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HISTORIC BUILDING RECORDING
EIA AND HERITAGE CONSULTANCY

MARSHALL CONSTRUCTION

PILLBOX AT FORMER RAF SPEKE, LIVERPOOL BUSINESS PARK LIVERPOOL

Archaeological Photographic Recording

wardell armstrong archaeology

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MARSHALL CONSTRUCTION

Pillbox at former RAF Speke, Liverpool Business Park, Liverpool

Archaeological Photographic Recording

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		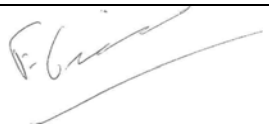
Building Archaeologist	Senior Project Officer	Technical Director

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SUMMARY

Wardell Armstrong (WA) was commissioned by Marshall Construction to undertake a programme of archaeological photographic recording of a pillbox at the former RAF Speke, Liverpool Business Park, Liverpool. The work was required prior to the repositioning of the pillbox due to modern industrial development at the site. The pillbox was moved to the north-east of the site, to the grid reference position: SJ 41893 83115.

The pillbox, a Vicker's Machine Gun Emplacement, dates from the early 1940's. It was part of the defence structure erected during the Second World War. Liverpool was considered a main target for bomber attacks, hence a large defence system was maintained during the war. The airfield went back into civilian use in the 1960's, and went out of commission with the construction of the new Liverpool John Lennon Airport.

The Vicker's Machine Gun Emplacement appeared to be in mediocre to good condition. A few areas of deterioration were visible on the exterior.

ACKNOWLEDGEMENTS

Wardell Armstrong thanks Marshall Construction who commissioned the project. Wardell Armstrong are grateful to the staff of Liverpool Archives for their assistance.

The building survey and the documentary research was undertaken by Ariane Buschmann. The structure through motion survey was undertaken by Helen Phillips.

The report was written by Ariane Buschmann and the figures were produced by Helen Phillips and Adrian Bailey. Frank Giecco managed the project and David Jackson edited the report.

1 INTRODUCTION AND POLICIES

1.1 Project circumstances and planning background

1.1.1 Wardell Armstrong was commissioned by Marshall Construction, to undertake a programme of archaeological photographic recording of a pillbox at the former RAF Speke, Liverpool Business Park, Liverpool, L24 8AD (SJ 41840 83130), prior to its repositioning for the redevelopment of the site.

1.1.2 The site where the pillbox is located is currently under redevelopment for industrial use. The pillbox is to be relocated to an area outside of the development area.

1.2 Location

1.2.1 The pillbox is located to the north of Speke Hall to the south-east of the former RAF Speke airfield in an increasingly industrialised area of Merseyside to the south-east of Garston (Figure 1 and 2).

1.3 Planning Context

1.3.1 National planning policies on the conservation of the historic environment are set out in the *National Planning Policy Framework* (NPPF), which was published by the *Department of Communities and Local Government* (DCLG) in March 2012. This is supported by *National Planning Practice Guidance* (NPPG) which was published in March 2014.

1.3.2 The policy and guidance documents emphasize that all heritage assets should be conserved "*in a manner appropriate to their significance" (NPPF para 126). Sites of archaeological or cultural heritage significance that are valued components of the historic environment and merit consideration in planning decisions are grouped as 'heritage assets'; 'heritage assets are an irreplaceable resource', the conservation of which can bring 'wider social, cultural, economic and environmental benefits...*' (NPPF para 126). The policy framework states that the '*significance of any heritage assets affected, including any contribution made by their setting*' should be understood in order to '*assess the potential impact*' (NPPF para 128). In addition to standing remains, heritage assets of archaeological interest can comprise sub-surface remains and, therefore, assessments should be undertaken for a site that '*includes or has the potential to include heritage assets with archaeological interest*' (NPPF para 128).

1.3.3 The NPPF draws a distinction between designated heritage assets and other remains considered to be of lesser significance; '*great weight should be given to the asset's*

conservation. The more important the asset, the greater the weight should be; substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, including scheduled monuments, protected wreck sites, battlefields, grade I and II listed buildings and grade I and II* registered parks and gardens and World Heritage Sites, should be wholly exceptional*' (NPPF para. 132). Therefore, preservation in-situ is the preferred course in relation to such sites unless exceptional circumstances exist.

1.3.4 It is normally accepted that non-designated assets will be preserved by record, in accordance with their significance and the magnitude of the harm to or loss of the site as a result of the proposals, to '*avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposals*' (NPPF para. 129). Non-designated heritage assets of archaeological interest will also be subject to the policies reserved for designated heritage assets, if they are of equivalent significance to scheduled monuments (NPPF para. 132).

1.4 Local Planning Policies

1.4.1 The Draft Liverpool Local Plan was provided in September 2016. The relevant policy is HD1: 'Non-Designated Heritage Assets of Archaeological Remains'. It states two principles for the built historic environment:

- *All planning applications likely to affect archaeological remains must be accompanied by an appropriate archaeological assessment.*
- *There is a presumption in favour of physical preservation in situ of archaeological remains. Where this is not achievable, mitigation should be undertaken through archaeological fieldwork to investigate and record remains in advance of works. Subsequent analysis, publication and dissemination of the findings should be submitted to the Local Planning Authority and also deposited with the Historic Environment Record* (Liverpool City Council 2016, 241).

2 METHODOLOGY

2.1 Introduction

2.1.1 Wardell Armstrong compiled a Written Scheme of Investigation (WAA 2016) for a digital photographic survey of the pillbox situated at the former RAF Speke (NGR SJ 41840 83130).

2.1.2 The purpose of the photographic survey was to record and highlight the structure in situ prior to the repositioning of the pillbox and the construction works. The recording comprised a photographic survey supported by relevant research. The survey was undertaken following the appropriate standards and guidance issued by the Chartered Institute for Archaeologists (CIfA 2014).

2.2 Measured Photographic Survey

2.2.1 The photographic survey comprised an internal and external annotated survey of the structure, and the production of a written and photographic record. Photographs were taken using digital cameras and black and white 35mm print film. A photographic record was made of all external elevations, and of the interior including significant structural details and details of fixtures and fittings and any graffiti. The photographic record also recorded the structure as standing, in its wider context. All photographs included a graduated scale.

2.2.2 For the successful structure in motion survey, the digital photographic record recorded each part of the structure on at least three photographs, and from different positions and heights, using a high resolution digital camera. This was undertaken in conjunction with a survey, in which accurate measurements of key points were taken.

2.2.3 In summary the photographic survey included:

- General views of the structure in its wider World War II RAF Speke military defence setting;
- General view or views of the exteriors and interiors of the structure;
- The overall appearance of principal internal spaces;
- Detailed coverage of the structure's external appearance;
- Detailed coverage of the structure's interior appearance, including structural, functional or graffiti details;

2.2.4 The results of the on-site survey were used to provide an overall description of the

structure, and an account of any development in use of the structure. This included any evidence for lost detail, or alterations to the pillbox.

2.2.5 The results of the digital photographic record, and accurately measured survey, were used to produce an accurate 3D photogrammetric model of the pillbox using Agisoft Pro™ software, prior to its relocation.

2.2.6 The written record comprised:

- The precise location of all structures subjected to the building and topographic survey, as a National Grid reference and in address form;
- The location of the project archive;
- A historical background to set the structure into its historical context, with information derived as a result of the desk-based research;
- A description of the form of the structure and its date and construction phases.

2.3 Reporting and Project Archive

2.3.1 A digital copy of the report will be deposited with the Liverpool Archive at Liverpool.

2.3.2 An archive will be prepared in accordance with the recommendations in *'Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation'* (Brown 2011). The project archive will be deposited with the Liverpool Record Office at Liverpool.

2.3.3 Wardell Armstrong supports the Online Access to Index of Archaeological Investigations (OASIS) project (http://www.oasis.ac.uk). The aim of the OASIS project is to provide an online index to archaeological grey literature that has been produced as a result of developer-funded fieldwork. Details of this project have been included on the OASIS database under the identifier **wardella2-295783.**

3 HISTORICAL BACKGROUND

3.1 Introduction

3.1.1 This historical background has been compiled from information derived from historical mapping consulted at the Liverpool Archive as well as readily-available documentary sources such as local histories.

3.2 Historic Background

3.2.1 The site is situated in Speke, in the historic county of Lancashire, to the south-east of Liverpool. It is part of the old airport, first established in the late 1920's, on the land of the Speke Hall Estate.

3.3 Speke Hall and Speke Airport

3.3.1 Speke Hall is a rare surviving example of a grade I listed Tudor hall (HE 1359837), which originally sat on a 2200 acre estate, reaching towards Mersey. The property has been greatly reduced, with the development of the airfield and industrial estate, which started to develop in the 20th century. The old Speke airport was built on 400 acres in the south of the estate.

3.3.2 The development of the Speke Airfield began in the 1920's, with the decision of the Liverpool Corporation to build an airport for their city (McLelland 2012, 325). It received its first licence as a civil airport in July 1930, when Imperial Airways began its commercial operations, and was opened to public use in 1933 (Delve 2006, 242). By 1939, it became Britain's second busiest airport. However, all civic operation stopped in this year, and the airport was taken over by the RAF in September 1939 (Plate 1-3). From 1940, a variety of fighter units were often based at RAF Speke, on short-term basis only. As Liverpool was considered an obvious target for the Luftwaffe bombers, the squadrones stationed at RAF Speke were mainly assigned for air defence of the city and wider region (McLelland 2012, 325).

3.3.3 Furthermore, the Merchant Ship Fighter Unit was formed at Speke in 1941, and the RAF base was used as a manufacturer and training location for the catapult technology used by the merchant ships (McLelland 2012, 326).

3.3.4 However, Speke was also home to a large manufacturing base. From 1938 onwards, Rootes Security constructed several types of aircraft, such as the Blenheim and Halifax bombers (Birtles 1999, 124). In the following years, the aircraft factory also began to overhaul and assemble various USAAF aircraft. The facility became known as the No 1

Aircraft Assembly Unit (Delve 2006, 244).

3.3.5 After regaining complete civilian control of the airfield in 1961, the airport initially struggled to provide viable commercial flights. A new runway was added to the south-east of the existing airport, which was linked via a taxiway with the airport. A gradual expansion of the business finally lead to the construction of a new terminal building during the late 20th century/ early 21st century. The original airport slowly went out of use, until it was decided to completely abandon the old airport and concentrate on the new airport, renamed 'John Lennon Airport'. Only the original terminal building survived. The airfield itself was scheduled for redevelopment (McLelland 2012, 326).

3.4 VIcker's Machine Gun Emplacement

3.4.1 With the increasing requirement for airfield defence from air and ground attacks during the Second World War, the Air Ministry initiated a nationwide project to provide defence systems, which included light and medium AA posts, pillboxes, rifle pits and extensive Dannert wire entanglements (Pillbox Study Group).

3.4.2 The various topographic conditions of the airfields meant that it was nearly impossible to form any standard layout of defence works. It is therefore quite common to find airfields with unique defence systems, with numerous variations of pillboxes and other defence structures.

3.4.3 In July 1941, a General Defence Strategy was agreed upon, which classified all airfields in three categories, depending on location and importance. Class 1 received the greatest provision for pillboxes, modified buildings, rifle pits etc, while Class 3, often only received rifles points and Dannert wire.

3.4.4 At this point, it was also proposed that existing pillbox walls were to be extended to at least 3ft 6ins (1.1 m) thickness (Wills 1985, 14). While there was the occasional pillbox for large machinery, such as a 2-pounder anti-tank gun, usually light machine guns were used (Wills 1985, 15).

3.4.5 By September 1941, only a few pillboxes were built for special purposes, and by February 1942, it was decided that no further pillboxes were to be built, those already in existence gradually becoming handy store-rooms or sentry posts (Wills 1985, 14).

3.4.6 Although the structure on site can be referred to as a pillbox, it is in fact a Vicker's Machine Gun Emplacement. While they fall into the general category of pillboxes, the emplacement does not come under the Fortification Works Number System (as

described in Wills 1985, 28- 37).

3.4.7 The Vicker's Machine Gun Emplacements, a small version of a pillbox, but not within the Fortification Works number system, are usually of a square plan of about 14ft x 14ft, with chamfered corners on the front elevation. A standard or basic type of emplacements is known, although only a few examples of this type survived. The highest concentrations of the Vickers MMG emplacement can be found on the Taunton Stop line and GHQ Line A and B in both Hampshire and Surrey where at least 28 survive, mostly in pairs (Pillbox Study Group).

3.4.8 The emplacements were built to shellproof specification with usually 36" to 51" wall thickness. Along the front elevation, a large stepped embrasure was located to accommodate a single machine gun. The doorway was normally on the left side to the line of fire, protected by a massive rectangular blast wall. Within these structures, a large, usually trapeze-shaped concrete table formed the base on which the gun was mounted on its tripod. An air vent was in the rear wall. Up to 3 rifle/bren lmg loopholes were located on the side and/or rear walls. These were normally sited in pairs as a section of 2 guns. On steep forward slopes, emplacements were often dug in with an overhead earth camouflage cover (Pillbox Study Group).

3.4.9 Build variations can be found with different positioning of secondary loopholes and air vent, length and thickness of blastwall and design of main gun table (Pillbox Study Group).

3.4.10 After the war, many pillboxes and other fixed defences were destroyed in demolition exercises. Fieldworks were, in the main, back-filled and more, of course, will have been lost in land clearance and urban development (Pillbox Study Group).

3.4.11 A detailed survey of Britain's Second World War defence structures had been undertaken between April 2002 and June 2004, to record all remaining structures and to promote the preservation of these features and their surrounding landscape (Defence Areas).

3.5 Map regression

3.5.1 The site comprised an expansive field system associated with Speke Hall until at least 1927 (Figure 3). By 1936 (Figure 4), the area had been converted as part of an airfield at Garston Ward, with a row of lights running south-west to north-east aligned to the east of the site. By 1952 (Figure 5), an array of pillboxes and other military structures had been developed to the west of the site. As the structure is so small, it has not been

cartographically noted.

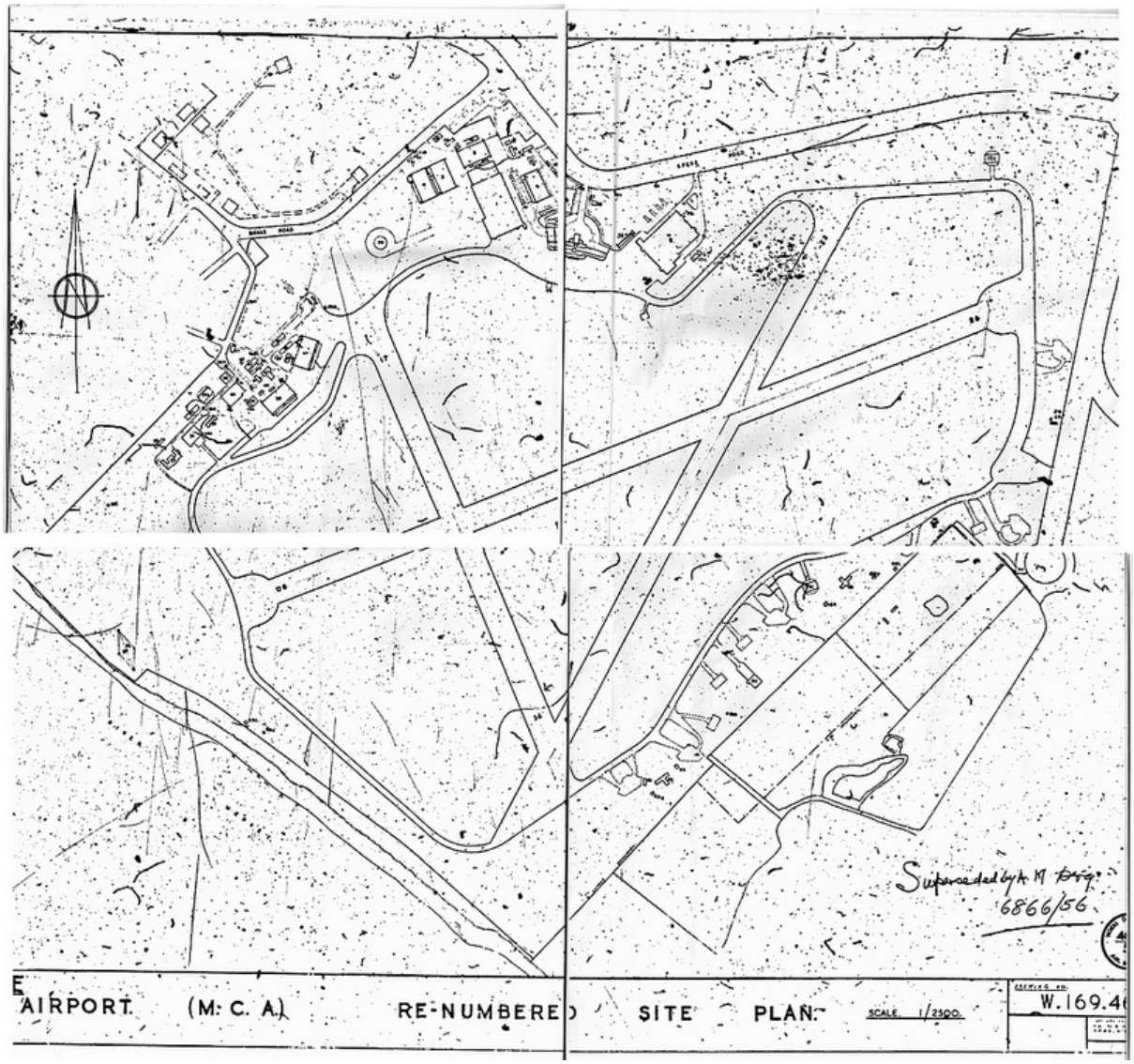

Plate 1: 1946 Plan of RAF Speke, http://www.forgottenairfields.com/united-kingdom/england/merseyside/liverpool-speke-airport-s1198.html

Plate 2: View of the Airfield in 1945, with aircraft and pillboxes along the east, red circle marking position of pillbox
http://www.americanairmuseum.com/place/337

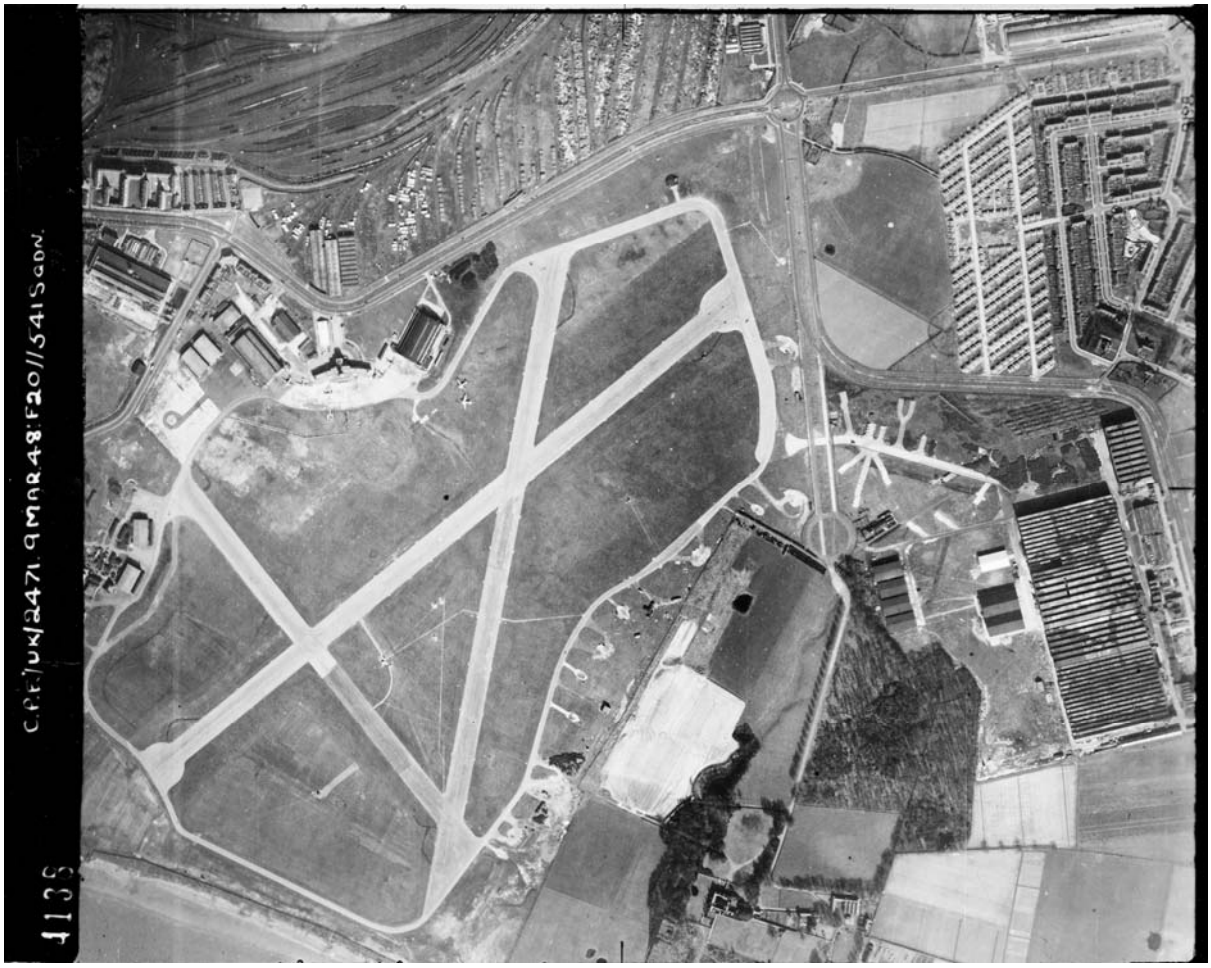

Plate 3: Speke Airfield in 1948, most pillboxes to the east already disappeared, http://www.americanairmuseum.com/place/337

4 ARCHAEOLOGICAL PHOTOGRAPHIC RECORDING

4.1 Introduction

4.1.1 The archaeological photographic recording was undertaken on the 19th July 2017. The Vickers Machine Gun Emplacement is located to the east of Hercules Drive, within a newly developed industrial estate on the site of the former RAF Speke (Figure 2). A new development was underway surrounding the emplacement. The structure is in good condition. There were no restrictions in access to the structure, although at the time of the survey the trench surrounding the structure was slightly waterlogged.

4.2 Structure exterior

4.2.1 The exterior comprises reinforced concrete with a concrete base. The structure is of a square floorplan, with an external staircase and flat roof. It used to be partially buried below ground, but a trench has been excavated to expose the entire structure. A south-east to north-west aligned exterior staircase is located at the north-east facing elevation (Plate 4).

4.2.2 A large embrasure is located at the north-west facing elevation (Plate 5 and 6). Each other elevation contains a small, rectangular loophole, positioned centrally within the elevation.

4.2.3 Small areas of deterioration are visible, with broken off concrete and rusty steel rods.

4.3 Structure interior

4.3.2 The interior comprises a small room with one entrance to the north-west (Plates 9-12). Situated off-centre to the north along the north-west elevation is a nearly triangular concrete table, with remains of metal fittings for the machine gun. An engraving on the top side of this concrete table reads ‘M.B. 1940’ (Plate 12), which indicates a construction date of 1940 for this Vicker’s Machine Gun Emplacement.

4.3.3 A small square hole in the floor with two grooves leading to it may have functioned as drainage. A small air vent is located within the ceiling.

Plate 4: North-east facing elevation

Plate 5: West facing corner

Plate 6: North-west facing elevation

Plate 7: South-east facing elevation

Plate 8: South-west facing elevation

Plate 9: Interior, with large embrasure and platform

Plate 10: Interior, entranceway with small opening

Plate 11: Interior, large, triangular concrete table to mount weapon on tripod

Plate 12: Interior, detail engraving on concrete table reading 'M.B. 1940'

5 CONCLUSION

5.1.1 Until the 1930's, the area of the old airport was part of the expansive Speke Hall estate. With the redevelopment of the site as an airport and later a military base, it is unlikely that any archaeological features prior to the early 20th century survived.

5.1.2 The Vicker's Machine Gun Emplacement is located within a modern development. In the last 20 years, the area changed from an open airport to a continuously built upon industrial estate. The greater part of the old military structures disappeared in the course of this redevelopment.

5.1.3 The emplacement deviates from the 'basic type'. It is of smaller build, with not only a reduction in floorplan size but also wall strength. The structure is of an approximately 3m x 3m floorplan (ca 10ft), with a wall thickness of about 30cm (ca 12"), thus significantly reduced in size compared to the basic emplacement type as described in 3.4. The doorway, usually on the left side of the line of fire with a large blast wall, is located to the right. Although emplacements are usually in pairs, there is no documentation or indication that a second emplacement was within close proximity of the structure.

5.1.4 This local variation was probably built in 1940, as part of the growing defence system installed at RAF Speke in the course of the Second World War. The airfield quickly went out of use, and any structures associated with the military base remained either redundant and abandoned, or were demolished during the second half of the 20th century.

5.1.5 It is an important feature of this part of modern history. The low number of surviving examples, be it the basic type or deriving variations, means that any emplacement should be appropriately preserved and recorded so that further evidence of this important period in history is not lost.

5.1.6 The upper level of the structure affected is of good condition, with some areas of deterioration apparent on the exterior. The concrete base raised some structural concerns, but was deemed sound enough to be lifted. The pillbox was moved to the north-east of the site, to the grid reference position: SJ 41893 83115.

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Ordnance Survey Map 1952, 25 inch to 1 mile

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Speke Hall, https://historicengland.org.uk/listing/the-list/list-entry/1359837

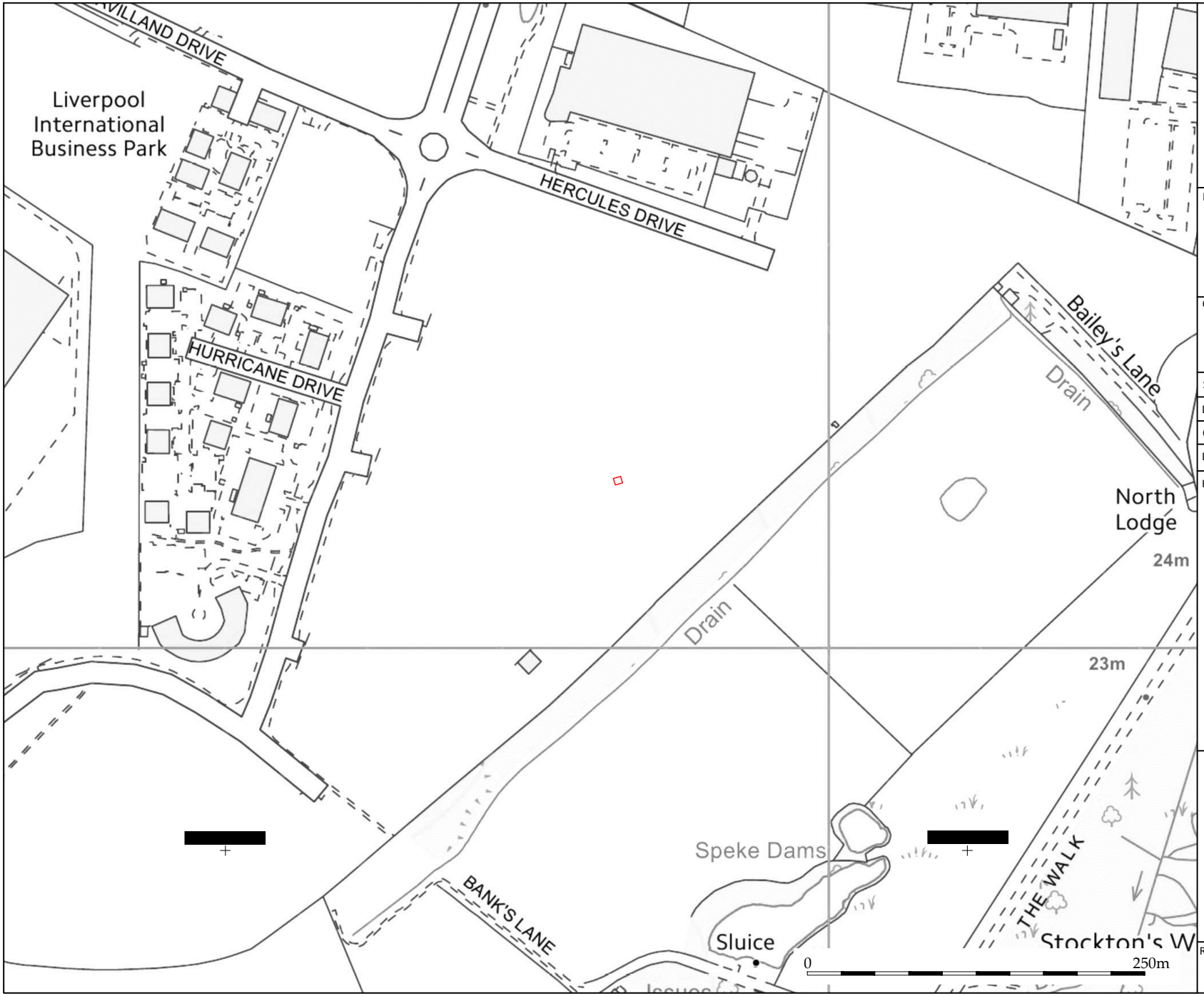
FIGURES

wardell armstrong	PROJECT:	Pillbox at former RAF Speke, Liverpool Business Park, Liverpool
Wardell Armstrong 2017	CLIENT:	Marshall Construction
	SCALE:	1:25,000 at A4
	DRAWN BY:	HP
	CHECKED BY:	HP
	DATE:	September 2017
	REPORT No:	CL11890

KEY:

Site location

Figure 1: Site location.



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Wardell Armstrong
2017

PROJECT:

Pillbox at former RAF Speke, Liverpool Business Park, Liverpool

CLIENT:

Marshall Construction

SCALE:	1:4,000 at A4
DRAWN BY:	HP
CHECKED BY:	HP
DATE:	September 2017

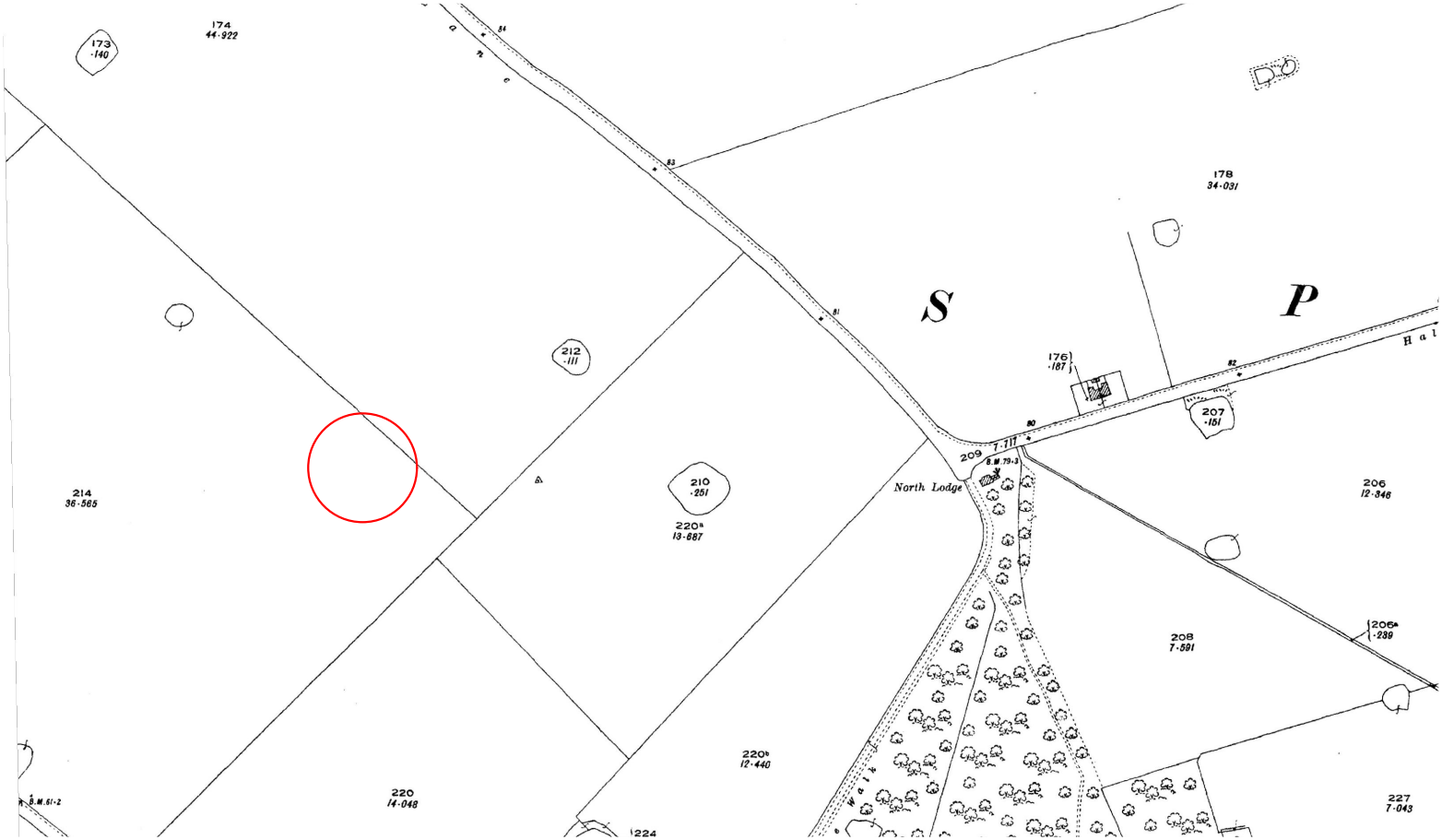
KEY:

Pillbox location

REPORT No:

CL11890

Figure 2: Detailed site location.



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2017

PROJECT:

Pillbox at former RAF Speke, Liverpool Business Park, Liverpool

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Marshall Construction

SCALE:	1:5,000 at A4
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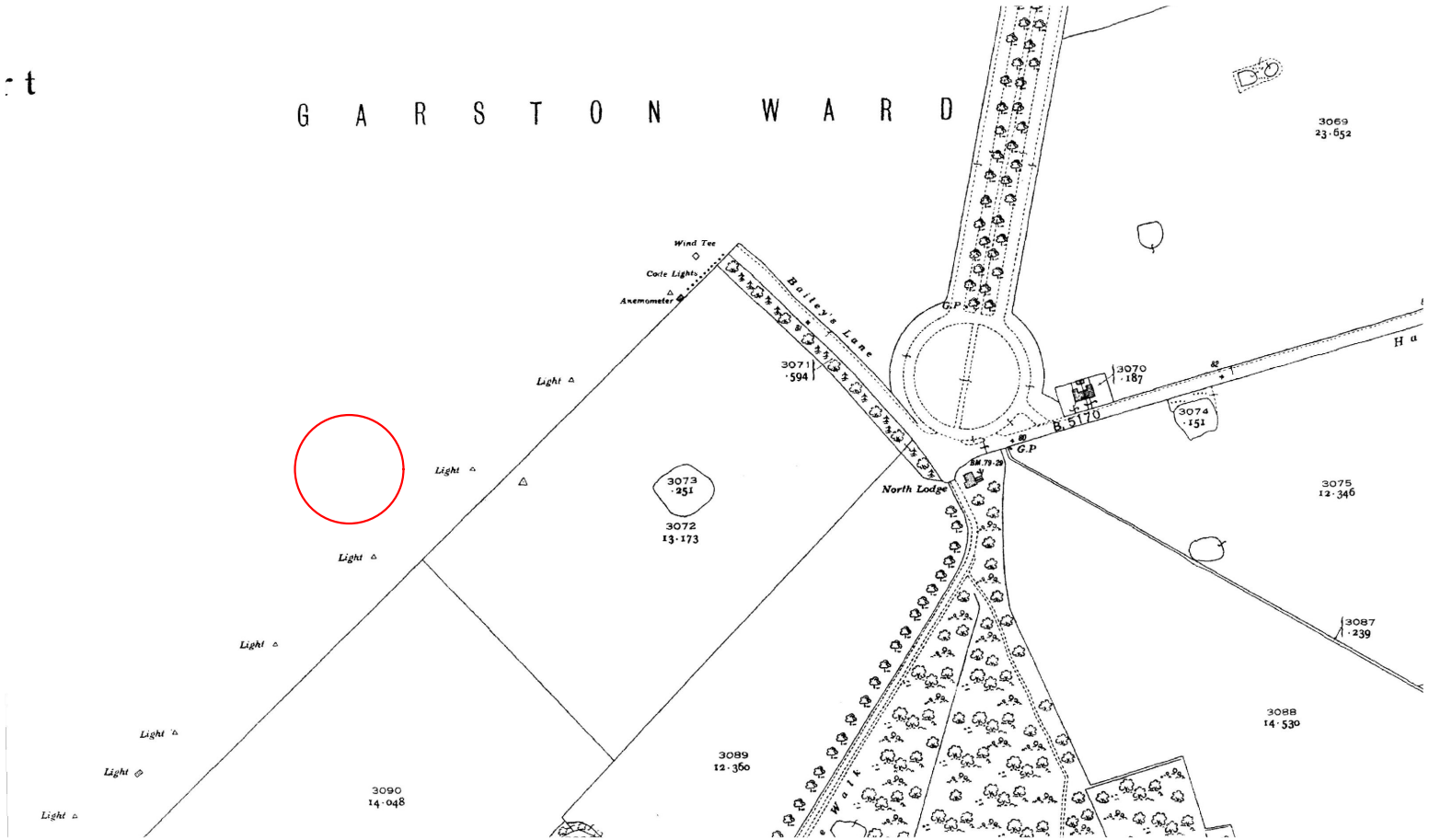
CHECKED BY:	HP
DATE:	September 2017

KEY:

Site location

REPORT No:
CL11890

Figure 3: Ordnance Survey Map, 1927 *(25 inches to 1 mile scale).*



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KEY:

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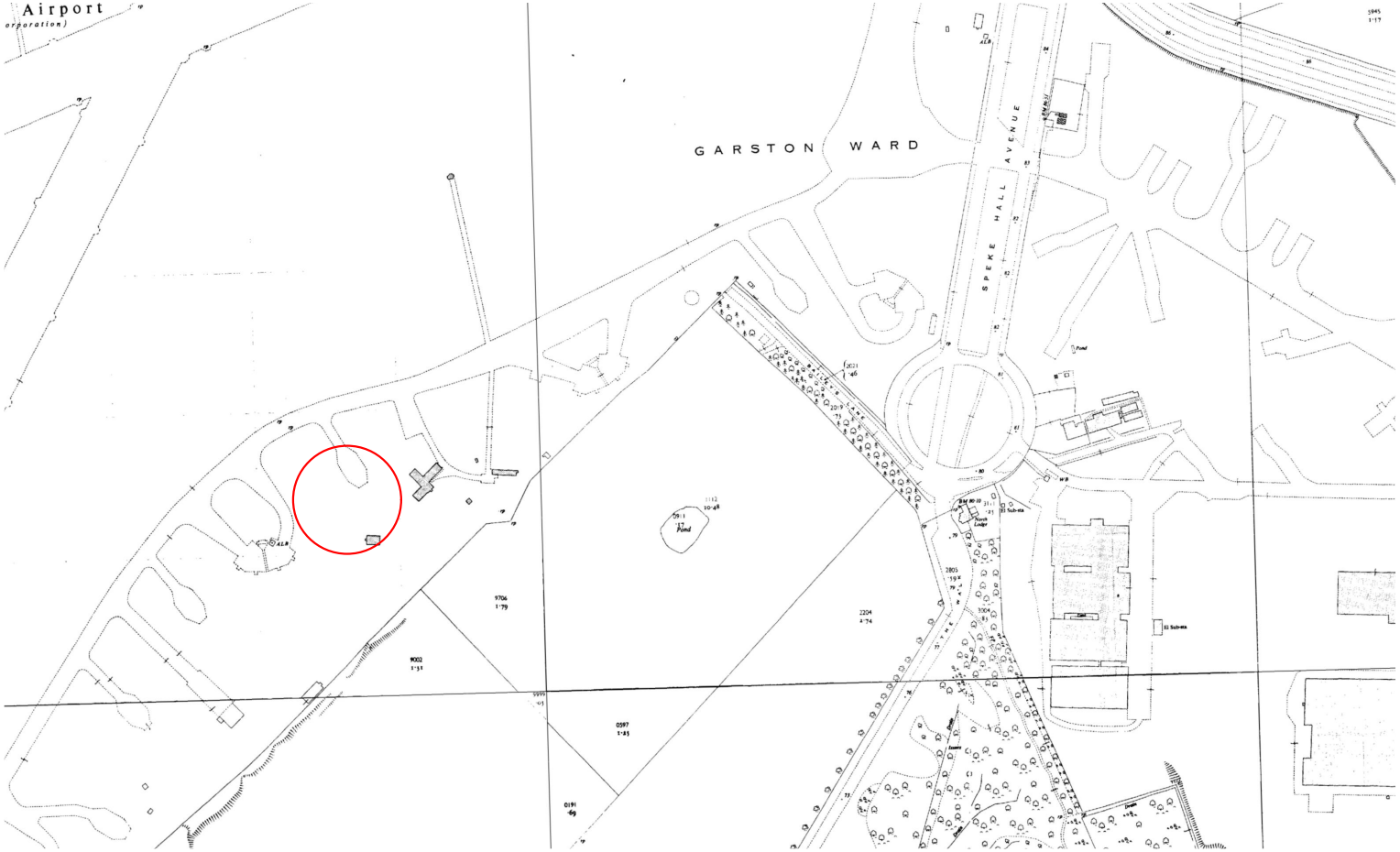
Figure 4: Ordnance Survey Map, 1936 *(25 inches to 1 mile scale).*



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CLIENT:

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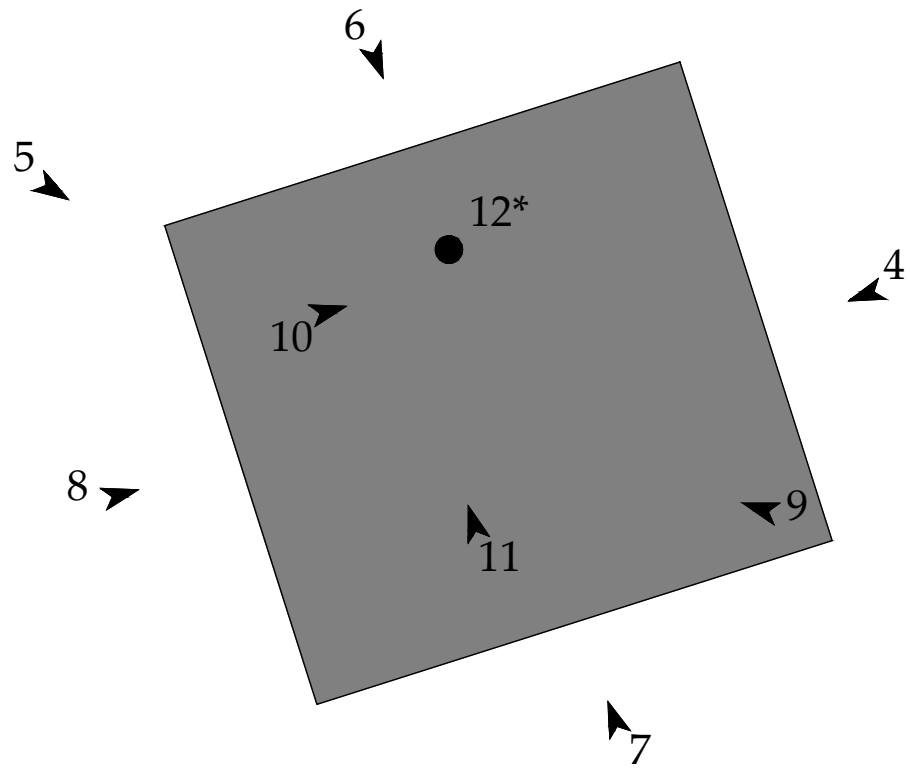
SCALE:	1:5,000 at A4
DRAWN BY:	HP
CHECKED BY:	HP
DATE:	September 2017

KEY:

Site location

REPORT No:
CL11890

Figure 5: Ordnance Survey Map, 1952 *(25 inches to 1 mile scale).*



Wardell Armstrong
2018

PROJECT:
Pillbox at former RAF Speke, Liverpool Business Park, Liverpool

CLIENT:
Marshall Construction

SCALE:	1:75 at A4
DRAWN BY:	HP
CHECKED BY:	HP
DATE:	March 2018

KEY:

Pillbox

4 Direction and number referenced in report

*Photograph 12 taken from above looking down onto concrete mount

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Figure 6: Direction and location of photographs taken.

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