

# WALNEY AIRFIELD, WALNEY ISLAND, CUMBRIA

## Report on an Archaeological Evaluation

Prepared for: BAE Systems

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## 1.0 Introduction

SLR Consulting Ltd (SLR) was commissioned to undertake an archaeological evaluation programme within the eastern section of Walney Airfield, Walney Island, Cumbria (Figure 1). The Borough of Barrow in Furness Council have granted Planning Permission to BAE Systems to develop an area of Walney Airfield that is located close to a large World War II hangar. The planning reference is B12/2016/0780 and includes the upgrading of facilities within the eastern section of the airfield. One of the planning conditions pertains to archaeology and cultural heritage (Section 10). The conditions states:

*No development shall commence within the site until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Local Planning Authority. The written scheme will include the following components: i) An archaeological Evaluation; ii) An archaeological recording programme the scope of which will be dependent of the results of the evaluation; iii) Where significant archaeological remains are revealed by the programme of archaeological work, a post-excavation assessment and analysis, preparation of a site archive ready for deposition at a store approved by the Local Planning Authority, completion of an archive report, and submission of the results for publication in a suitable journal.*

Information retained within Cumbria Historic Environment Service Historic Environment Record (HER) suggests that the area that includes the airfield has archaeological potential and in order to comply with the requirements of National Planning Policy Framework (NPPF) it was advised by the Cumbria Historic Environment Service that a staged archaeological evaluation be undertaken. This programme is to inform the need for and scope of any further archaeological work. The trenches were located over the sites of six former buildings that are present on an aerial image that dates to 1946.

The work was carried out between 16<sup>th</sup> and 17<sup>th</sup> October 2017 as described in the Written Scheme of Investigation (WSI) previously produced by SLR Consulting and accepted by the monitoring authority.<sup>1</sup>

The arrangements for fieldwork, post-fieldwork assessment, reporting and archiving, archive deposition and report dissemination are included in this document.

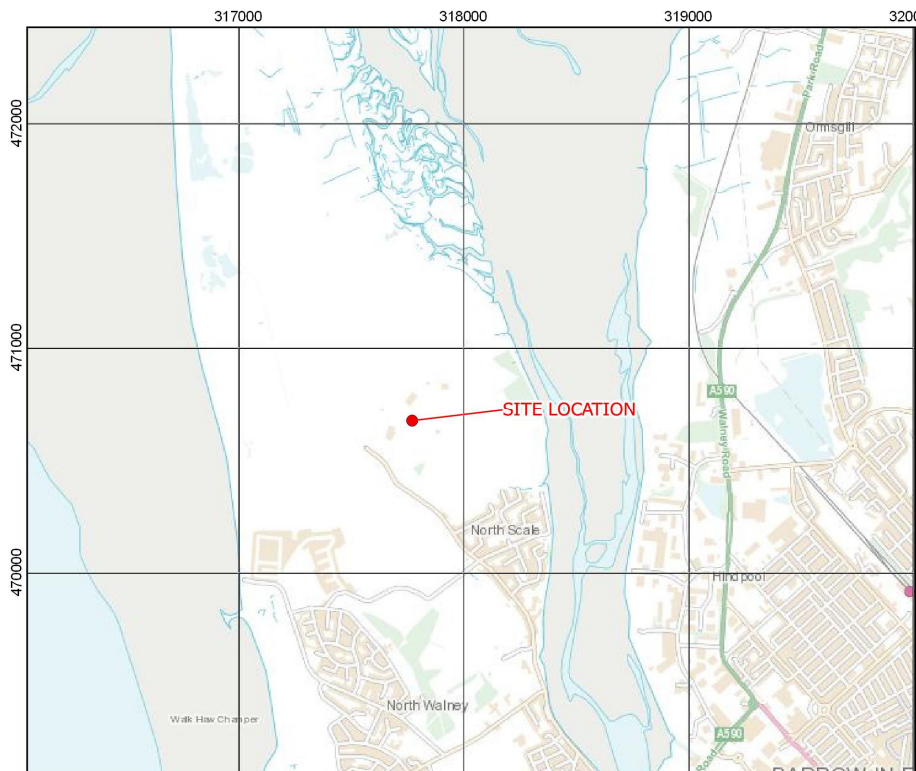
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<sup>1</sup> SLR Consulting 2017 Walney Airfield, Walney Island, Cumbria; *Written Scheme of Investigation for Archaeological Field Investigation*

## 2.0 The Site

The airfield is located within the northern part of Walney Island, centred on NGR SD 1763 7072 (Figure 1). The proposed development site stands within the south-eastern section of the airfield where a number of World War II buildings are and were located (centred upon NGR SD 17670 70623). To the west of the airfield are the remains of a number of World War I and World War II sites associated with British Army and RAF activity<sup>2&3</sup>.

**Figure 1**  
**Site Location**



OpenData Mapping: Contains Ordnance Survey data © Crown copyright and database right 2017

## 2.1 Geology

Based on data supplied by the British Geological Survey (BGS)<sup>4</sup>, the solid geology of North Walney comprises of a Triassic Sidmouth Mudstone Formation (SIM). This sedimentary geology is overlain by glacial and post-glacial Quaternary drift deposits in the form of windblown sand deposition (BSA) which overlie in places clay-rich lenses. This geology, along with associated drift deposits were encountered within the trenching regime.

<sup>2</sup> Brennand, M. (ed.) 2006. Research and Archaeology in North West England: An Archaeological Research Framework for North West England: Volume 1 (Resource Assessment). ALGAO/CBA

<sup>3</sup> Brennand, M. (ed.) 2007. Research and Archaeology in North West England: An Archaeological Research Framework for North West England: Volume 2 (Research Agenda and Strategy). ALGAO/CBA

<sup>4</sup> <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

**Figure 2**  
**General view of eastern section of Walney Airfield (image taken by Lawrence Hill)**



In terms of topography, North Walney is divided into three clear zones: coastal foreshore, sand dunes system occupying the western fringes of the northern spit and lowland marsh and scrub (Figure 2). The site lies close to a landscape of dynamic sand dune systems, several areas of which rise to 35-40m AOD. The site, however, stands at a height of between 9m and 16m AOD.

### 3.0 Historic Background

In 1937 an airfield site, extending c. 600 acres was chosen and acquired via a compulsory purchase order for £8050. The construction of the airfield began in 1940 and was completed in 1941. The original use of the airfield as a civic aerodrome was shelved and North Walney Aerodrome became a military establishment, home to No. 25 Group (Flying Training Command and later, No. 3 Air Gunnery Command and No. 10 Air Gunnery School). At this time, personnel numbered 100 including military training staff and trainees. By 1942 the airfield had expanded with a camp in nearby Cows Tarn Lane and North Scale. A WAAF quarters was also established along the Promenade (North Scale Village).<sup>5</sup>

From 1942 and extending beyond the duration of World War II over 5000 RAF personnel completed their training at the North Walney base; much of the surviving building evidence, above and below ground, date from this period. The military use of the airfield continued until mid-1946. The Ministry of War retained the site until 1959 and then sold it to Vickers who was the major employer within nearby Barrow-in-Furness (later to become BAE Systems). The airfield is still in use, home to the Lakes Gliding Club and is owned by BAE Systems.

**Figure 3**  
**Extract from World War II or early Cold War inventory of airfield**



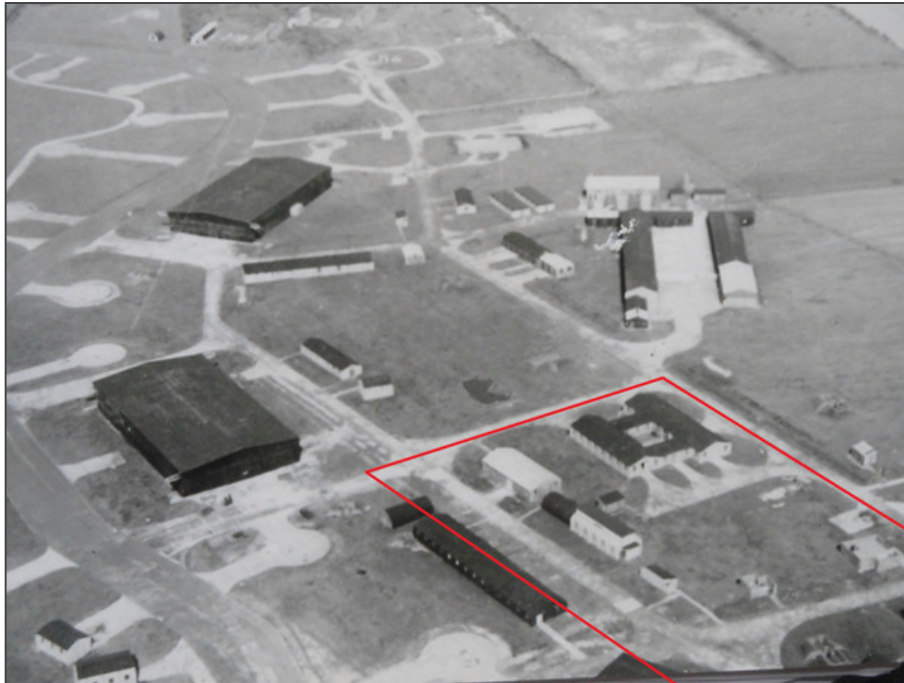
During the latter stages of World War II (or sometime soon after) a plan of the base and all its buildings was produced (Figure 3), along with a series of aerial photographs (e.g. Figure 4). At this time, the evaluation site housed at least six buildings/structures [marked within red in Figure 3] including an Armoury (Building 49), BAA

<sup>5</sup> Remnants of structures from these camps still remain standing



Store (Building 50), Towed Target Store (Building 57)<sup>6</sup>, WAAF Latrine (Building 59) and Fuel Compound (Building 85).<sup>7</sup> This area stood between two large hangars (Buildings 43 and 51) and south-east of the Control Tower (Building 44). Since the publication of this inventory, these buildings/structures have been demolished; however, subsurface remains of these buildings survive.

**Figure 4**  
**Aerial image showing extant buildings in 1946 (area marked in red)**



<sup>6</sup> Used in conjunction with the Towed Target circuit (HER 43984) located south of the rifle range, west of the airfield.

<sup>7</sup> For this report, the author has used the building/structure number referencing system present on the post-war plan of the site.

## 4.0 Aims and Objectives

The trial trenching was targeted to investigate World War II buildings (Drawing 1) as well as allowing for investigation for any earlier features.

The aims set out in the WSI for this work were:

- to contribute to establishing the extent and significance of any archaeological remains which may exist within the Site; and
- to assess the impact on the heritage significance of archaeological remains from the proposed development.

Trenches were located in order to address the following objectives:

- to establish the nature and date of the general deposit–sequence on the site;
- to establish the nature, date, extent and condition of preservation of any man-made archaeological features or remains which may be present on the site;
- to investigate the inter-action between human agency and natural activity within the site;
- to provide an appropriate level of information for planning further mitigation (if required); and
- although the trench is located over World War II buildings, there is sufficient trenching space which will allow observations to be made of potential earlier archaeology.

## 5.0 Methodology

It was proposed to undertake the excavation of six trenches, each measuring 10m long x 1.8m wide, to evaluate the site (Drawing 1). The trenches were located using historic aerial photographs and OS mapping. All fieldwork was carried out as outlined in the WSI for this work.<sup>8</sup>

### 5.1 Monitoring

All archaeological work was monitored by Cumbria County Council Historic Environment Officer (CCCEO) Jeremy Parsons via telephone / email conversations with SLR.

### 5.2 Destination Museum

This report will be uploaded to the OASIS website.

### 5.3 Reporting

Approved versions of this report will be circulated to:

- The Client;
- The CCCEO;
- The Local Planning Authority
- SLR Consulting Limited.

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<sup>8</sup> SLR Consulting 2017 Walney Airfield, Walney Island, Cumbria; Written *Scheme of Investigation for Archaeological Field Investigation*

## 6.0 Results

Six trenches were targeted on World War II period buildings across the site (Drawing 1). Trench 1 targeted the remains of an armoury building while Trenches 2 and 3 targeted a towed target store

### 6.1 Trench 1

Trench 1 was the most westerly trench excavated at the site and was orientated roughly north west – south east (Drawing 1, Figure 5). It was advised by an on-site ecologist that this trench be moved approximately 2.5m to the south west of where it was originally to be dug due to a possible Natterjack toad habitat.

The natural subsoil in the area was a brown orange sandy clay (100) which was recorded at approximately 13.20m AOD across the trench. This was overlain by mid grey silt clay (101) which may have represented the original topsoil on the site. Cut through the topsoil and sitting on top of the natural subsoil were concrete foundations (104) on which were set brick wall base (105) (Drawing 1). The concrete was up to 0.25m thick and ran for 8.7m along the southern side of the trench before returning at its southern end to the north east. The brick wall base was made up of bricks measuring 235mm x 70mm x 110mm set in a stretcher bond one brick thick with low buttresses present at approximately 2.5m intervals along its length. It survived up to eight bricks high. No floor relating to the foundations was identified.

To the north of the north west – south east section of the foundation (101) was covered by 0.48m of light grey mottled yellow silt clay (102) and to the south by the same depth of orange grey brown silt clay (103). Both deposits represent made ground.

**Figure 5**  
**Trench 1 looking south west**



### 6.2 Trench 2

Trench 2 was located approximately 15m south east of Trench 1 and was orientated roughly north west – south east (Drawing 1). The natural subsoil in the area was a brown orange sandy clay (200) which was recorded at approximately 13.85m AOD across the trench (Figure 6). A concrete foundation (203) was recorded running along the northern side of the trench for approximately 8m (Drawing 1). It was 0.2m thick and 0.5m wide. The natural subsoil was covered by 0.4m of dark grey brown clay silt (201) which may represent the original topsoil.

The relationship between this context and the foundation was unclear. This was covered by 0.4m of crushed concrete and rubble (202). A service trench ran parallel with the foundation on its south western side while a dead electric cable crossed the trench 2m from its southern end.

**Figure 6**  
**Trench 2 looking north west**



### 6.3 Trench 3

Trench 3 was located approximately 12m north east of Trench 2. It was orientated north west – south east (Drawing 1).

**Figure 7**  
**Trench 3 looking north west**



The natural subsoil was a brown orange sandy clay (300) which was recorded at between 13.76m at the southern end and 13.95m AOD at the northern end (Figure 7). This was covered by 0.4m of mid grey brown clay silt (302) which may represent buried topsoil. A concrete foundation (301) was recorded cutting through (302) running across the trench 2m from its northern end (Drawing 1). It was 'L' shaped, 0.12m thick and up to 0.8m wide. These contexts were all covered by 0.2m of dark brown clay silt (303).

## 6.4 Trench 4

Trench 4 was located approximately 17m north east of Trench 3 and was orientated roughly north west – south east (Drawing 1, Figure 8). Natural brown orange sandy clay subsoil (500) was identified at 14.17m AOD at the south east of the trench.

**Figure 8**  
**Trench 4 north west**



This was covered by mid brown grey silt clay (401) up to 0.3m thick which may represent buried topsoil. This was cut by a concrete foundation (404) and brick wall base (405) orientated roughly north east – south west. The concrete was approximately 0.3m thick. The wall base was made up of bricks the same size as those in Trench 1 and was again constructed using a stretcher bond (Figure 9). A buttress was recorded at the southern limit of the exposed wall base and it survived to up to 4 bricks high. To the north of the foundation was a concrete floor (406) at current ground level (14.97m AOD).

Context (401) was covered by up to 0.3m of slate in a dark grey silt (402) which was in turn covered by 0.1m of mid brown clay silt (403).

**Figure 9**  
**Trench 4 concrete foundation (404), wall (405) and floor (406) looking north west**



## 6.5 Trench 5

Trench 5 was located approximately 11.5m south of Trench 4 and was orientated roughly north east –south west (Drawing 1 and Figure 10). Natural brown orange sandy clay subsoil (500), which was observed at between 14.48m AOD at the east and 14.29m AOD at the west, was identified below up to 0.15m of mid grey brown grey clay silt (501) which may represent buried topsoil. This deposit appeared to be cut by concrete foundation (503) and brick wall base (504). These ran along the east side of the trench for 7.8m before turning to the north west at their southern end (Figure 11). The concrete foundation was 0.1m thick and over 0.2m wide. The wall base was made up of similar bricks to those recorded in Trenches 1 and 4. It was one brick thick and survived up to three bricks high. A single buttress was recorded along its length. Context (501) and the concrete foundation base were covered by up to 0.5m of slate in a dark grey silt (502), the same as (402), which lay against the side of the wall base. In places this was covered by broken concrete which appeared to have been part of the same floor as (406).



**Figure 10**  
**Trench 5 looking south west**



**Figure 11**  
**Trench 5 foundation (503)/(504) looking south east**



## 6.6 Trench 6

Trench 6 was the most easterly of the trenches excavated, approximately 13m south east of Trench 5 (Drawing 1). Natural subsoil (600), a brown orange sandy clay was observed at approximately 14.55m AOD at the eastern end of the trench (Figure 12). It was covered by up to 0.1m of light brown grey clay silt (601) which may represent a buried topsoil. This was in turn covered by 0.5m of dark brown grey clay silt (602). A concrete foundation (603) and wall (604) crossed the line of the trench approximately 4m from the western end (Figure 13). The concrete foundation was at least 0.2m wide and 0.1m thick. The wall base was made up of bricks the same size as those identified in the other trenches and was constructed in a stretcher bond. It was up to 3

bricks high with a buttress at the southern end of the exposed length. A concrete floor (605) was recorded to the west of the foundation at 14.95m AOD.

**Figure 12**  
**Trench 6 looking north west**



**Figure 13**  
**Trench 6 wall base (603)/(604) looking north west**



## 7.0 Discussion and Conclusion

Six trenches were excavated at Walney Airfield, all of which were targeted on the remains of World War II buildings (Drawing 1).

Remains were identified in each trench (Section 6 above). The buildings appear to have been constructed with footings cut through the existing topsoil and concrete poured in to create a foundation base. Single width brick wall bases were then constructed on top of these foundation bases using regular buttresses as support. The brick type appears to be consistent across the site (as standard in most World War II sites). Slate in a silt matrix was used as a sub-base for concrete floors. Made ground is present across the site, presumably introduced to raise the level of the site above the water table. All of the trenches flooded immediately after excavation.

The preservation of the building remains varied across the site with only concrete foundation bases present in Trenches 2 and 3. Elsewhere in Trenches 4, 5 and 6, foundations were well preserved and floors present.

No artefacts were recovered from any of the trenches excavated and no earlier archaeological features were identified.

In conclusion, and based on the results of the evaluation, the building types form part of a national blueprint that extends to many other World War II airfield sites. The construction methodology and materials used are standard throughout.

## APPENDIX 01

### Context Register

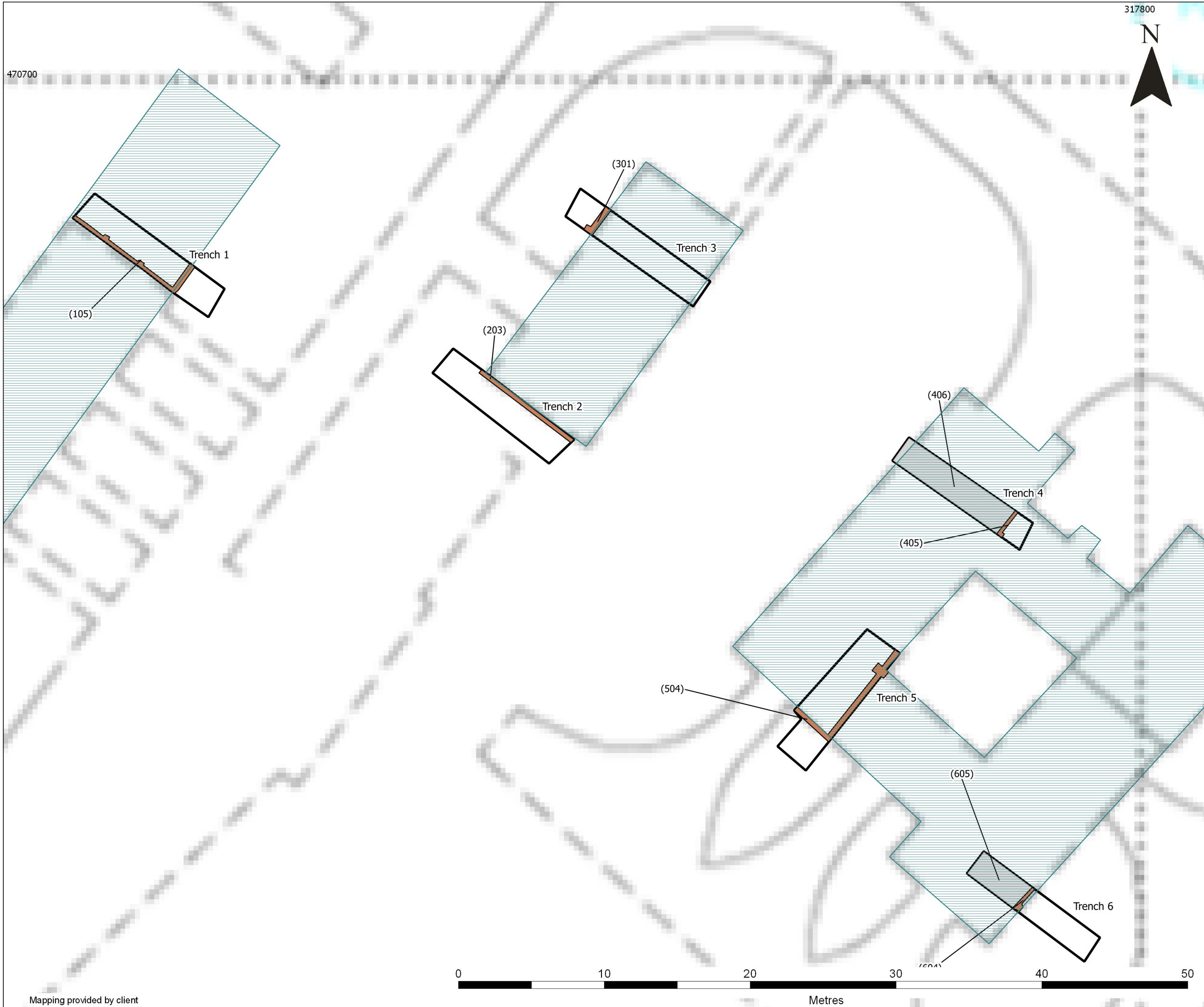
Context No	Type	Fill of	Length (m)	Width (m)	Depth (m)	Description	Interpretation
100	Deposit	N/A	Trench	Trench	N/A	Brown orange sandy clay	Natural subsoil
101	Deposit	N/A	Trench	Trench	0.3	Mid grey silt clay	Buried topsoil
102	Deposit	N/A	7.2	Trench	0.5	Light grey mottled yellow silt clay	Made ground
103	Deposit	N/A	2.5	Trench	0.5	Orange grey brown silt clay	Made ground
104	Structure	N/A	8.7	0.5	0.25	Concrete foundation	Concrete foundation
105	Structure	N/A	8.7	0.11	0.6	Brick wall base	Brick wall base
200	Deposit	N/A	Trench	Trench	N/A	Brown orange sandy clay	Natural subsoil
201	Deposit	N/A	Trench	Trench	0.4	Dark grey brown clay silt	Buried topsoil
202	Deposit	N/A	Trench	Trench	0.4	Crushed concrete and rubble	Made ground
203	Structure	N/A	8	0.5	0.2	Concrete foundation	Concrete foundation
300	Deposit	N/A	Trench	Trench	N/A	Brown orange sandy clay	Natural subsoil
301	Structure	N/A	1.8	0.8	0.12	Concrete foundation	Concrete foundation
302	Deposit	N/A	Trench	Trench	0.4	Mid grey brown clay silt	Buried topsoil
303	Deposit	N/A	Trench	Trench	0.2	Dark brown clay silt	Made ground
400	Deposit	N/A	Trench	Trench	N/A	Brown orange sandy clay	Natural subsoil
401	Deposit	N/A	Trench	Trench	0.3	Mid brown grey silt clay	Buried topsoil
402	Deposit	N/A	Trench	Trench	0.3	Slate in a dark grey silt	Made ground
403	Deposit	N/A	Trench	Trench	0.1	Mid brown clay silt	Made ground
404	Structure	N/A	1.8	0.2+	0.3	Concrete foundation	Concrete foundation
405	Structure	N/A	1.8	0.35	0.25	Brick wall base	Brick wall base
406	Structure	N/A	8.2	Trench	Unknown	Concrete floor	Concrete floor
500	Deposit	N/A	Trench	Trench	N/A	Brown orange sandy clay	Natural subsoil
501	Deposit	N/A	Trench	Trench	0.15	Mid grey brown grey clay silt	Buried topsoil
502	Deposit	N/A	Trench	Trench	0.5	Slate in a dark grey silt	Made ground
503	Structure	N/A	7.8	0.2+	0.1	Concrete foundation	Concrete foundation

Context No	Type	Fill of	Length (m)	Width (m)	Depth (m)	Description	Interpretation
504	Structure	N/A	7.8	0.11	0.22	Brick wall base	Brick wall base
600	Deposit	N/A	Trench	Trench	N/A	Brown orange sandy clay	Natural subsoil
601	Deposit	N/A	4.2	Trench	0.1	Light brown grey clay silt	Buried topsoil
602	Deposit	N/A	4.2	Trench	0.5	Dark brown grey clay silt	Made ground
603	Structure	N/A	1.8	0.2+	0.1	Concrete foundation	Concrete foundation
604	Structure	N/A	1.8	0.11	0.22	Brick wall base	Brick wall base
605	Structure	N/A	5.5	1.8	Unknown	Concrete floor	Concrete floor





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## APPENDIX 02

### Drawing



**LEGEND**

-  TRENCH
-  FOUNDATION
-  CONCRETE FLOOR
-  BUILDING OUTLINES  
1958 OS MAP



406.00155.00024\_DR1\_Trenches\_c

Mapping provided by client



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WALNEY AIRFIELD  
ARCHAEOLOGICAL EVALUATION  
FEATURES IDENTIFIED AND 1958 OS MAP  
BUILDINGS  
**DRAWING 1**

Scale	1:250 @ A3	Date	OCTOBER 2017
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