Hornchurch Country Park London Borough of Havering London



Archaeological Evaluation Report



November 2013



Client: London Borough of Havering

Issue No: 1 OA Job No: 4681 NGR: TQ 53694 84802

Client Name:	London Borough of Havering		
Document Title:	Hornchurch Country Park		
Document Type:	Archaeological Evaluation and Assessment		
Issue Number:	1		
issue rumber.	1		
Grid Reference:	TQ533 846		
OA Job Number:	4681		
Site Code:	HUP10		
Invoice Code:	HUPEV		
Receiving Museum:	LAARC (MoL)		
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Date:	November 2013		
Datt.			
Document File Location:	\\Server10\buildings\Projects Ongoing\Hornchurch\Report\Hornchurch current report.odt		

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Hornchurch Country Park, London Borough of Havering

Archaeological Evaluation and Assessment

Table of Contents

Summary1							
1	Introduct	oduction1					
	1.1	Project background1					
	1.2	Previous investigation of site1					
	1.3	Proposed development1					
	1.4	Geology and topography1					
2	Historica	l Background1					
	2.2	Before the Airfield1					
	2.3	20th century and RAF Hornchurch1					
	2.4	Known former features in area of proposed visitors centre1					
3	Known P	own Previous Impacts and Ground Disturbance1					
	3.1	Aggregates extraction1					
4	Evaluatio	on Aims and Methodology1					
	4.1	Introduction					
	4.2	Aims1					
	4.3	Methodology1					
5	Results	1					
	5.1	Introduction and presentation of results					
	5.2	General soils and ground conditions1					
	5.3	Trench 11					
	5.4	Trench 21					
	5.5	Finds summary1					
	5.6	Discussion and Interpretation1					
6	6 Conclusion1						
A	Appendix A. Bibliography1						

Appendix B.	Trench Descriptions and Context Inventory	1
Appendix C.	Summary of Site Details	1

List of Figures

Figure 1	Hornchurch Country Park showing location of proposed visitors centre
Figure 2	Trench locations and plot of 1918 buildings
Figure 3	Trench locations on 1947 photo showing WW2 defences
Figure 4	Trench plans and sections



Hornchurch Country Park, London Borough of Havering

Summary

Hornchurch Country Park was created in the later 20th-century, to re-landscape a large area which had seen extensive gravel extraction and landfill operations. In the first half of the century however, this was among the country's most important airfields and it played a prominent role in both the First World War, as Suttons Farm Aerodrome, and then in the Second World War as RAF Hornchurch. It is of particular historical significance for the key role it played in the Battle of Britain when Britain stood alone in confronting Hitler and RAF Hornchurch was in the front-line of the nation's defence.

In March 2010 Oxford Archaeology carried out an evaluation within the footprint of a proposed visitor centre at Hornchurch County Park. This was intended to assist in the wider assessment of the archaeological potential of the area of the proposed visitors centre, based on consideration of historic plans and aerial photographs which had been collected in a previous study of the area undertaken by Oxford Archaeology in 2008.

The evaluation was principally targeted on a series of barrack blocks shown on a First World War Sutton's Farm airfield plan, a defensive slit trench which is shown on a Second World War aerial photograph and a faint circular feature which also appears to be shown on the same aerial photograph. No clear evidence of the barrack blocks were identified in the evaluation but some probable trace of the slit trench, in the form of corrugated iron sheeting, was found. The preservation of the trench was very poor however and the remains were found to have been very truncated and dislocated.

The evaluation also identified the concrete remains of a possible air-raid shelter. Extensive re-deposited modern material were encountered throughout the area and the potential for well-preserved features to survive below ground level in this area is considered to be low.



1 INTRODUCTION

1.1 **Project background**

- 1.1.1 Oxford Archaeology (OA) were commissioned in 2010 by London Borough of Havering to undertake an archaeological investigation in Hornchurch Country Park on the site of a proposed visitors centre (NGR: TQ 5370 8480).
- 1.1.2 The main investigation has been an evaluation with archaeological trenches targeted on known former features but the project has also included a wider assessment of the archaeological potential of the area based on historical maps, aerial photographs and previous known ground disturbance.
- 1.1.3 The proposed visitors centre would be managed by the Essex Wildlife Trust and although outline plans for the building have been prepared no formal planning application has yet been made. The site is known to be of archaeological interest (detailed further below) and the archaeological investigation is in advance of any anticipated archaeological planning condition related to the development.
- 1.1.4 As the project is not being undertaken in response to a planning condition, a brief was not issued detailing the works required but as it has been intended to cover a likely future archaeological planning condition David Divers from the Greater London Archaeological Advisory Service has been consulted. OA produced a Written Scheme of Investigation detailing the scope of the evaluation and David Divers approved this document.
- 1.1.5 The site is neither scheduled nor within a Conservation Area. The main historical and archaeological interest of the site lies in the fact that the country park was formerly part of RAF Hornchurch, which was of great importance in the Second World War, and before that it was part of the First World War Suttons Farm airfield. The location of the proposed visitors centre is towards the northern end of Hornchurch Country Park within the area of the initial Royal Flying Corps Suttons Farm Airfield.

1.2 Previous investigation of site

- 1.2.1 In 2007-8 OA undertook a substantial and wide ranging project for London Borough of Havering to investigate RAF Hornchurch and the country park. The overall aim was to increase knowledge of the historical significance of the site as well as providing management proposals on the future interpretation of the site's heritage. The project included documentary research, site investigation, community consultation, the establishment of a detailed website, holding an outreach Open Day held at RJ Mitchell School the development of an artefacts database and the production of guided walks and various promotional leaflets. The work was funded by a grant from the Aggregates Levy Sustainability Fund (administered for DEFRA by English Heritage).
- 1.2.2 Following this study OA were also commissioned to undertake a report analysing LIDAR data on the site. The DSM and DTM images¹ in the LIDAR study both appeared to show 'faint traces of the trench system' in the area of the proposed visitors centre.

1.3 Proposed development

1.3.1 The current investigation relates to the proposed construction of a heritage and visitor centre at Hornchurch Country Park which would be run by Essex Wildlife Trust. A

¹ Digital Surface Model (DSM) and Digital Terrain Model): see OA's Lidar Analysis Report for an outline explanation of the LIDAR technology.



preferred location for the centre has identified towards the northern part of the park and close to the Ingrebourne river and the park's eastern boundary. The proposed building would have a T-shaped plan and the main range would be orientated east to west.

1.3.2 The design and depth of the proposed building's foundations have not yet been finalised but the Ingrebourne Valley Heritage/Visitor Centre Stage C report states that displacement piles that do not carry soil to the surface during their construction are likely to be the most appropriate. These are likely to be screwed into the ground rather than driven in like conventional piles.

1.4 Geology and topography

- 1.4.1 The underlying geology is of sandy gravel. During the evaluation a geo-technical borehole was excavated approximately 10 m to the north of Trench 1 and the underlying natural was found at a depth of 4.7 m (detailed further below). Within the evaluation trenches the ground was tested to a depth of 2.7 m beneath the present ground level (approximately 6 m OD) and revealed modern deposits throughout.
- 1.4.2 The proposed visitor centre is sited within the north east of the Country Park. The area consists of fairly flat grassed parkland, which rises slightly towards wooded areas within the middle of the park, and falls off to a height of 2 or 3 m, into the valley of the Ingrebourne River, just to the east of the site.

2 HISTORICAL BACKGROUND

2.1.1 This archaeological and historical background is a summary of the research undertaken by Oxford Archaeology in 2007-8 as part of the previous study of the site. The OA numbers shown below for individual sites are taken from the previous OA study.

2.2 Before the Airfield

2.2.1 Although the site's most important known historical association is RAF Hornchurch it is also in a wider area of archaeological interest. A few miles to the south is the Thames Estuary which has been used as a thoroughfare for colonisation, trade and conquest for at least 10,000 years. Even before this, during the series of Ice Ages that swept backwards and forwards across Europe between 500,000 and 10,000 years ago, there is evidence from the area for human activities. Hornchurch stands on the Thames Terraces which are mainly made up of gravels laid down during the great Ice Ages.

2.2.2 Palaeolithic (c. 400,000 BP - c. 10,000 BP)

2.2.3 Gravel extraction in the vicinity of Hornchurch Country Park has produced evidence that Palaeolithic features and deposits may be present within the local gravels. Amongst the finds in the locality have been Palaeolithic tools recovered from Scott/Albyn's farm (OA 17), North Rainham (OA 21) whilst in the area of gravel extraction at Berwick Field/Berwick Pond Road (OA 15) not only were Palaeolithic tools recovered but also part of an elephant tooth.

2.2.4 Prehistoric to Early Medieval (c 10,000BP - AD 1066)

2.2.5 The gravel terraces beside the Thames are mainly well drained and support light easily worked and relatively fertile soils. The Thames Estuary is also an important route into the heart of Lowland Britain. There is plenty of evidence from the area to indicate that there was settlement in the vicinity throughout the Prehistoric and Roman periods through to the Norman Conquest. Hornchurch Country Park stands in a good place for a settlement because there was easy access to water, good soil and a near by river valley (The

Ingrebourne) which afforded good pasture for livestock as well a providing other important raw materials such as reed for thatch, fish and game birds.

- 2.2.6 Numerous excavations around Thurrock, Aveley, Purfleet and Hornchurch have found evidence for Prehistoric to Early Medieval settlement activity. During the 1970's, gravel extraction (OA 13) that took place on the site of Hornchurch Country Park, turned up Prehistoric flints, and pottery, Roman pottery and coins and Early Saxon finds. Aerial photographs taken before the gravel extraction also showed there to be features present including several probable Bronze Age ring ditches in the southern portion of the airfield.
- 2.2.7 Aerial photographs taken of the area around RAF Hornchurch have indicated that settlement and funerary activity of Prehistoric to Early Medieval date is widespread on the higher ground beside the Ingrebourne. Some of the features identified as cropmarks have since been investigated due to recent development. Extensive areas of cropmarks including enclosures, trackways and field systems have been recognised to the east of the Ingrebourne near Hacton Lane (OA 10) and at Berwick Field/Berwick Pond Road (OA 15). In both these areas fieldwalking and archaeological trial trenching have recovered finds and identified settlement features of Neolithic to Romano-British date. Further cropmark sites identified in the area include a series of enclosures (OA 4 and OA 5) identified near St George's Hospital and a Ring Ditch (OA 3) just to the south of Sanders Draper School.
- 2.2.8 Excavated evidence to the west of the Ingrebourne includes investigations on Maybank Avenue (OA 8) which recorded evidence for Iron Age and Early Medieval settlement. A series of investigations at Scott and Albyn farms (OA 20) recorded evidence for a Bronze Age cremation cemetery as well as Prehistoric and Romano-British settlement activity. Prehistoric, Romano-British and Early Medieval settlement activity has also been identified at the Lessa Sports Ground (OA 19). A Roman kiln (OA 1) has also been identified in Elm Park. Numerous stray finds are also recorded from the area including Neolithic flints (OA 6) near St George's Hospital and several Neolithic finds in North Rainham (OA 21). The presence of a possible Roman Road running between London and Bradwell (Orthona) has also been suggested to run parallel to the District Line through Elm Park and Hornchurch.

2.2.9 Medieval (AD 1066 - AD 1539)

- 2.2.10 During the Medieval period Hornchurch Country Park lay in an area to the south of the township and Priory at Hornchurch. The Medieval settlement of the area is fairly well understood and comprises subordinate manors and farmsteads that became established along the edges of the Ingrebourne, possibly as a result of 12tth century colonisation following Royal endowments of parts of the Royal Estate of Havering..
- 2.2.11 Suttons Farm (OA 9) was the location of one of the Medieval Manors in Hornchurch. The manor of Suttons is first recorded in 1158 as an endowment of Hornchurch priory and had a chapel documented by 1317.
- 2.2.12 Settlement was also established during the Medieval period on the site of or near the present Albyns Farm (OA 14) c.1 m to the south of the current development site, as well c.2 km to the east at the Medieval manor of Berwick. Another Medieval farmstead (OA 2) is thought to lie in Elm Park.

2.2.13 Post Medieval Period (AD 1539 - AD1915)

2.2.14 Until the 20th century. the area in which Hornchurch Country Park lies remained on the periphery of the main centres of settlement in the area. Both Suttons and Albyn's farms



remained in the ownership of New College and are shown thus on a map of Havering drawn in 1618.

2.2.15 During the Post Medieval period, the area around Hornchurch Country Park was predominantly agricultural with the pasturing of livestock, notably beef stock and sheep appearing to have been the staple of the local economy. Many of the local cattle were destined to be rendered by the tanning and leather industry which became established at Hornchurch during the Medieval period and continued to be an important aspect of the local economy throughout the Post Medieval period. Some exploitation of the local gravels for road surfacing may also have occurred as a quarry (OA 11) is recorded c 1 km to the northwest of the Country Park.

2.3 20th century and RAF Hornchurch

2.3.1 The following sections have been written almost entirely with reference to the two excellently detailed books written about RAF Hornchurch by Richard C Smith: Hornchurch Scramble and Hornchurch Offensive.

2.3.2 First World War

- 2.3.3 Even before the outbreak of War in 1914 against the Germany of Kaiser Wilhelm, the potential of military aviation to add a new dimension to war had already been realised. The Thames was an easy landmark to follow from the air, by day or by night, into the heart of London and the line of the Thames was first used thus by German raiders in World War I. The defence of London from air attack had been considered before 1914 by the then War Ministry and conclusions reached as to how it should be achieved. The conclusions were that the only sure way to prevent an air attack on London was to make an aerial interception of airborne attackers, preferably well before they made their own attacks.
- 2.3.4 To make such an interception it was appreciated that a permanent home defence force of dedicated fighter aircraft flying from bases in a cordon across enemy aerial approach routes was required. The airfields at which these aircraft were based were to have direct communcation links observer corps stations along the coast which would allow them to become airborne before intercepting the enemy. Land at Hornchurch was identified by military surveyors as being well suited and well located for one of the new airfields, and the new Royal Flying Corps aerodrome was established in October 1915. The new landing ground was set up next to the farm buildings at Sutton's Farm. The land was owned by New College, Oxford and farmed by a local farmer, Tom Crauford.
- 2.3.5 The original facilities were crude and comprised two canvas hangars, to house the two BE2c aircraft and a stretch of mown grass to fly from. To aid with night landings the landing ground was provided with a simple flare path reliant on cans stuffed with petrol soaked cotton waste. The pilots, the first of whom belonged to No. 13 Squadron, were put up in the local pub, the White Hart while the other ranks were billeted on local farms or in bell tents erected on the landing ground. In April 1916 the facilities at Sutton's Farm were improved with the construction of prefabricated timber hangars, brick accommodation blocks and a station office made from aircraft packing crates. The complement of aircraft was also increased to six BE2c's, comprising a single flight from No. 39 squadron.
- 2.3.6 The principal threat which the new landing ground at Suttons Farm was to counter was that to London by bombing from German airships (known collectively as Zeppelins). This bombing was undertaken predominantly during the hours of darkness and initially the RFC aircraft appeared powerless to stop the Zeppelins. In 1915 and the first half of

1916 the British public came to believe that the vast airships could roam with impunity in Britain's night skies raining destruction and terror in their wake. However, on the night of 2nd/3rd September 1916, Lieutenant William Leefe Robinson was instructed to take to the air from Hornchurch to intercept the German Airship SL.11 (Schutte-Lanz 11). Leefe Robinson successfully caught the airship after it had been illuminated by searchlights and after two attacks with machine guns using the new explosive ammunition caused the airship to catch fire and crash in flames near Cuffley in Hertfordshire.

- 2.3.7 The destruction of SL. 11, the first enemy aircraft to be downed over British soil, made Leefe Robinson a hero almost over night. On September 5th he was awarded Britain's highest military award, the Victoria Cross (The only Hornchurch flyer to be so honoured whilst serving there). In the following weeks Leefe Robinson's heroics were followed by similar successful actions by other Sutton's Farm pilots Frederick Sowery and then Wulstan Tempest and they too became national heroes, honoured for their bravery.
- 2.3.8 Following their losses in the Autumn of 1916, the Germans soon discontinued further Zeppelin raids but this threat was replaced by that from heavily armed German bombers collectively referred to as Gothas.
- 2.3.9 The original "Heath Robinson" feel of Sutton's Farm was now gone. Instead the aerodrome had become a state of the art air defence station with proper hangars, accommodation blocks, workshops and its own fleet of transport trucks. From September 1917 the staffing of the aerodrome also included women of the Women's Legion Auxiliary (the forerunner of the Women's Auxilliary Air Force) who acted as telephonists, drivers, clerks and despatch riders. By the end of World War I, Sutton's Farm had also witnessed one of the first British public demonstrations of ground to air radio communication. Other new innovations now used included the use of airborne oxygen and heating equipment to allow safer and more comfortable higher altitude flying.
- 2.3.10 By the conclusion of hostilities on November 11th 1918 there were over 300 men and 24 women based at Sutton's Farm supporting three Squadrons of aircraft (78 Squadron, 141 Squadron and 189 Night training Squadron). A far cry from the three pilots and six fitters of late 1915. With the cessation of hostilities, the requirement for an aerodrome at Sutton's Farm was called into question. And so on December 31st 1919 RFC Sutton's Farm was closed and the landing ground returned to agricultural use.

2.3.11 Inter-war period

- 2.3.12 In 1922 the Royal Air Force began an expansion program and once again the former landing ground at Sutton's Farm was chosen for the establishment of a two squadron airfield to form part of the planned defences for South East England and in particular London. In 1923, New College Oxford sold the land to the Royal Air Force and construction of the new facilities began the following year.
- 2.3.13 The new aerodrome took nearly four years to be designed and built but was finally opened as RAF Sutton's Farm on April 1st 1928. In July 1928 the aerodrome's name was changed to RAF Hornchurch, to make the aerodrome easier to find on public transport. The airfields design was relatively typical for an inter war fighter station and thus many of its buildings such as the Officers Mess shared the architectural theme designed for the RAF by Sir Edward Lutyens. By 1930 RAF Hornchurch already had a personnel strength almost equivalent to its World War I maximum with nearly 30 Officers, 250 other ranks and 24 civilians.
- 2.3.14 Throughout the halycon days of the early 1930's RAF Hornchurch was at the forefront of the development of a system of air control that had its origins in the defence of London during World War I and would finally bear fruit during the Battle of Britain. Hornchurch



fliers experimented with the latest ground to air and air to air radio transmitting systems, new oxygen equipment and oxygen mask microphones. The squadrons at Hornchurch also trained in tight formation flying that would delight crowds at airshows such as the annual Empire Air Days.

- 2.3.15 By 1936 construction at RAF Hornchurch was substantially complete with three big C Type hangars at the heart of an extensive technical area, Officers housing and mess, airmen's accommodation and an airmen's institute. 1936 also saw RAF Hornchurch receive a third squadron on establishment
- 2.3.16 It was also in 1936 that RAF Hornchurch had its status raised to a Sector station belonging to the newly constituted 11 Group. For this RAF Hornchurch was equipped with the latest in fighter control technology including an underground Operations and plotting room that by the end of 1937 was linked to an early form of Radio Direction Finding system (RDF or RADAR).
- 2.3.17 Towards the end of the decade however events in Europe were reaching their inevitable conclusion and with tensions rising RAF Hornchurch was put on full war footing on 22nd August 1939. The new Spitfires were dispersed in their protected pens around the airfield perimeter. Alongside the dispersal areas bell tents were erected to house the ground crews and the local Home Guard took up post manning the airfield defences. By this date RAF Hornchurch also had two satellite airfields attached to it to aid dispersal and provide forward airfields. These were RAF Manston on the Kent coast and RAF Rochford.

2.3.18 Second World War

- 2.3.19 Within 3 days of World War II beginning the awful realities of War were brought home to Hornchurch. On 6th September 1939 a flight of 74 Squadron were ordered aloft to intercept a reported German bomber formation. Instead they met a flight of RAF Hurricanes from the aerodrome at South Weald, that had also been directed against the supposed raid, and in an a 'friendly fire' incident which became known as the Battle of Barking Creek two of the Hurricanes were shot down.
- 2.3.20 The eerie quiet or 'phoney war' of the late 1939 and early 1940 was ended in May 1940 when Germany surged over the French, Belgian and Dutch borders and pushed the British expeditionary force back to the sea on the beaches of Dunkirk. Operation Dynamo, the desperate attempt to evacuate the BEF from Dunkirk was given crucial air support by Hurricanes most notably from Hornchurch, the closest Sector station from Dunkirk. During the Dunkirk evacuation Hornchurch was temporarily packed with visiting squadrons to give relief to those trapped on the beaches.
- 2.3.21 The Dunkirk evacuations were followed in July and August 1940 by the Battle of Britain when the German Luftwaffe sought to destroy the RAF and frighten Britain into submission. This was a turning point of the war when Germany suffered its first major reverse and it was the period when RAF Hornchurch earned its greatest fame through playing a crucial role in the front line of the nation's desperate defence. Amongst the Squadrons and pilots that flew from RAF Hornchurch in this period were some of the most famous and highest scoring of the war.
- 2.3.22 The main phase of the Battle of Britain began on August 13th 1940, named Adlertag (Eagle Day) by the Germans. This was the beginning of a prolonged and intensive assault on the British air defences that was initially concentrated on the coastal airfields and radar stations.
- 2.3.23 Soon, however, the Luftwaffe's activities spread further inland and on 18th August, during the most intensive air battles of the entire battle, RAF Hornchurch was bombed



for the first time. This was only the first of at least ten bombing raids on RAF Hornchurch, with the heaviest attacks occurring on August 24th and August 31st.

- 2.3.24 During these bombing raids the flight ways were cratered, a new officers mess was destroyed and parts of the dispersal areas damaged and vital phone lines cut. Residential housing in Elm Park was also hit and on at least two occasions planes were caught taking off and destroyed during raids. Even as bombs dropped around them, Hornchurch's stalwart ground crews continued to work to service, refuel and rearm aircraft and between raids all spare hands and a faithful steam traction engine were put to work levelling the cratered flight lines. The Sector Operations room was also moved to the safety of a temporary facility in Rainham before a more permanent home was found in the Masonic Hall in Romford.
- 2.3.25 By the beginning of September the strain on Fighter Command was beginning to tell and defeat seemed possible. All of the Squadrons that were rotated through RAF Hornchurch took casualties during this period, but worst affected was the Boulton Paul Defiant equipped 264 Squadron who were withdrawn from the day battles after only a week due to their casualties.
- 2.3.26 On 7th September 1940, however the Luftwaffe changed its tactics and began to concentrate on bombing London giving the battle weary fighter stations, such as Hornchurch a break from intensive air attacks.
- 2.3.27 Instead of massed bombing raids by day, the Luftwaffe now began its campaign of night blitzes against London and other British cities. However, Hornchurch remained in the forefront of battle as the Luftwaffe launched massive daylight fighter and fighter bomber sweeps and also sent small groups of night intruders to bomb air fields, including Hornchurch. Hornchurch's night fighting 600 Squadron continued to be at the forefront of pioneering the dark art of intercepting enemy bombers by night.
- 2.3.28 From the Spring of 1941 to early 1944 the Hornchurch squadrons primary tasks were to conduct seek and destroy missions (Rodeos) Fighter Sweeps (Ramrods) and if the weather was bad small scale attacks on targets of opportunity (Rhubarbs). Collectively these were known as circuses. From 1942, as the allied bomber offensives steadily gained pace with the entry of the United States into the war, Hornchurch Spitfire's were also increasingly called upon to act as escorts for daylight bombers.
- 2.3.29 During 1943 the air battles over Europe intensified as the allies began their preparations for landing in Northern Europe and by late 1943 Hornchurch Spitfires were intensifying their attacks over northern France to convince the German High Command that any amphibious landing would take place near Calais and not as was planned in Normandy. As the date for D Day approached however, the Hornchurch squadrons were steadily deployed away to forward airfields nearer to the proposed landing beaches. On February 18th 1944 The Hornchurch Operations Centre was stood down and closed. Fighter Operations from RAF Hornchurch had all but ended.
- 2.3.30 The war in Europe ended after the suicide of Hitler on 1st May 1945 and subsequent capitulation of Germany on 7th May 1945. After the armistice Hornchurch continued to operate as a marshalling depot for service personnel and vehicles until late 1946 as well a being home to the 55th MRU and 6221 BDF. By the end of 1945, however, all operational flying had ended at RAF Hornchurch although air training units still regularly used the landing ground.

2.3.31 Hornchurch Twilight: post Second World War



- 2.3.32 In 1947 RAF Hornchurch became a training establishment with the creation of the Aviation Candidate Selection Board, the Officers Advance Training School and the Recruits Advanced Drill Unit. Flying continued from the air field with the 86th Reserve Centre providing refresher training for de mobilised airmen. In 1948, the training establishment was extended with the formation of the Combined Selection Centre which ran aptitude, intelligence and medical tests for air crew selection. This was renamed the Air Crew Selection Centre in 1952.
- 2.3.33 In 1949 the demolition of the air fields facilities began with the dismantling of the 12 Blister Hangers. The same year, however, also marked 30 years of the RAF at Hornchurch which meant that a station badge could be awarded.
- 2.3.34 Throughout the immediate post war period RAF Hornchurch once again played host to impressive open days and air displays. The At Home Air Displays of 1951 and 1952 both attracted massive crowds that at 40,000 in 1952 rivalled the gate of the famous Empire Air Days of the pre war period.
- 2.3.35 The RAF presence at Hornchurch was, however, steadily cut back during the 1950's as large parts of the aerodrome were moth balled only to be reopened as emergency depots when required. By 1960 even the Air Crew Selection centre was beginning to see a drop in the numbers passing through and the final death knell for RAF Hornchurch was sounded when it was announced that a purpose built Air Crew Selection centre was to be opened at RAF Hornchurch's great pre war and war time rival Biggin Hill.
- 2.3.36 On 9th April 1962 RAF Hornchurch passed into the history books. Within a year the site had been sold for storage and gravel extraction. Most of the airfield facilities and structures were demolished by 1966 and in the 1970's extensive gravel quarrying tore up the old flightways and technical areas.
- 2.3.37 A more detailed account of the history and development of the airfield is included in the study of the site's heritage in 2007-8 by OA.

2.4 Known former features in area of proposed visitors centre

- 2.4.1 Historic maps and photographs show several distinct features on the footprint of the visitors centre which is proposed in the current development.
- 2.4.2 None of the early maps are detailed enough to allow a accurate assessment to be made of former features on the proposed centre's footprint and the 2nd edition Ordnance Survey map of 1898 suggests that at that date the site was an open field a short distance to the south of the main Sutton's Farmstead.
- 2.4.3 There is however a very useful and detailed plan dated 1918 which shows the layout of the First World War Sutton's Farm Aerodrome and which has been georeferenced by OA to allow it to be compared to the modern site plan as well as to the location of the proposed visitors centre (see Fig 2).
- 2.4.4 The 1918 plan labels all of the main airfield buildings including Hangars, Officer's Mess, Regimental Institute, Bomb Store and Squadron Offices as well as a series of Barrack Blocks towards the eastern side of the complex. These barracks were arranged in two rows either side of a central pathway (NW-SE) with five blocks to the north side and nine to the south side. Each block would have been c.20 m long by c.5 m wide.
- 2.4.5 The 1918 plan suggests that the main east to west range of the proposed visitors centre will overlie the northern halves of the footprint of three of the former barrack blocks to the southern side of the central pathway as well as a section of the central pathway itself and the approach paths to the blocks. In this area there were no barrack blocks to the



north side of the pathway and therefore the proposed visitor centre's northern projection will not overly any barrack blocks.

- 2.4.6 In addition to the 1918 map a number of historic features in the vicinity of the proposed visitors centre are also shown on several aerial photographs from the Second World War period. These are clearest on a photograph of 1947 which again has been georectified to allow the modern survey to be lain over it (Fig 3). The main feature that this shows in the area of the proposed visitors centre is a section of a long slit trench which has a 'zig-zag' plan but which passes in a broadly NNE-SSW direction through the study area. Comparison of the 1947 photograph with the proposed development outline suggests that both the main east to west range of the visitors centre and the northern projection will overlie the slit trench.
- 2.4.7 This trench was one of a number of similar features constructed either in the early stages of the Second World War or shortly before it to form part of an interlocking and mutually supportive system of airfield defence. These trenches, as well as many other features at Hornchurch around the site's perimeter such as the tett turrets, pillboxes and gun posts were intended to defend the strategically important airfield from an attack by ground troops or parachutists during a German invasion of the country. In addition not only would this system have been important for local airfield defence but in the event of a German invasion the airfield would have formed an important fortified defence feature in its own right. The various trenches at Hornchurch are known from aerial photographs to have been concentrated along the eastern and southern boundaries of the airfield although the only one that remains visible today (albeit heavily altered) is to the north of the country park in the site of St George's Hospital.
- 2.4.8 The slit trenches visible on the aerial photograph, including that in the footprint of the proposed visitors centre, would have been open topped and it may be that there were also various other covered or camouflaged defensive features.
- 2.4.9 To the west of the slit trench the aerial photograph shows what appears to have been a curved track or road which is overlain by the footprint of the proposed visitors centre and to the east of it there is the fainter trace of a circular feature, c.5 m in diameter. The circular feature may have been a bomb crater.



3 KNOWN PREVIOUS IMPACTS AND GROUND DISTURBANCE

3.1 Aggregates extraction

- 3.1.1 As referred to above after the closure of RAF Hornchurch in 1962 much of the former airfield land was sold for gravel extraction and throughout the 1960s and 1970s the large majority of what is now Hornchurch Country Park saw extensive and deep extractive works which would have removed any potential archaeology in these areas. The site was then used as a rubbish tip to re-fill the areas removed.
- 3.1.2 In OA's 2008 study of the site it was attempted to plot from aerial photographs and other sources the areas extracted as well as the areas where deep bunds appear to have been created on top of potentially surviving archaeology (Fig 1). This shows a vast area which has been quarried out and large bands along the eastern boundary of the park where deep bunds have been created. This just leaves relatively isolated parts of the former airfield which appear from desk-based evidence to be less disturbed and to have a higher potential for surviving archaeology. One of the main areas with potential is the northern end of the former airfield including the site of the First World War Suttons Farm aerodrome and the site of the proposed visitors centre.

4 EVALUATION AIMS AND METHODOLOGY

4.1 Introduction

4.1.1 Due to the archaeological potential of the proposed visitors centre site an archaeological evaluation was undertaken in 2010 to investigate the possible buried remains on the site. The evaluation consisted of two trenches, measuring 20 m x 1. m and 5 m x 1.6 m, targeted on the probable locations of WW1 barracks buildings and WW2 defensive works (Figs. 2 and 3) around the perimeter of the airfield. The trenches represent a 7.4 % sample of the building footprint area.

4.2 Aims

4.2.1 General

- To establish the presence/absence of archaeological remains within the proposal area and to determine the extent, condition, nature, character, quality and date of any archaeological remains present.
- To establish the ecofactual and environmental potential of archaeological deposits and features.
- To make available the results of the investigation.

Specific

• To establish if remains of the 20th C. airfield buildings or defences are present and if so, to assess their condition.

4.3 Methodology

4.3.1 The proposed visitor centre footprint is approximately $540m^2$. As shown on the attached plan, two trenches, measuring 20 m x 1.6 m and 5 m x 1.6 m, were excavated to target



the possible remains of former barracks buildings and/or later defensive slit trenches. This represents an approximately 7% sample of the footprint area.

- 4.3.2 Work was undertaken in accordance with OA's standard methodology for evaluations.
- 4.3.3 The trenches were laid out using Global Positioning system (GPS) equipment and scanned for services using a Catscan detector.
- 4.3.4 Excavation was undertaken by a JCB mechanical excavator fitted with a toothless bucket operating under direct archaeological supervision.
- 4.3.5 The excavation proceeded to the top of identified possible features, to the top of possible services or to maximum safe depth, in accordance with current OA safety practice. Where identified, features were then further excavated to safe depth, cleaned and recorded. Where no features were identified subsequent deepened sondages were machine excavated to test the depth of encountered modern re-deposited material.
- 4.3.6 Revealed features and deposits were issued with unique context numbers, and recorded in accordance with established OA practices (OA Field Manual, 1992).
- 4.3.7 Full length sections and plans drawings were produced for both trenches.
- 4.3.8 A full Black-and-white and digital photographic record was maintained, which included a general photographic record as well as views of significant archaeological features.



5 Results

5.1 Introduction and presentation of results

- 5.1.1 A general description of the soils and ground conditions is given.
- 5.1.2 The trenches are described according to the revealed stratigraphic sequence, i.e. with the description of the earliest or deepest deposits first.
- 5.1.3 A short description of the finds is given and is followed by an interpretation and discussion of the results.
- 5.1.4 A Table of Contexts is given in Appendix B, which gives further details and depths of deposits.

5.2 General soils and ground conditions

- 5.2.1 The soils encountered typically consisted of redeposited sandy gravels or silty loams. The underlying undisturbed natural was not reached at a depth of up to 2.7 m below the present ground level. A nearby geo-technical borehole, placed some 10 m to the north of Trench 1, found the underlying natural at a depth of 4.7 m below the present ground level.
- 5.2.2 During the evaluation the ground was dry and conditions were good.

5.3 Trench 1

- 5.3.1 Trench 1 was aligned WNW-ESE towards the south-western corner of the proposed building footprint. It was targeted on possible remains of WW1 barrack buildings or of the WW2 perimeter defences (see Figs. 2 &3). The trench measured 20 m long by 1.6 m wide.
- 5.3.2 The earliest deposit encountered was a greyish brown silty clay (118), which was seen at a depth of between 1.7 2.7 m Below the Present Ground Level (BGL), within a machined sondage within the eastern end of the trench. This deposit was fairly mixed and contained fragmentary pieces of cement and occasional pieces of coke. A machine bucket of soil was taken from this deposit and inspected for dateable finds, but none were found.
- 5.3.3 Layer 118 was overlain by a succession of redeposited orange and brownish orange sandy gravels, (117, 114,113 and 112). A similar layer of orange sandy gravel (109), seen within the western end of the trench is likely to correspond to layer 112. These gravels were collectively up to 2.2 m thick and although relatively clean, contained occasional patches of pale brown silt loam.
- 5.3.4 An irregularly shaped truncated cut (111) was seen within the middle of the trench. This appears to have been for the insertion of a drainage pipe, seen within the southern trench section (Fig. 4). It is filled by a mixture of blackish brown sandy silt, coke fragments and redeposited orange sandy gravel (110). It's full extent was difficult to define accurately as it had been truncated by the insertion (Cut 106) of a concrete structure (108) and by a later east west cut for what is probably a more modern (post WW2) drainage run (116). As seen Cut 111 measured approximately 3.7 m from east to west by at least 0.7 m deep.
- 5.3.5 Above the fill of cut 111, a distinctive layer of black crushed coke (105) extended throughout most of the trench, but was predominantly seen within the southern section (Fig.3). This layer consisted of coke with occasional small stone and was up to 0.15 m thick. It appears to have been a deliberately placed deposit, probably as a trackway or 'standing area'.

- 5.3.6 Layer 105 extends as far east as a north-south aligned ditch within the eastern end of the trench, and is truncated by the insertion (106) of concrete structure 108 and by a later East-west aligned ditch (116) within the north-west of the trench. It is overlain by a 0.25 m thick subsoil(102) and the present grass turf-line (101).
- 5.3.7 The remains of a reinforced concrete structure was found within the western end of the trench. Its construction cut (106) was seen beneath the present turf-line and truncates coke layer 105 and the fill of earlier pit 111. The sides of this cut were steep sided and irregular in shape, measuring at least 2.1 m wide by over 0.45 m deep.
- 5.3.8 The revealed structure was hand cleaned to safe depth and appears to be a broken reenforced concrete up-right pillar which partially overlays two possibly dislodged concrete slabs, the lower of which may have been truncated by ditch 116, to the north.
- 5.3.9 The up-right pillar was square in cross-section and measured 0.25 m across by 0.55 m tall as seen. It appears to have been broken just below the present topsoil/ turf-line and pushed over towards the east, where the top section was still attached by several of the re-enforcing rods. The upper, broken segment was 0.98 m long, and overlays two partially seen lower slabs.
- 5.3.10 The uppermost and larger of these two slabs measured 0.2 m thick by 0.62 long and was at least 0.4 m wide. It lay at a slight angle and is likely to have been at least partially dislodged. The lower slab was seen laying horizontally within the bottom of the trench and measured 0.4 m by 0.4 m in plan. It was triangular in shape, with a rough northern edge, and is likely to have been truncated by ditch 116, to the north.
- 5.3.11 The backfill around the concrete was a brown silty loam, 107, which was very similar to the present subsoil.
- 5.3.12 Within the eastern end of the trench a north-south aligned ditch (104) was seen cutting from the level of black coke layer 105. The ditch had steep sides and a flat base and measured 1.45 m deep by up to 2 m wide. It contained several pieces of corrigated metal sheeting, which appeared to have been thrown into the trench before it was backfilled with a brown silty loam (203), which was very similar to the overlying subsoil.
- 5.3.13 A east to west aligned ditch was seen within the north-west of the trench. This measure 1 m across and was visible for a length of approximately 9 m along the trench, where it truncated the other features and deposits. It was filled by a pale brown to greyish brown sandy silt loam (115), which contained occasional fragmentary concrete and at least one piece of disturbed corrugated metal sheeting. These are likely to be from truncated structure 108. The ditch appears to run between two man-hole covers, one of which was just to the east of Tench 2, and the other was beyond the western side of the site.

5.4 Trench 2

- 5.4.1 Trench 2 was placed at a right-angle to the eastern end of Trench 1, and was just to the west of a prominent manhole cover. The trench was aligned NNE-SSW and measured 5 m by 1.6 m wide. This trench targeted either a WW1 pathway and WW2 defences as shown in Figs. 2 & 3.
- 5.4.2 No archaeological features were found within Trench 2. The trench was initially machined to a depth of approximately 1 m BGL and when no features were encountered it was then deepened to a maximum depth of 2.25 m BGL. The deepest deposit encountered was a pale brown silty clay loam, found at approximately 2.00 m BGL. This layer contained piece of partially rotted wood and occasional fragments of ceramic drain-pipe and looked very much like a dump deposit. Slightly above this level, an area of firm



cement or concrete was encountered within the southern end of the trench. This was left in-situ, as it was thought this may be a concrete capping to a east-west drainage run. The top of this deposit was found at 1.8 m BGL.

- 5.4.3 A thin layer (204) of sandy gravel and redeposited topsoil was seen to the north of the concrete and overlaying layer 205. The possible concrete capping and layer 204 were covered by 1 m of brown sandy silt loam (203) and a further 0.75 m of brown loamy sand (202). Layer 203 contained occasional modern rubbish, including a length of plastic tubing and ceramic drain fragments.
- 5.4.4 Within the top of the eastern side of the trench an area of pale brown sandy silt (201) overlay layer 202. This contained occasional small concrete pieces and is thought to be a possible soil surrounding the inspection shaft of the nearby drain, which lies just beyond the eastern side of the trench. A 0.2 m thick topsoil and turf-line(200) overlays this deposit and this also contained larger pieces of cement at its base. These are similar to the manhole surround just to the east.

5.5 Finds summary

- 5.5.1 Few readily dateable finds were identified or recovered. Within trench 1 a sherd of Greyware was recovered from the fill of ditch 104. Within Trench 2 a length of plastic tube, a fragment of ceramic drainpipe and another un-identified piece of plastic were retained. Several pieces of corrugated metal sheeting were noted but not retained. Sheets of corrugated metal were found 'in-situ' within the bottom of Ditch 104 and these appear to have been thrown into the ditch before back-filling.
- 5.5.2 All of the finds point to a 20th-century date, with the found plastics suggesting that the deposited material encountered originated in the inter-war (1918-1939) period or post Second World War. The corrugated sheeting could be from the demolition of structures from either of the world wars.

5.6 Discussion and Interpretation

- 5.6.1 Within Trench 1, remains from two notable features were found although each was heavily truncated. These were a probable north- south aligned slit-trench (104) at the eastern end of the trench, and the remains of a re-enforced concrete structure (108) to the west. These both appear to correspond to the plot of the WW2 defences as shown on Fig. 3 and are likely to date to this period.
- 5.6.2 The function of the concrete structure is difficult to properly ascertain, given the limited extent of the revealed structure and its truncation by a probable later drainage ditch, but is thought most likely to be the remains of a former air-raid shelter.
- 5.6.3 A distinctive layer of crushed coke was also seen within trench 1. This respects probable slit trench 104 but is cut by the insertion of concrete structure 108. This is therefore thought to be an area of 'hard-standing' or possibly part of a trackway associated with the WW2 defences, which was subsequently truncated by the later modification of those defences.
- 5.6.4 Trench 2 was contained no archaeological features and revealed extensive modern deposited material.

6 CONCLUSION

6.1.1 Hornchurch Country Park is a site of considerable significance in the history of 20th-century Britain due to much of it comprising the site of the former RAF Hornchurch.

This was an important airfield in both the First and Second World Wars and played a key role in the Battle of Britain. Unfortunately relatively few structures survive from the airfield and its archaeological potential has been greatly reduced due to extensive gravel extraction across much of the site.

- 6.1.2 The areas where gravel extraction is not believed to have been undertaken, and which therefore do retain archaeological potential, form relatively small pockets of land in specific parts of the park, the most important of which is at the northern end of the site.
- 6.1.3 This area includes the footprint of a proposed visitors centre which is known from aerial photographs and historical maps to be on the site of a series of First World War barrack blocks and Second World War features including a slit trench.
- 6.1.4 An evaluation undertaken on the site of the proposed centre, targeting the known historic features has exposed features that do appear to be the surviving remains of the slit trench, as well as several concrete structures which probably also date from the Second World War period, but these had all been heavily truncated and dislocated from their historic form.
- 6.1.5 It is clear that these trenches were not merely infilled after the war, which may have meant that they remained well preserved below ground level, but that they were severely impacted in the post-war works to 're-landscape' the area.
- 6.1.6 The work also suggests that the ground in the area comprises extensive modern redeposited material to a considerable depth (at least 2.5 m). In summary the potential for well-preserved archaeological features to survive in the area of the proposed visitors centre is low. It is unlikely that any pre-20th-century features will survive and it is probable that any airfield structures that remain buried will be poorly preserved.

Bryan Matthews and Jonathan Gill November 2013



APPENDIX A. BIBLIOGRAPHY

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Trench 1						
context no	type	Width (m)	Depth (m)	comment	finds	date
101	Layer	-	0.1	Topsoil	-	-
102	Layer	-	0.25	Subsoil	-	-
103	Fill	-	0.6	Fill of Ditch 104	-	-
104	Cut		0.6	North-south ditch		
105	Layer		0.15	Black coke layer		
106	Cut	2.1	0.45	Construction cut for 108		
107	Fill		0.45	Backfill of 106		
108	Structure		0.55	Concrete structure		
109	Layer		-	Re-deposited natural		
110	Fill		0.25	Fill around drain		
111	Cut	3.7	0.25	Cut for drainage		
112	Layer		0.28	Re-deposited sandy gravel		
113	Layer		0.16	Re-deposited sandy loam and gravel		
114	Layer		0.58	Orange sandy gravel		
115	Fill		1.45	Fill of Ditch 116		Post WW2
116	Cut	2	1.45	East-west ditch cut		Post WW2
117	Layer		1.4	Re-deposited gravels		
118	Layer		-	Mixed silty clay		
Trench 2						
context no	type	Width (m)	Depth (m)	comment	finds	date
200	Layer		0.2	Topsoil		Post WW2
201	Layer		0.52	Sandy silt		Post WW2
202	Layer		0.75	Loamy sand		
203	Layer		1	Sandy silt loam	Metalwork, plastic	20 th C.
204	Layer		0.22	Sand and gravel		
205	Layer		0.2 m+	Silty clay loam and gravel		

Appendix B. Trench Descriptions and Context Inventory



Appendix C. Summary of Site Details

Site name:	Hornchurch County Park, London Borough of Havering		
Site code:	HUP 10		
Grid reference:	NGR TQ533 842		
Туре:	Evaluation		
Date and duration:	March 15 - 17 th 2010		
Area of site:	540 sq. m.		

Summary of results: Two trenches opened on footprint of proposed visitors centre, particularly targeted on the site of First World War barracks and Second World War defensive slit trench. Fragmentary remains of the slit trench were found, as well as another probable Second World War concrete feature but these were truncated and there were extensive areas of modern re-deposited material.

Location of archive: The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with the London Archaeological Archive and Research Centre (LAARC) maintained by the Museum of London in due course, under the site code: HUP10.



showing location of proposed visitors centre

0



Figure 2: trench plan laid over 1918 RAF Hornchurch plan



Figure 3: trench plan with footprint of visitor centre laid over 1947 aerial photograph





Plate 1: Trench 1 general. Looking east



Plate 2: Concrete remains in Trench 1

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Plate 3: Trench 1 general view looking west



Plate 4: Trench 1 general



Plate 5: General view of area investigated



Plate 6: Trench 2 general



Plate 7: Trench 2 looking north









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