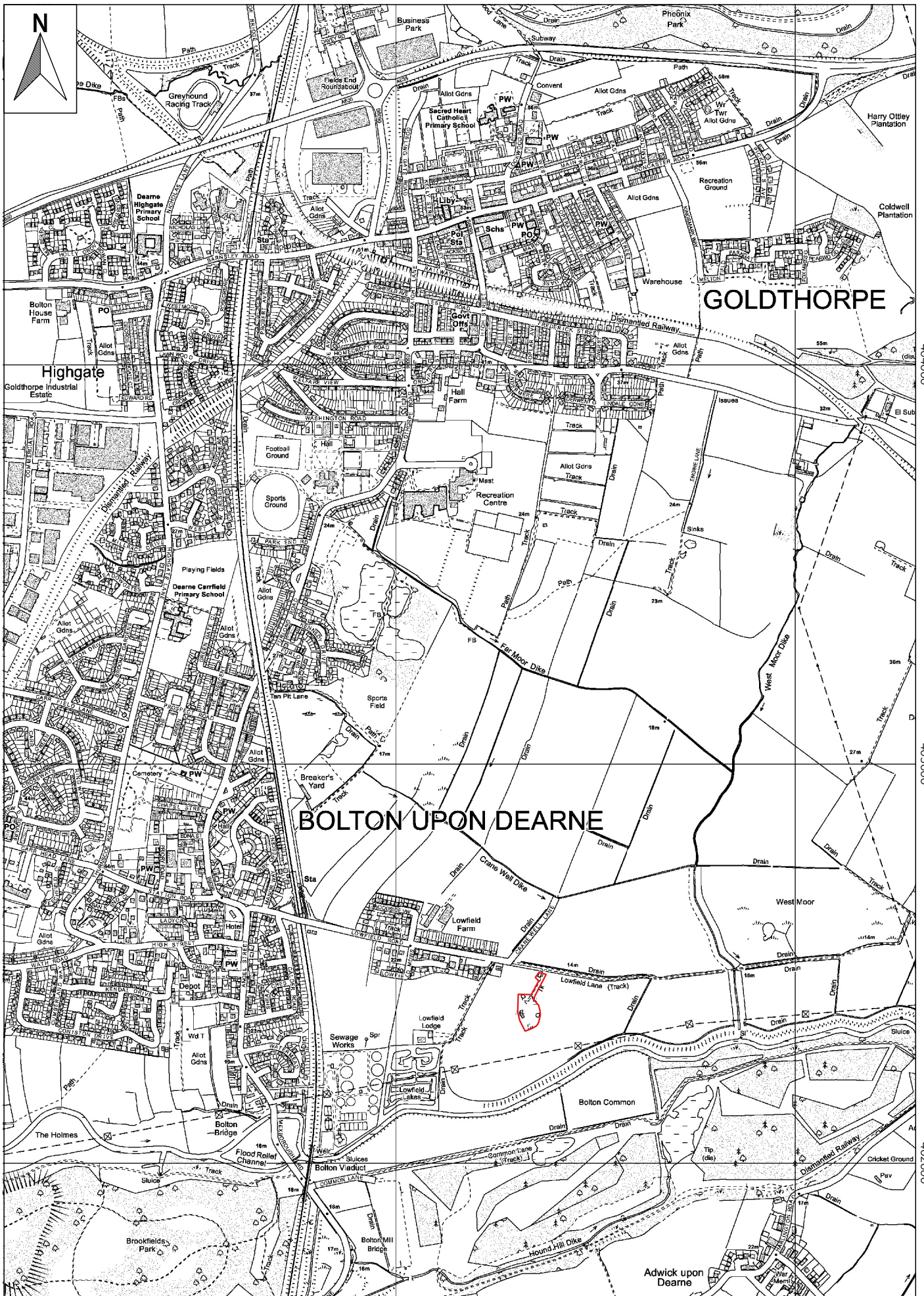
Neal, V., and D. Watkinson (eds). 1998. *First Aid for Finds: practical guide for archaeologists*. United Kingdom Institute for Conservation of Historic & Artistic Works, Archaeology Section; 3<sup>rd</sup> Revised Edition.

Historic England Listing 1019872 Heavy Anti-aircraft gunsite 330m south east of Lowfield Farm. Retrieved May 2018

See also the website of the ClfA for all Guidance and Standards documentation. <http://www.archaeologists.net/codes/ifa>

See also the Historic England website for a full list of guidance documents. <http://historicengland.org.uk/advice/technical-advice/recording-heritage/>

## FIGURES



GOLDTHORPE

BOLTON UPON DEARNE

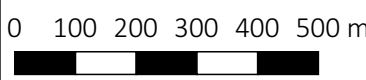
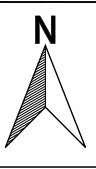


Figure 1: Site location



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