



PURCELL

Walney Island

PHASE 2 CONSERVATION STATEMENT

Issue 3

June 2016

**MORECAMBE BAY
PARTNERSHIP**



BEVERLEY KERR

On behalf of Purcell ®

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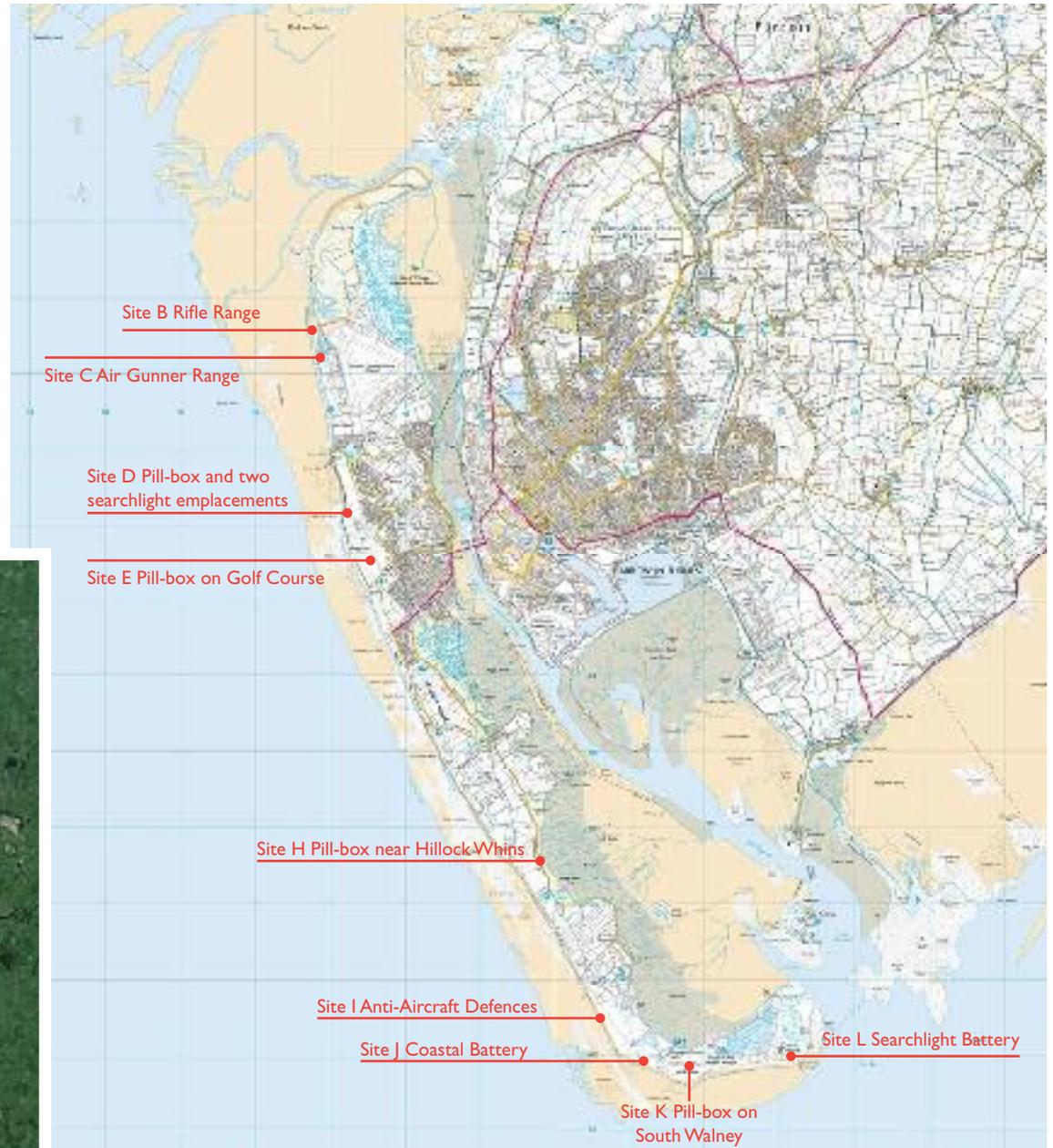
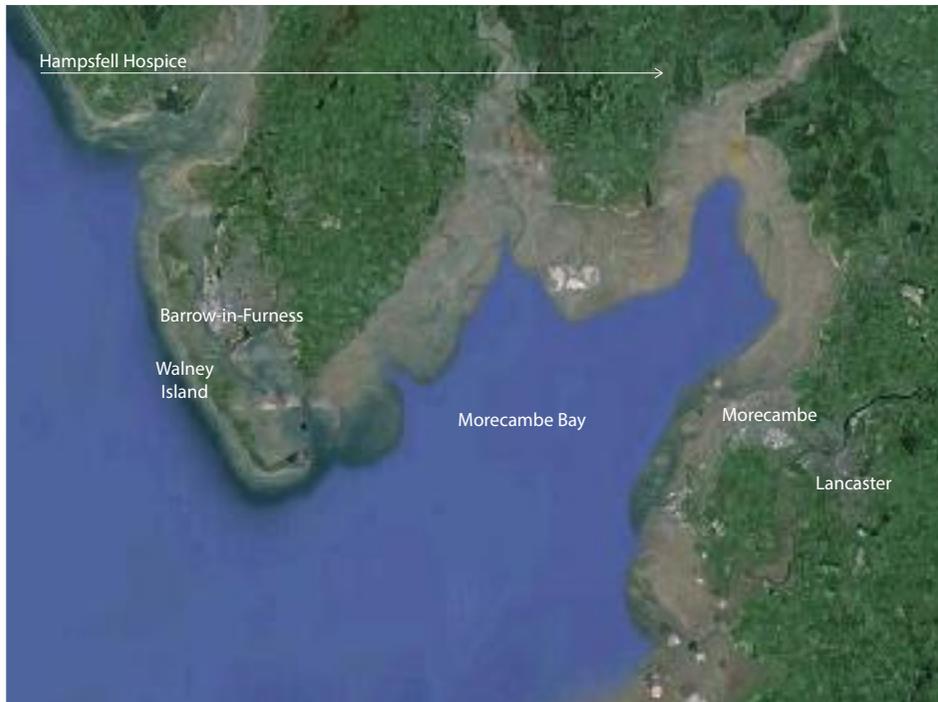
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Location Plan (Base plan © 2015 Infoterra Ltd & Bluesky)



Location of Walney Island sites. (Copyright Ordnance Survey. Mapping provided by Cumbria County Council for use by Morecambe Bay Partnership under licence 100019596)

I INTRODUCTION

I.1 REASON FOR THE CONSERVATION STATEMENTS

In 2015 the Morecambe Bay Partnership commissioned Purcell to undertake built heritage conservation statements for five areas/sites around Morecambe Bay. The programme of work supports the delivery of the Headlands to Headspace (H2H) Project 1 (Built Heritage and Lookouts), allowing for conservation and consolidation proposals of key built heritage sites to be taken forward.

The Phase 1 reports which provided an initial assessment of the five sites/ areas were delivered in October 2015. Following the report's findings, the Morecambe Bay Partnership commissioned full Conservation Reports for two sites:

- Walney Island, near Barrow-in-Furness (the subject of this report)
- Hampsfell Hospice

I.2 HOW THE CONSERVATION STATEMENTS FIT INTO THE H2H SCHEME

The Conservation Statements combine work already undertaken for H2H (principally the feasibility studies produced for the sites by Greenlane Archaeology) to detail the history of each site, significance and conservation issues.

The Conservation Statements have followed a two phase approach. The initial reports provided an assessment to determine which sites are significant enough and viable to be taken forward to phase 2. Phase 2 involves the production of full Conservation Statements for the two sites, and includes accurate costed proposals for the potential conservation, consolidation, and interpretation of the sites.

This work will help to achieve the four key outcomes of H2H, which are to:

- Conserve and protect Morecambe Bay's rich natural and cultural heritage
- Involve the Bay's communities in all aspects of this scheme
- Provide significantly improved access for all audiences to the key natural and cultural heritage sites
- Provide training

I INTRODUCTION

I.3 AUTHORSHIP

This Conservation Statement has been prepared by Purcell, a firm of conservation architects and heritage consultants. Specifically, it has been prepared by Bev Kerr MA (Cantab), MA (Hons), Mst (Cantab) Heritage Consultant, Matthew Dyer, BA (Hons), BArch, ADPPA, RIBA, Senior Architect, and Damien Wooliscroft, BA (Hons), MA, MArch, Architectural Assistant.

I.4 SCOPE OF THE STUDY

This report will cover nine separate, but interlinked, sites on Walney Island. It will consider each structure/site in its own right, how it fits in with related sites and structures as well as the wider setting and remnants of First and Second World War structures across Walney. As a phase 2 report, it will incorporate a description of each site and its setting, an outline of specific planning policy and heritage guidance which should be taken into consideration, and the historic background of the site to put it in context, thus informing the statement of significance. The document will also include an assessment of condition, costings for conservation and potential future uses.

I.5 EXISTING INFORMATION AND RESOURCES CONSULTED

The second stage of the work involved a further assessment of existing information about the site, building upon earlier research which has included consultation of the following resources:

- The National Archives, Kew
- Kendal Archive Centre
- Barrow-in-Furness Archive Centre
- Cumbria County Council Historic Environment Record (HER)
- North West Rapid Coastal Zone Assessment (NWRCA) 2007¹

The site was visited on 5th June 2015 and further visited on 14th December 2015. During this time the structures were inspected and photographed. Additional, primary and secondary sources were provided by Louise Martin, Morecambe Bay Partnership and Louise Parkinson, Archaeological Consultant.

During the preparation of this report a number of areas were identified which require further research. These are:

- Site D - establish if the Coastal Artillery Searchlight emplacements (CASLs) at Fort Walney were built in the First World War.
- Site L - locate plans of Hilpsford Fort
- Site H - establish if there are any further remains of the decoy site in surrounding fields.
- Site I and K - continue to search for information initially through historic aerial imagery
- Establish if there are any connections between the First World War trenches on the north of the Island to the later training facilities of the Second World War.

¹ <https://historicengland.org.uk/images-books/publications/nwrcza-phase2-project-report/>

2 UNDERSTANDING

2.1 LEGISLATIVE FRAMEWORK AND HERITAGE ASSETS

2.1.1 HERITAGE ASSETS

None of the structures being considered here are listed or scheduled. As such, they can be considered as non-designated heritage assets. Local planning authorities may identify non-designated heritage assets. These are buildings, monuments, sites, places, areas or landscapes identified as having a degree of significance meriting consideration in planning decisions but which are not formally designated heritage assets.

The National Planning Policy Framework identifies two categories of non-designated site of archaeological interest:

(1) Those that are demonstrably of equivalent significance to scheduled monuments and are therefore considered subject to the same policies as those for designated heritage assets (National Planning Policy Framework Paragraph 139). They are of three types:

- those that have yet to be formally assessed for designation
- those that have been assessed as being nationally important and therefore, capable of designation, but which the Secretary of State has exercised his discretion not to designate usually because they are given the appropriate level of protection under national planning policy
- those that are incapable of being designated by virtue of being outside the scope of the Ancient Monuments and Archaeological Areas Act 1979 because of their physical nature

(2) Other non-designated heritage assets of archaeological interest. By comparison this is a much larger category of lesser heritage significance, although still subject to the conservation objective. On occasion the understanding of a site may change following assessment and evaluation prior to a planning decision and move it from this category to the first.

Where an asset is thought to have archaeological interest, the potential knowledge which may be unlocked by investigation may be harmed even by minor disturbance, because the context in which archaeological evidence is found is crucial to furthering understanding.

North and South Walney are protected by a number of national and international natural heritage designations, including the South Walney & Piel Channel Flats Site of Special Scientific Interest (SSSI), Morecambe Bay Special Protection Area and Ramsar Site. North Walney Reserve was formerly a separate Site of Special Scientific Interest, but has now been amalgamated with other SSSIs in the Duddon Estuary. As such, consultation with Natural England is recommended where any change or disturbance is proposed for any of the heritage assets assessed in this report.

2 UNDERSTANDING

2.1.2 NATIONAL AND LOCAL PLANNING POLICY

The National Planning Policy Framework (NPPF)¹ (published March 2012) is the overarching planning policy document for England. Within Section 12 – Conservation and enhancing the historic environment – are the government's policies for the protection of heritage.

The policies advise a holistic approach to planning and development, where all significant elements that make up the historic environment are termed heritage assets. These consist of designated assets, such as listed buildings or conservation areas, non-designated assets, such as locally listed buildings, or those features which are of heritage value. The policies within the document emphasise the need for assessing the significance of heritage assets and their setting in order to fully understand the historic environment and inform suitable design proposals for change to significant buildings.

Conservation is defined in the NPPF as the 'process of maintaining and managing change to a heritage asset in a way that sustains, and where appropriate, enhances its significance'. Consequently, a key aim of the NPPF is to encourage the identification of the significance of heritage assets in advance of proposed development works (Paragraphs 128-139). The NPPF also emphasises the importance of sustainable development and the need for continued viability. By focusing on what matters about a heritage asset – its significance – it frees up opportunities to keep these assets in use and manage sustainable change.

Local planning policy is contained within the Cumbria County Council Plan 2014-2017. It can be accessed in full via the council's website at: <http://www.cumbria.gov.uk/ourfuture/councilplan.asp>.

The Barrow Area Plan 2014-2017 describes how the council's priorities will be delivered across the area. It can also be accessed via the council's website: <http://www.cumbria.gov.uk/community/areaplans.asp>

2.1.3 GUIDANCE

English Heritage, Conservation Principles (2008)

Conservation Principles, Policies and Guidance, published by English Heritage (now Historic England), provides a comprehensive framework for the sustainable management of the historic environment, wherein 'Conservation' is defined as the process of managing change to a significant place and its setting in ways that will best sustain its heritage values, while recognising opportunities to reveal or reinforce those values for present and future generations.

The guidance describes a set of four heritage values, which are used to assess the significance of a heritage asset: evidential value, historical value, aesthetic value and communal value. Conservation Principles also differentiates between works that are repairs, restoration and new works or alterations. The following paragraphs indicate the level of justification required for different types of work.

117. Repair necessary to sustain the heritage values of a significant place is normally desirable if:

- a. there is sufficient information comprehensively to understand the impacts of the proposals on the significance of the place; and
- b. the long term consequences of the proposals can, from experience, be demonstrated to be benign, or the proposals are designed not to prejudice alternative solutions in the future; and
- c. the proposals are designed to avoid or minimise harm, if actions necessary to sustain particular heritage values tend to conflict.

126. Restoration to a significant place should normally be acceptable if:

- a. the heritage values of the elements that would be restored decisively outweigh the values of those that would be lost;
- b. the work proposed is justified by compelling evidence of the evolution of the place, and is executed in accordance with that evidence;
- c. the form in which the place currently exists is not the result of an historically-significant event;
- d. the work proposed respects previous forms of the place;
- e. the maintenance implications of the proposed restoration are considered to be sustainable.

138. New work or alteration to a significant place should normally be acceptable if:

- a. there is sufficient information comprehensively to understand the impacts of the proposal on the significance of the place;
- b. the proposal would not materially harm the values of the place, which, where appropriate, would be reinforced or further revealed;
- c. the proposals aspire to a quality of design and execution which may be valued now and in the future;
- d. the long-term consequences of the proposals can, from experience, be demonstrated to be benign, or the proposals are designed not to prejudice alternative solutions in the future.

¹ NPPF available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/60772/116950.pdf

2.2 MANAGEMENT, MAINTENANCE AND USE TODAY

The land use, ownership, management and maintenance varies across the island. In the north, the Duddon Estuary Site of Special Scientific Interest is managed by Natural England, with the land being owned by BAE Systems. Furness Golf Course occupies a central position on the island, towards its western shores and the land is owned by the committee. The Pill-box near Hillock Whins sits on privately owned land just off Mawflat Lane. South Walney is owned by Holker Estate and the South Walney Nature Reserve is managed by the Cumbria Wildlife Trust. Although spread out across rugged terrain, most of the sites are accessible to the public. The exceptions are those located on the golf course. The structures have not been maintained and are subject to natural processes and as such some are in dangerous condition.

The only structures still in use are the hide on South Walney (site K) and one of the Concrete Coastal Artillery Searchlights (site L), which is used for storage and has a movable hide on its roof, although this is now out of use for safety reasons.

2.3 LOCATION

Walney Island is an island at the western end of Morecambe Bay. The central part of the island incorporates part of the town of Barrow-in-Furness and is separated from mainland Barrow by Walney Channel. It is spanned by the Jubilee Bridge. The location and of the study area is shown on page 4.

2 UNDERSTANDING

2.4 SITE DESCRIPTION

2.4.1 SITE B - RIFLE RANGE (HER NO. 19874)

This site comprises two embankments with a gully in between. The northern embankment is covered in dune grass and would have been the butts which received bullets fired from the south. The southern of the two embankments has a concrete revetment along its north face in front of which, and running parallel, a wrought iron mechanism which raised targets was recorded by the North West Rapid Coastal Zone Assessment (NWRCA) in 2011. This has since been removed. The remnants of the bases of some of its posts protrude from the ground.



- 1 Butts
- 2 View from butts towards the southern embankment
- 3 Remains of target mechanism
- 4 Concrete revetment and concrete platform
- 5 Twisted metal on top of butts
- 6 Concrete revetment

2.4.2 SITE C - AIR GUNNERS RANGE (43984)

The site consists of remnants of concrete platforms and walls set into a depression in the dunes near the beach. The deterioration of the concrete and encroachment of vegetation means that it is now particularly difficult to discern the original form and function of the site. Remains of a short length of iron track were also visible on a dune on the western edge of the site.



- 1 Remains of air gunner range
- 2 Remains of track
- 3 Remains of air gunner range
- 4 Remains of air gunner range

2 UNDERSTANDING

2.4.3 SITE D - PILL-BOX AND TWO COASTAL ARTILLERY SEARCHLIGHT (CASL) EMBLEMMENTS NEAR EARNSE POINT (HER NO. 19876):

An irregular hexagonal concrete pill-box is located adjacent to the ninth tee on the golf course. The south side of the pill-box (location of entrance) is now obscured where a ramp has been grassed over and integrated into the golf course. All of the apertures have been blocked up. It is a Type 24 Pill-box, the most common type, however, it has an unusual loop-hole arrangement – these are set into the corner of the structure as opposed to the faces. The reason for the concrete ramp is unknown, but it may have been used to manoeuvre radar, or other such equipment, into position.



- 1 Pill-box
- 2 Pill-box

A concrete Coastal Artillery Searchlight (CASL) emplacement to the north of the pill-box is typical of those found on Walney, with its cantilevered opening, which would have had metal shutters, now lost. To the south is its counterpart; this CASL emplacement is integrated into the golf course and its opening has been blocked up.

These structures are associated with Fort Walney, a coastal defence battery, located to the east within the golf course. All that remains are earthworks covered in undergrowth and the red brick former observation tower for the battery. Although not included in the study, its history is inextricably linked to Site D and Site E.



- 1 Searchlight (north)
- 2 Searchlight (north)
- 3 Searchlight (north)
- 4 Searchlight (north)
- 5 Searchlight (south)
- 6 Searchlight (south)
- 7 Searchlight (south)
- 8 Searchlight (south)

2 UNDERSTANDING

2.4.4 SITE E – PILL-BOX ON GOLF COURSE (HER 19838)

Further south on the golf course is another Type 24 Pill-box, with unusual corner loop-holes with a short section of detached flanking wall on its longer east side. Most of the openings have been bricked up and the interior could not be accessed, although a ricochet wall could be appreciated inside.



- 1 Pill-box
- 2 Pill-box – bricked corner openings
- 3 Pill-box
- 4 Pill-box
- 5 Interior



2.4.5 SITE H - PILL-BOX NEAR HILLOCK WHINS (HER NO. 19872)

A large, low brick structure with flat roof is located just off Mawflat lane. The HER records this as a 'Pill-box' but it is described in the North West Rapid Coastal Zone Assessment (NWRCA) as a decoy control building and associated with a decoy site to the south, on the shore. It would have mimicked known target sites and drawn enemy fire. It has an opening in its west elevation and an apparently more recent flanking wall surrounds the concrete stairs to the south. There is an opening on

top, which appears to have had a metal shutter which was accessed by a metal ladder internally. There is a circular opening on the west elevation and a loop-hole facing south-east. The interior of the building was inaccessible due to flooding.



- 1 The site from the road
- 2 Entrance
- 3 Entrance and circular opening
- 4 Loop-hole and remnants of cement render
- 5 Interior
- 6 Hatch



2 UNDERSTANDING

2.4.6 SITE 1 - ANTI-AIRCRAFT DEFENCES (?) (HER NO 19858)

This site consists of a number of loose concrete slabs eroded onto the beach. They have iron edging and fixings in each corner, which may have been used to affix anti-aircraft guns or to anchor the slabs together as a temporary pontoon. Various loose tool bits and fixings were found in the vicinity of the blocks. The forms and function remains unknown.



- 1 Concrete slabs
- 2 Concrete slabs
- 3 Concrete slabs
- 4 Fixing found on beach

2.4.7 SITE J – HEAVY ANTI-AIRCRAFT BATTERY (HER NO 19875)

The only remaining upstanding structure in the coastal battery is in very poor condition and consists of a concrete building, comprising four bays which were ammunition lockers, surrounding a large octagonal gun platform. It formed a battery of four such structures, two of the other gun platforms remain on the shoreline. There was a command building the centre of the battery but this has been demolished for safety reasons.



- 1 Octagonal gun platform
- 2 Gun platform
- 3 Upstanding structure
- 4 Command building (?)
- 5 Interior
- 6 Gully

2 UNDERSTANDING

2.4.8 SITE K - PILL-BOX ON SOUTH WALNEY (HER NOI9847)

Although initially included in this study as a pill-box, this structure was probably never designed or used as a pill-box. This square building with flat roof is now used as a hide. It is of brick construction, in English garden-wall bond has two long thin openings in its south elevation, which overlook the bay. Openings on the east and west elevations have been modified and now contain modern UPVC windows. A door is located on the north side. Evidence of metal fixings on the roof suggest historically a mast or antennae may have been located on top of the building. Its close up this space location on a hill provides excellent all round vision, and it may have been an observation and communications post during the Second World War.

The structure sits within a small fenced enclosure. A tall flag pole is situated just to the north east of the building (formed from a sailing ship's mast). At the entrance to the enclosure are two cast iron gate posts which appear to be Victorian. No building is shown as standing in this position from a study of pre-war historic maps, apart from the present hide, which suggests the posts may have come from elsewhere.

Adjacent to the building is a concrete platform which may form part of a buried structure (there are voids in the concrete and possible flue or pipe protruding).



- 1 Site K
- 2 Unknown concrete structure
- 3 Cast iron gateposts and 'flag pole'
- 4 South and western elevations
- 5 North elevation

2.4.9 SITE L - SEARCHLIGHT BATTERY (HER NO 19861)

The searchlight battery at the very southern tip of Walney and consists of a pair of CASL emplacements consistent with those found on the golf course. The southernmost emplacement is unique in that it still retains its metal shutters. Between the two CASLs, within the dunes, are the concrete bases of a number of holdfasts presumably associated with the CASLs. These are also underground Nissen magazines constructed in brick and corrugated iron. To the west on the edge of the area is the base of a Spigot Mortar. This appears to be the location of Hilpsford Fort originally built in 1915.



- 1 Western-most searchlight emplacement
- 2 Interior
- 3 Rear of CASL
- 4 Holdfast
- 5 Holdfast
- 6 Hinge of door

2 UNDERSTANDING



- 1 Spigot Mortar domed base and pin mounting
- 2 Structures adjacent to holdfasts
- 3 Structures adjacent to holdfasts
- 4 Structures adjacent to holdfasts
- 5 Interior
- 6 Eastern most CASL buried on a sand dune, with hide on roof



7



8



9



10



12



11



13

- 7 Eastern most CASL buried on a sand dune
- 8 Interior (sliding shutters)
- 9 Interior (sliding shutters)
- 10 Interior (sliding shutters)
- 11 Interior
- 12 Interior
- 13 Interior (original entrance doors)

2 UNDERSTANDING

2.5 SETTING AND SITE CONTEXT

The Rifle Range (Site B) and Air Gunners Range (Site C) in North Walney are secluded in or near dunes and are not easily found by the casual passer-by. They are part of a landscape of military remains, some of which may have First World War origins.

Sites D and E are much more visible, although are now completely surrounded by the well managed golf course overlooking tees, greens and fairways. This, however, makes them difficult to access.

Sites I, J, K and L are all within the South Walney Reserve and accessible to the public albeit across rugged or coastal terrain. They are part of a relatively wild landscape and subject to its natural processes.



- 1 Dunes of North Walney near to Site B and C
- 2 Landscape near to Sites D and E
- 3 South Walney and Walney lighthouse close to Site
- 4 South Walney Nature Reserve HQ

2.6 HISTORY

2.6.1 INTRODUCTION: A HISTORY OF WALNEY ISLAND

This section mainly focusses on the coastal defences and military features which were constructed during the 20th century. However, given that evidence of human occupation of Walney goes back as far as the Mesolithic, this section will briefly touch on some of the archaeology of the island particularly where it lies in the vicinity of the sites analysed in this report.

Phase 1 of the North West Rapid Coastal Zone Assessment (NWRCA) identified over 200 features of a wartime date from aerial photographs including ephemeral features such as trenches, mine fields, barbed-wire defences and barrage balloon emplacements. Many of these sites are no longer extant, having either been built upon, cleared away or lost to coastal erosion. However, they all form part of the story of the defence of Barrow-in-Furness and the highly significant Vickers shipyard and engineering works. This section discusses some of these sites.

2.6.2 EARLY HISTORY OF WALNEY ISLAND TO THE NINETEENTH CENTURY

The prehistoric occupation of Walney Island is evidenced by the recovery of significant concentrations of Mesolithic, Neolithic and Bronze Age lithics across the island. The majority of evidence has been found as isolated finds eroding out of the western shoreline, with a number of sites at Trough Head and Cow Leys Lane (HER 2616 and 2624/2735) producing concentration of Mesolithic material. At the south of Walney animal hoof prints and antlers have been discovered within preserved soils which are now being eroding from the coastline south of Hilpsford and close to a number of the sites discussed in this report.² Additionally, evidence of Neolithic settlement has been excavated at North End.

It is thought that during the medieval period the island was under the ownership of the monks of Furness Abbey. Settlement was thought to have been limited on the island and the land mainly under agricultural use. Ridge and furrow, perhaps dating to this period, can be found across much of the island. These earthworks are clearly visible in both aerial images and on the ground. They are very well preserved on the North Walney golf course where a number of our sites are located.

The development of the steel industry coupled with the sheltered port at Barrow, led to the development of the Barrow Docks in the late 19th century specialising in the construction of naval vessels and submarines. This important development was to have a major impact on the landscape of Walney Island particularly in the development of Vickerstown, built to house the workers of the docks, and with the development of coastal defences designed to defend the town of Barrow and its docks.

2.6.3 THE DEVELOPMENT OF COASTAL DEFENCES

Coastal defences have for centuries defended the shores of the British Isles. The first 'modern' coordinated defence system was created in the 16th century when Henry VIII set up a line of coastal forts to protect important naval sites. The expansion of coastal defences tended to occur at times of national crisis, such as the threat by the Spanish Armada in 1588, and of Napoleon Bonaparte in the early 1800s.

The defeat of France in the Franco-Prussian War in 1870 resulted in the growing perception that Germany could be the potential enemy of Britain. This culminated in 1908 in the adoption of a formal policy for the defence of Britain against a German invasion.³ The development of armaments in the early years of the 20th century saw the introduction of bolt-action magazine rifles, quick-firing guns and breech-loading artillery which were used to strengthen Britain's coastal defences. These were most commonly located near to naval bases, major ports and dockyards, including Portsmouth, Chatham, and Plymouth.

² G Eadie, 2012, The North West Rapid Coastal Zone Assessment (NWRCA) Phase 2 Project Report, ARS, p205

³ P Pattison, 2013, 'Coastal Defence' in Conservation Bulletin, Issue 71, English Heritage

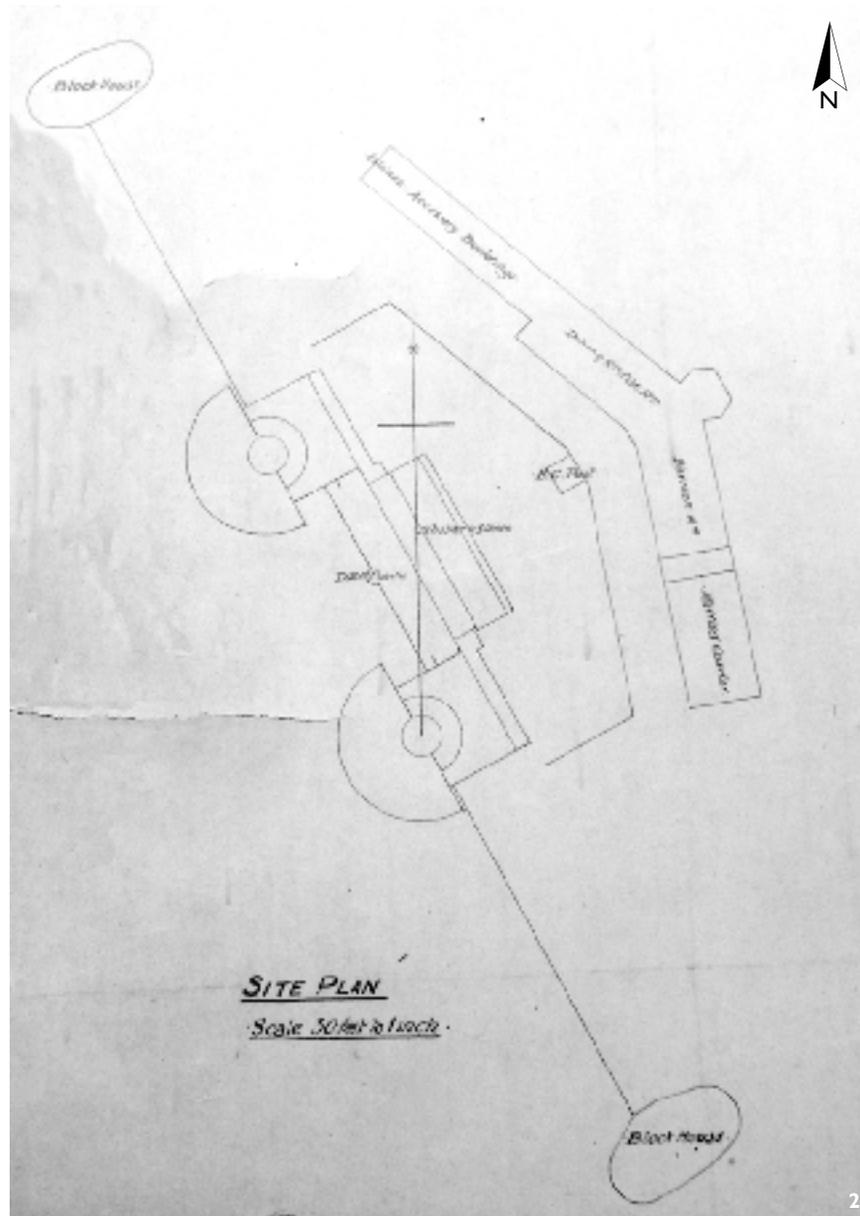
2 UNDERSTANDING

2.6.4 BARROW'S DEFENCES IN THE FIRST WORLD WAR ON WALNEY ISLAND: WALNEY FORT (ASSOCIATED WITH SITE D) AND HILPSFORD FORT (SITE L)

Fears for the safety of Barrow's dockyard had been growing since the late 19th century and by 1903 the War Office announced its intention to construct fortifications on Walney Island. They were aimed particularly at the protection of Vickers shipyard to ensure 'complete command of the entrances to Barrow and Duddon Harbours'.⁴ Thirty-two acres were purchased in North Scale and construction finally began in 1909, under contractors Hills & Sons, London.⁵



- 1 The type of gun used at Walney Fort in the First and Second World War (Lowry)
- 2 Walney Fort 1911 (National Archives, 'Plans of exiting war shelters' 21/9/1911)



⁴ 'Defence of Barrow', Manchester Courier and Lancashire General Advertiser, Tuesday 21st September 1909

⁵ Ibid

In May 1911 the fort was finally complete and it was ready to receive two 6-inch BL mark VII guns on CP (centre pivot-and-roller path) mountings.⁶ This type of gun was primarily used on naval cruisers or as secondary armaments on larger ships, but were also used against enemy shipping in close defence (CD) batteries, with a range of 14-24,500 yards.⁷ Guns of this type continued in use into the Second World War. On completion the total cost of construction was £5499.00.

Adjacent to the battery was an anti-aircraft gun, 1 pounder 'Pom Pom' (the name derived from the sound it apparently made). This was quickly replaced by a 2x 18 pounders anti-aircraft gun. In 1914 the fort was manned by an officer and 10 men, but this was to change as the war progressed. By now Vickers had also begun airship manufacturing in sheds south of the fort which also required the garrison's protection.

During the First World War the fort was manned by the Lancashire and Cheshire Royal Garrison Artillery (RGA) under the command of Major Mass, and formed part of the defences known as the 24th (Lancashire and Cheshire) Fire Command RGA. It operated as a Day Battery but a 24-hour look out was maintained and men warned to always be on the alert day or night.⁸

An early plan for the fort (opposite) shows it was constructed to a standard design with two gun emplacements with a magazine and shelter between, flanked by concrete defence posts called blockhouses. Supporting buildings lie behind, separated by a protective revetment.

Royal Engineers dug trenches in front of the battery, whilst barbed wire entanglements were placed on the eastern side and infantry patrolled around the outside of the battery. The Fort had a direct telephone link with Garrison Headquarters which was located at the Victoria Park Hotel in Barrow. Information was passed between observation posts up and down the coast and the movements of unidentified craft would be passed back to the garrison. If a craft was judged a threat, the guns were manned.

Whilst the plan does not include the searchlight emplacements which have been suggested to date to this period, Colin Dobinson says that Coastal Artillery Searchlight (CASL) emplacements were standard equipment for CD batteries.⁹ RW Barnes also argues that the design and finish of the CASLs is typical of this period.¹⁰

In 1915 the garrison engaged a German submarine when it was spotted off the coast. The following is an account written in 1919 by an officer stationed at the fort during the War:

On the 29th January 1915, about 1.50pm a submarine was observed due west of the Battery at a range of 9500 yards. The alarm was sounded and the guns manned. The submarine appeared to be German of the 'U' Class. A shot was fired from the boat in the direction of the Airship Shed, falling apparently about 1000 yards short. The Battery opened fire at a range of 7200 yards. Two more shots were then fired from the submarine, the last one in the direction of the Battery falling about 100 yards from the shore.

Eleven pounds of HE [high explosives] full charge in all was fired by the Battery. During the firing the submarine was approaching the Battery from the north west, she turned completely round and when she disappeared was going north at a range of 6900 yards. The last round appeared to strike the boat as she submerged. The action lasted three minutes.¹¹

Although this account records a possible strike on the submarine, it is believed that the submarine was merely submerging. The U-boat continued through the war to be commanded by Otto Hersing and was accidentally sunk in February 1919 in the North Sea.¹²

6 The construction of Walney Fort is recorded in the National Archives WO192/318

7 B Lowry (ed) 1996, 20th Century Defences in Britain, CBA, p94

8 'Walney Island Battery, Record of Events 1914-1919', National Archives WO192/318

9 CS Dobinson, 2002, Twentieth Century Defences in England, VI:1, p38

10 RW Barnes: <http://www.users.globalnet.co.uk/~rwbarnes/defence/walney.htm>

11 'Walney Island Battery, Record of Events 1914-1919', National Archives WO192/318

12 Ruth Mansergh, 2015, *Barrow-in-Furness in the Great War*, Pen and sword: Barnsley, p 32

2 UNDERSTANDING

Concern had been raised as early as 1910, before the completion of Walney Fort battery, that it did not have sufficient coverage of the island; consequently, Barrow was still vulnerable to attack from the south.¹³ Further garrisons were therefore put in place near to the docks and in 1915 it was proposed that an examination battery should be established in South Walney. Examination batteries monitored the movement of shipping into ports and verified their intent, often working with examination ships who inspected vessels.¹⁴ It was equipped with two 4.7 inch Coast Defence (CD) guns taken from drill halls in Liverpool and Seacombe.¹⁵ Searchlights were installed during 1916.¹⁶ Whilst no plans have been found of the site within archives, it is believed that it was located south of the present lighthouse at site L.¹⁷

Fort Walney, continued to be manned after the armistice, but the Hilpsford garrison was said to have been abandoned and dismantled, providing much needed local employment.¹⁸ Only the gun emplacements apparently remained.¹⁹ No plans of the Hilpsford garrison have been found in archives and its nature and layout require further investigation. It is unclear whether any structures from the site were reused in the Second World War.

2.6.5 FIRST WORLD WAR PRACTICE TRENCHES

The garrisons on Walney during the First World War were primarily aimed at protecting the dock in Barrow-in-Furness against waterborne craft. With the increasing fear of invasion, however, they were also alerted to the possibility of landing craft and the potential of invasion. During the First World War anti-invasion measures included the first concreted pill-boxes and anti-invasion trenches.

Crenelated features on North Walney have been identified as trenches dating to the First World War. A study of these features, however, has concluded that they were probably constructed as practice trenches.

Practice trenches were often constructed on the initiative of a local commander and usually without any record being made.²⁰ Their construction could serve a number of purposes; they occupied the time of new recruits, whilst also training the recruits in construction techniques, building fitness and, importantly fostering team spirit. Additionally, they would have been used to train recruits in the art of trench warfare, and might double as an anti-invasion mechanism once completed. The North West Rapid Coastal Zone Assessment (NWRCA) recorded the trenches which consist of box trenches, slit trenches and mounds of upcast, plus a secondary slit trench and upcast, possibly forming a secondary redoubt or gun position. A further survey followed by a small scale excavation was commissioned by Artgene and carried out by archaeologist George Nash and Thomas Wellicome assisted by a group of local volunteers in 2014.²¹

What is not clear is how these features relate to Walney Island's other First World War military sites. North Walney's remote and uncultivated dune landscape perhaps made it an ideal location for the training of new recruits and further evidence may yet be forthcoming of their role and association with other First World War features. Although

not included within the present study, further research of this feature could provide a fuller understanding of the First World War defences on Walney Island.

2.6.6 WALNEY ISLAND DEFENCES DURING THE SECOND WORLD WAR

Hitler's rise to power and the collapse of disarmament talks in 1934 resulted in a new programme of rearmament by the British Government. This included the establishment of airfields from Yorkshire to East Anglia and the development of a telephony and radar communication network. Additionally, anti-aircraft and searchlight batteries, along with barrage balloon emplacements were installed near to potential targets. By 1940, as invasion loomed, more defences were 'thrown up' due to the urgency of the situation – vast numbers of defences were constructed around the coast over a 16-week period from May 1940.

2.6.7 COASTAL DEFENCE - FORT WALNEY AND FORT HILPSFORD (INCLUDING SITE D, E AND L)

At the outbreak of the Second World War, Fort Walney was still operational with its two 6-inch mark VII guns still in place from the First World War. Walney Fort was still considered to be a Day Battery, but became an examination battery and Coastal Artillery Searchlight (CASL) emplacements were installed in November 1939.²² Photographs from 1941 show the site during the war and a number of plans and drawings also exist in the National Archives. They show that the First World War battery was still at the heart of the fort, the two gun emplacements flanked by blockhouses, and associated buildings separated by a revetment are still extant. Additional buildings behind now include barrack buildings, hospital, NAAFI, cookhouse and guard room. Included are the two searchlight emplacements detailed as CASL No. 1 and No. 2.

13 'The Defence of Barrow', Yorkshire Post and Leeds Intelligencer, Tuesday 6th September 1910

14 CS Dobinson, 1996, *Twentieth Century Fortifications in England, VI, 1, Coastal Defences*, CBA.

15 'History of the 24th Coast Artillery Group', WO192/318, National Archives

16 Ibid

17 Refer to NRHE 1429214, http://pastscape.org.uk/hob.aspx?hob_id=1429214)

18 Barnes, *ibid*

19 'History of the 24th Coast Artillery Group', WO192/318, National Archives.

20 W Cocroft, 2013, 'Trenches of the Home Front' in Conservation Bulletin, Issue 71, English Heritage

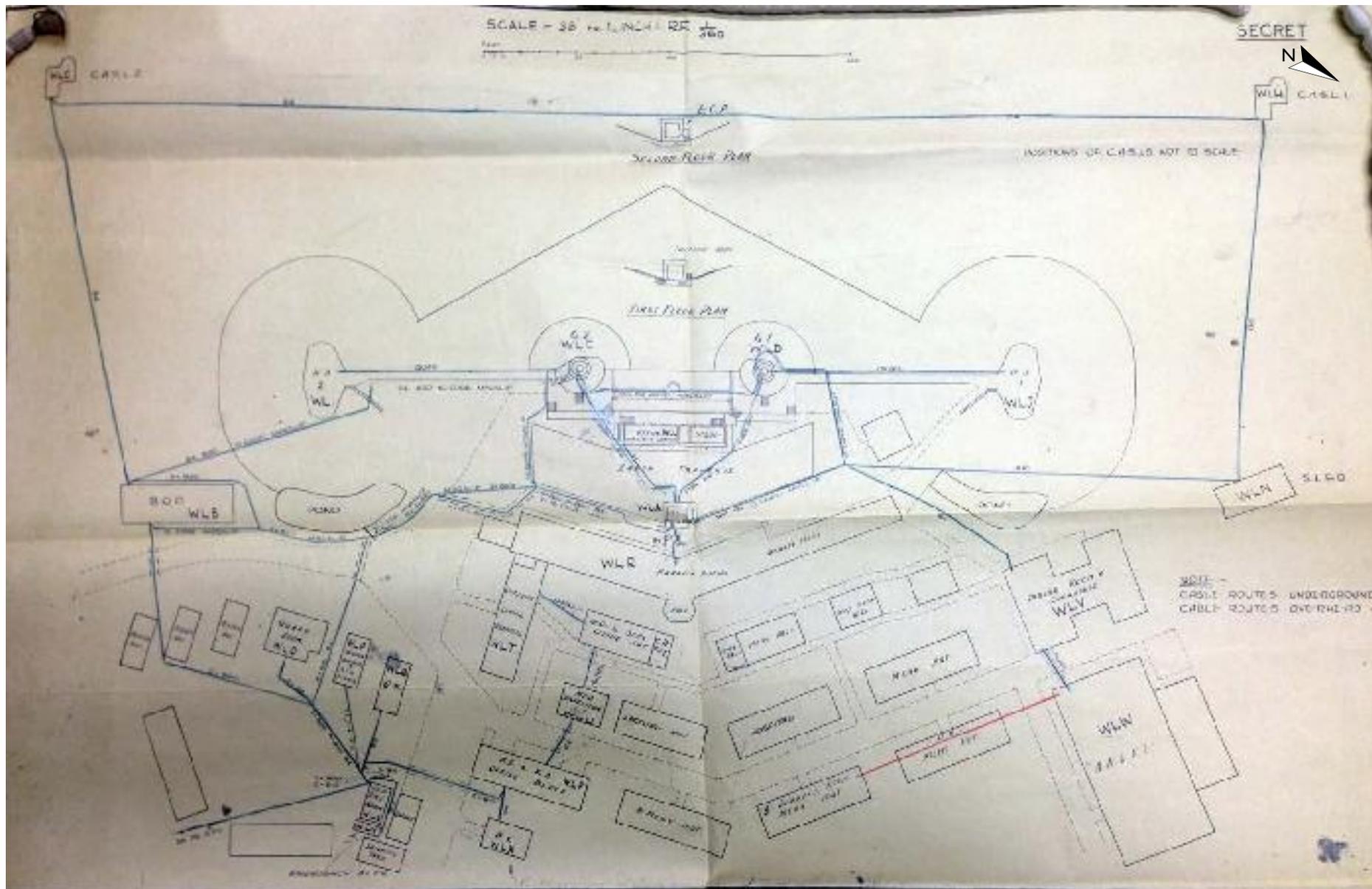
21 Current Archaeology, issue 301, March 2015, <http://art-gene.co.uk/nb/>

22 These may be the CASLs which form part of this study and are mentioned in a 'History of the 24th Coast Artillery Group', WO192318, National Archives.



Sketch Plan of Fort Walney circa 1941 (National Archives WO192318)

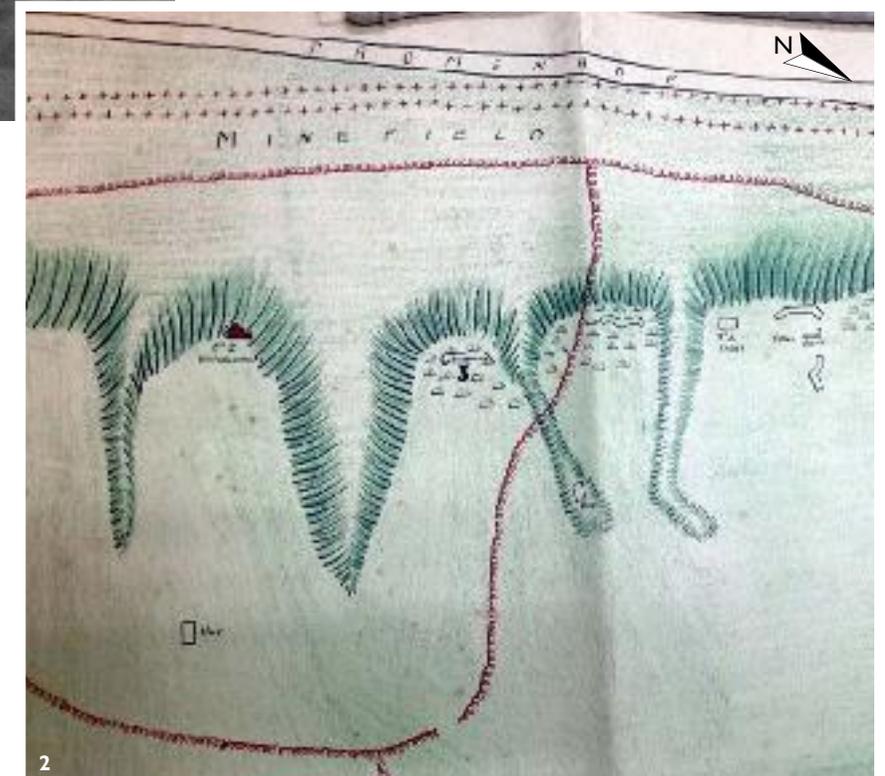
2 UNDERSTANDING



Plan of Fort Walney circa 1941 (National Archives WO192318)



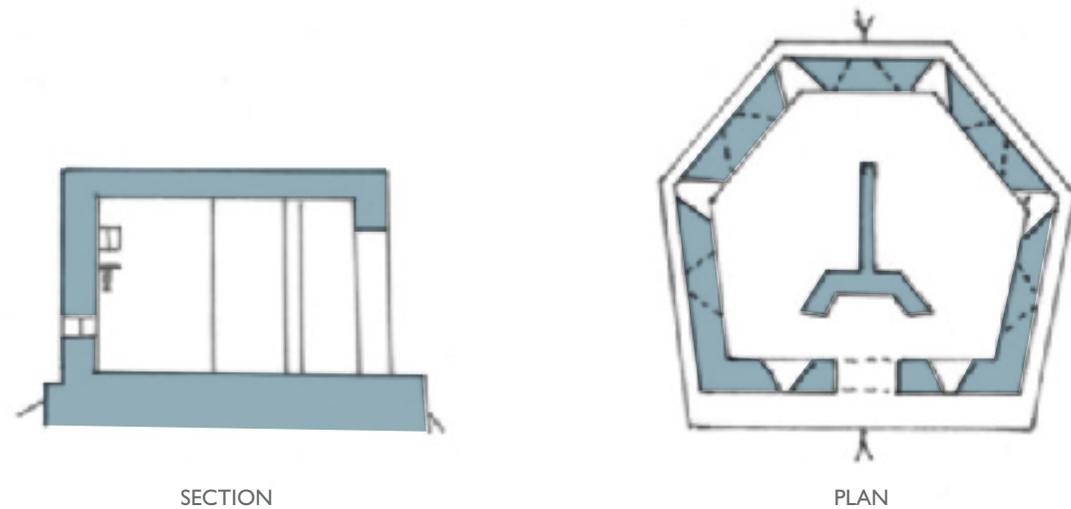
- 1 Fort Walney 1941
(National Archives
WO192318)
- 2 A sketch drawing from
1941 showing CASL
No.2 (the northern-
most searchlight)
(National Archives
WO192318)



2 UNDERSTANDING

Although not shown on the 1941 plans reproduced here, the pill-boxes would have formed an integral part of the site. Both pill-boxes at Sites D and E are Type 24. Pill-boxes are today one of the most familiar defence structures from the Second World War – they were also referred to as blockhouses or defence posts and were an important element of coastal defences. Sites D and E would have been built to defend Fort Walney. Today they are stark concrete structures but during the War, pill-boxes were camouflaged. Wartime images have shown that these could often be very imaginative; some were disguised as beach kiosks or piles of logs and others were faced in limestone to simulate vernacular buildings. Other pill-boxes were disguised more simply using turf or covered in camouflage netting. On Walney the exterior surfaces are covered in regular holes which may have accommodated tree branches; a metal bracket above the entrance may have been used to secure a camouflage net.

In addition to the pill-boxes, the battery was also defended by a mine field and barbed wire emplacement along the beach. These features were cleared away after the war and rarely leave any evidence of their existence.



Plan and section of a type 24 pill-box with modified loop holes as seen on Walney Island (after Lowry)

A familiar concern was raised again in Autumn 1939; this was the vulnerability of Barrow's docks from the southern channel. An application was made to reinstate Hilpsford Fort to assist in the examination of vessels (Site L). The request was ignored. However, after the evacuation of Dunkirk in June 1940 many Emergency Coastal Batteries were hurriedly built around Britain's shores. The War Office finally conceded regarding Hilpsford Fort and construction took just 19 days on a site 'almost identical' to the location of the battery in the previous war.²³

No original plans were discovered in archives of Site L, but aerial photography taken by the War Office in the 1940s provides evidence of the installation's layout (see below). Many batteries were fitted with naval guns which did not require gun pits, but only needed a holdfast set in a concrete floor. Hilpsford Fort was fitted with two 6 inch mark XII naval guns without gun pits. As with other batteries, magazine stores were located to the rear. It is possible a gun-house may have provided overhead cover. Each battery required two search lights, whilst a battery observation post (BOP) would have directed the guns.²⁴ An engine room would have supplied power. The battery would have been surrounded by barbed wire and it was common for the site to be defended by a Spigot Mortar; the base of such a weapon is located to the west of Site L.



Aerial image of site L in the 1940s (Barrow Borough Council, <https://webgis.l.barrowbc.gov.uk/webgis/bingis.html>)



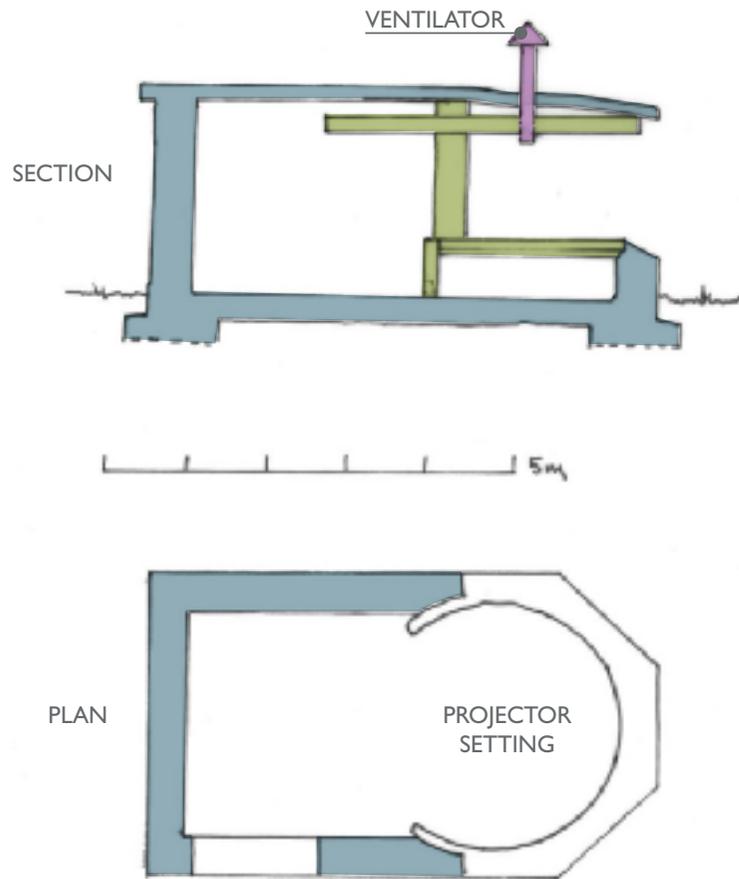
A Spigot Mortar in action (Lowry).

²³ Ibid

²⁴ Lowry, p 100

2 UNDERSTANDING

Hilpsford would not have been as complex a site as Fort Walney. However, it would have been installed with two coastal artillery searchlights (CASL). These were initially in short supply and some batteries had to make do with anti-aircraft lights. On Walney Island, the lights were moved from Walney Fort to Hilpsford Fort in July 1940, leaving Walney as a Day Battery. These were eventually replaced so that Walney Fort could operate as a Day and Night Close Defence (CD) Battery. Two CASL emplacements still exist on south Walney at Site L, the southern-most site being particularly well preserved. Neither retain their searchlight equipment.



Second World War CASL similar to the eastern CASL at Site L (accelerated wartime construction form) after Dobinson

By 1943 the threat of invasion had dissipated; this led to a change in the status of many coastal artillery batteries with many were increasingly manned by Home Guard units.²⁵ This appears to have been the case on Walney Island. Both continued to operate until hostilities ceased.

By 1963 many of the Walney Fort's buildings were still standing. The observation tower was used by the coast guard for a number of years. Today it lies derelict; along with the CASL, pill-boxes and earthworks little now remains of the coastal battery, although aerial photographs indicate its former position within the island's golf course.



Fort Walney and one of the CASL in 1963

25 Lowry, p101



- 1 Fort Walney in 1943
(National Archives,
WO192/318)
- 2 Aerial image showing the
Fort Walney today

Gunnery training normally lasted six weeks. Trainees were initially given extensive classroom instruction; this included aircraft recognition, map reading and basic navigation. Part of their instruction involved watching Air Force training films. They were trained to be familiar with different weapon systems and had to assemble and disassemble a machine gun blindfolded in just two minutes – a skill they might need in the dead of night in a combat situation.



Trainees at air gunnery school (IWH CH574)

Another important aspect of training was for the gunner to be able to identify and judge the range of an aircraft – a variety of images were projected onto a background, simulating enemy aircraft at different distances.



1 Training in a Bristol Turret

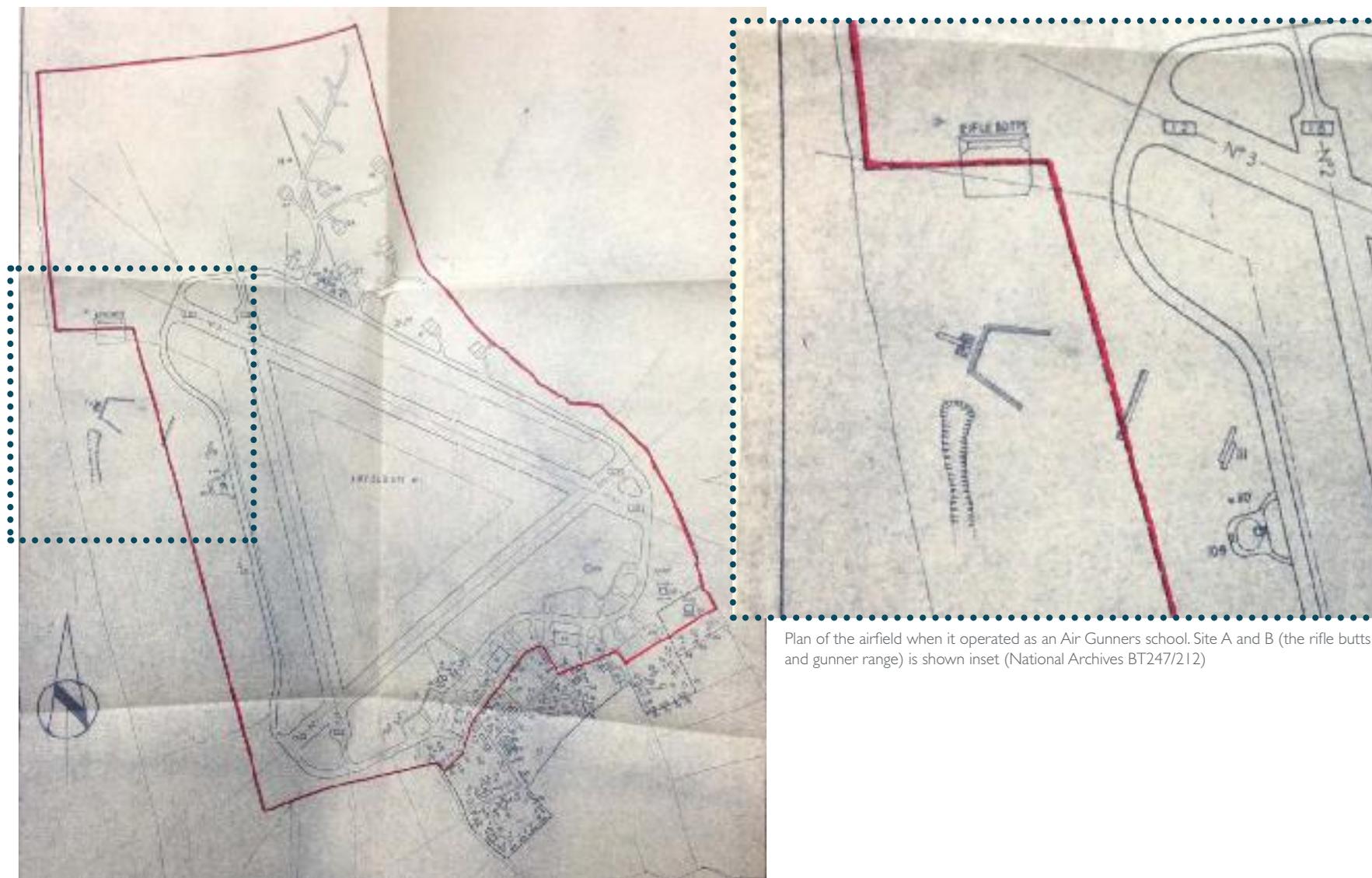
2 Turret training

The turret instruction building contained the various tail, nose and ventral gun turrets which were fitted to bomber aircraft. Trainees learnt how to operate and maintain each type of turret. Cameras mounted in the turret could record the accuracy of the trainees firing.²⁹



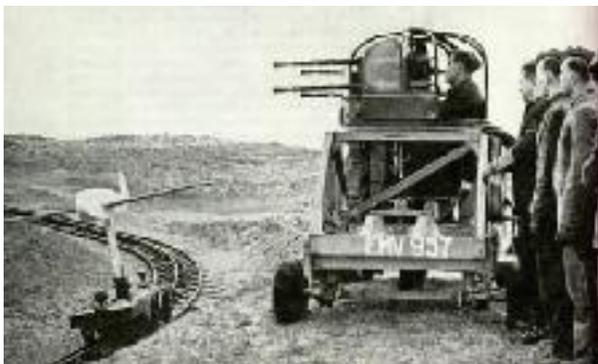
²⁹ Wally's War: the wartime story of Wally Lane 'Gunnery School' <https://wallyswar.wordpress.com/gunnery-course/>, last accessed 21/2/2016

2 UNDERSTANDING



Plan of the airfield when it operated as an Air Gunners school. Site A and B (the rifle butts and gunner range) is shown inset (National Archives BT247/212)

Students put their classroom training into practice on the firing ranges. A plan of Walney airfield and gunnery training school shows the 'Rifle Butts' and the air gunners range ('200 yards moving target range'). The layout of the moving target range appears to show the concrete revetment into which the gunners would fire. According to John Nixon in his recent book *The Warbirds of Walney*, regarding the Gunnery School at RAF Walney, the narrow gauge track carried a model aircraft set on a trolley which was powered by an electric motor. This travelled around the loop of track whilst the cadet sat in a static turret trainer firing at the target. This gave the cadet experience at 'deflection' firing at a moving target. The concrete butts were there to catch stray rounds and protect the operators.³⁰ The RAF also employed other gunnery range set ups; the track may have supported a mounted machine gun allowing the trainees to fire down into the target area, whilst moving along the rail, simulating firing upon a fixed target from a moving aircraft.³¹ Another set up was of two parallel tracks, one with the student in a powered turret moving backwards and forwards, whilst a target on the other track moved in the opposite direction.³² Firing was always out to sea! This was an important stage of training, preparing cadets for the next airborne phase of their training.



Air Gunners Firing Range

30 J Nixon, *The Warbirds of Walney*, 2014, p2
 31 G Eadie, 2012, *North West Rapid Coastal Zone Assessment (NWRCA)*, p211
 32 L Hill, 2008, 'A History of Walney Aerodrome' <http://www.cumbria-industries.org.uk/a-z-of-industries/airfields-and-early-aviation/a-history-of-walney-airfield/> last accessed 21/02/2016

An aerial image taken in the 1940s of rifle range and air gunners range usefully illustrates the relationship between the two sites. It shows the embankments of the firing range, and to the south the air gunners range. This image shows the trackway which encircled the target area.



1 Aerial image of the Rifle range and air gunners range in the 1940s (Barrow in Furness Council, <https://webgis1.barrowbc.gov.uk/webgis/bingis.html>)
 2 Target mechanism from a rifle range in Scotland



33 A recent survey of the rifle butts has been carried out by a local organisation Art Gene with the help of the local community. Purcell have been informed that the results have been lodged with the Cumbria HER. Pers comm. Maddi Nicholson, Founder Director, Art Gene.

2 UNDERSTANDING

An aerial photo from 1963 from the RCAHMS National Collection of Aerial Photography is also informative; it shows the two sites on the edge of the airfield (top of image) and also shows the deterioration of the site. Further research is required to ascertain if the rifle range used in the Second World War has earlier origins. It may have been connected with troop training during the First World War and associated with the practice trenches which lie nearby. However, Nixon believes that the firing range was constructed and used by the Territorial Army, but further details have been difficult to establish.³⁴

By the end of 1943 over 5000 air gunners had been trained. After VE Day in May 1945, training still continued at Walney. In May 1946 the school was to move to RAF Valley on Anglesey and the RAF left in the summer of the same year. The rifle and air gunners range appear to have been abandoned at this point. Today, all that remain are earthworks, concrete revetments and platforms. The target mechanism of the rifle range was removed by thieves several years ago.

Many of Walney's air gunnery school buildings were dismantled after the war. Today the site is used by BAE Systems, but the foundations of the school's buildings, roadways, and hardstanding areas for aircraft, can be seen on aerial images.



Rifle range and gunner range in 1963 (National Collection of Aerial Photography, RCAHMS)



Air Gunner Wings awarded at the end of training

34 J Nixon, *The Warbirds of Walney*, 2014, p2

2.6.9 DECOY SITES AS PART OF SECOND WORLD WAR ACTIVE DEFENCE SYSTEMS: SITE H, HILLOCK WHINS, WYLOCK MARSH

The development of bombing decoy sites as part of air defence began to be developed before the Second World War. Bombing decoy sites were ground installations which were designed to imitate real sites, such as cities or ports, thus fooling the enemy into bomb artificial targets. In their early development they took the form of imitation airfields and buildings, known as Q sites (a name taken from the Navy's use of 'Q' ships – warships disguised as merchant vessels). As the war progressed and night time raids became common, decoys became more sophisticated. Generally, there were two basic types: 'Special Fire' (SF) and Q Light (QL) sites. The former utilised fire (burning of petrol, oil, coal or other fuels) to simulated a bombed target and were also known as 'Starfish' sites. Following the bombing of Coventry in November 1940, fire decoys were increasingly common. QL sites were designed to use electrical equipment to simulate the lights of towns, factories or docks. Often SF and QL sites were found together in one location.

Barrow was protected by four decoy sites, employing SF and QL decoys. These were located at Whicham Valley, Lowsey Point, Westfield Point, and Wylock Marsh (Site H) near Hillock Whins (HER 19872) and were operated by Naval staff.³⁵ All four sites still retain their control buildings in varying states of dereliction. The control building at Whicham Valley compares closely to that of Site H, both sharing a similar plan and layout and both featuring an unusual gunloop.³⁶ Site H known as N25/BA3 was constructed in 1941 and known to still be in operation a year later. It probably continued in use throughout the war.³⁷

Remains of Site H were observed in the 2009 during the initial North West Rapid Coastal Zone Assessment (NWRCA) when a control building was recorded. These are commonly all that survive of a decoy site.³⁸ The current building conforms to a standard layout: a control room with escape hatch, and a generator room located opposite, separated by the entrance corridor. The round opening probably formed part of the outlet chimney for the generator's fumes. An unusual feature is the gun-loop in the control room, suggesting it may have doubled as a pill-box. The building is partially sunk into the ground, but it may also have been covered by an earth revetment.

A small brick building located close to Site H has been identified by Barnes as the SF control bunker from which the pyrotechnics and fires were operated. The layout is dissimilar to that of the control building of Site H, as it did not require a large electric generator.³⁹ It has not been included in this current study and was not accessible, but its relationship to the QL control building and the decoy site should be confirmed and consideration should be given to its inclusion in any future plans.

A further survey is required to establish if any features of the decoy site are extant. Remains such as ponds, trenches, concrete revetments, the remains of fuel stores, metalised tracks and posts could still survive in the locality. An aerial image taken in the 1940s shows a range of structures and revetments to the east of the site which may have been associated with site. Aerial images today, however, suggests little may now remain.



³⁵ C Dobinson, 2000, *Fields of Deception*, p273

³⁶ Further details on Barrow's Decoy sites can be found on RW Barnes' 'Defence of Cumbria' website: <http://www.users.globalnet.co.uk/>

³⁷ National Record of the Historic Environment (NRHE): http://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?uid=1459741&resourceID=2

³⁸ *Ibid*, p223

³⁹ See RW Barnes: http://www.users.globalnet.co.uk/~rwbarnes/defence/copeland/whicham_/whicham-h.htm

- 1 Wycham Valley QL Control Building. Note the similar layout (Barnes)
- 2 SF control bunker identified close to Site H
- 3 Site H decoy site on an aerial image from the 1940s. (Barrow in Furness Council, <https://webgis1.barrowbc.gov.uk/webgis/bingis.html>)

2 UNDERSTANDING

2.6.10 ANTI-AIRCRAFT BATTERIES DURING THE SECOND WORLD WAR (SITE J, SOUTH WALNEY)

Heavy Anti-aircraft Artillery (HAA) batteries can be identified by their distinctive plan. During 1938 the Directorate of Fortifications and Works issues a template from which many batteries took their layout.⁴⁰ They consisted of an octagonal concrete-walled gun emplacement or 'pit' surrounded by ammunition lockers, within an earth-revetment. The 4.5 inch or 3.7 inch guns were mounted on a central holdfast. The standard layout had four gun emplacements, two for use and the remaining two for expansion of the battery if required. These were arranged in a clover leaf pattern with the command post at its centre. Other associated structures might include support buildings housing communications, a radar platform and barracks.



Typical HAA battery layout at Gravel Bay, Pembrokeshire

The H5 anti-aircraft battery on South Walney conforms to this general layout consisting of gun-emplacement in a clover leaf pattern and a control building. An aerial image from 1946 shows the size of the battery which also included a military camp and roadways. The North West Rapid Coastal Zone Assessment (NWRCA) illustrated the extent to which the site has been lost to coastal erosion over a 60-year period. In effect, only the eastern-most gun emplacement now exists. The command post lies in ruins nearby, whilst the remaining gun emplacements are represented by their concrete octagonal holdfasts on the



beach. Modern aerial images indicate that the foundations of various associated buildings still survive, although the undergrowth makes it difficult to discern their position on the ground. The remains show that the buildings were constructed of reinforced concrete, brick and concrete blocks. The use of corrugated sheeting as shuttering is apparent in the reinforced concrete – this may have been a result of a shortage of shuttering which occurred after 1940.⁴¹

There has been some confusion in the archives as to the identification of the HAA battery, which has been confused with Hilpsford Fort. Cumbria HER (HER 19875) describes the site as having been established in July 1911 and manned by the Lancashire and Cheshire Royal Garrison Artillery. However, this reference apparently related to Fort Walney and not the HAA battery. The site is described as HAA Battery Barrow H5 which was in existence in 1941-2 in the National Record of the Historic Environment (NRHE 1471349), but with no antecedents.



- 1 Outline of HAA battery, South Walney, after abandonment in 1946, from the North West Rapid Coastal Zone Assessment (NWRCA)
- 2 The site today
- 3 Although not in a cloverleaf pattern, this image of Balfour Battery, Orkney indicates how part of the AA battery on South Walney may have looked.

40 C Hegarty and S Newsome, 2007, *Suffolk's Defended Shore*, English Heritage, p36

41 Lowry, p29

2.6.11 OTHER POSSIBLE WAR-TIME SITES

No further information was found regarding Site I and K, during Stage 2 of this project. Site K is currently used as a hide and has been described loosely as a 'pill-box' in the HER. Given its position on a rise at a narrow point in the south of the island it is in an ideal position both as an observation or communication post. Fixings on the roof could indicate the former position of an aerial transmitter and a vertical aerial photograph taken during the 1940s appears to show the shadow of a possible mast.

The loose concrete slabs of Site I on a beach are also little understood. The loop fixings in the corners may have been used to tether objects or aid in maneuvering them into position. It is possible they were part of a platform which eased access by vehicles or equipment onto the beach⁴². An analysis of vertical aerial imagery from the 1940s has failed to identify any structures and further research is required.

2.6.12 THE END OF THE SECOND WORLD WAR

Following the war, the structures on Walney Island were largely abandoned. Many sites have been cleared away or built upon; others survive in varying forms of dereliction, disconnected from their original context. Although BAE systems still own part of North Walney, they are now largely unmaintained and part of the nature reserves and golf course on the island.

2.7 SURVIVAL AND COMPARATIVE SITES

Guidance from Historic England has pointed out that there has been a large-scale loss of military defences. Many were superseded after a relatively short time span so would have been destroyed or modified fairly soon after construction. In the case of coastal defences many have been lost to erosion by natural forces and will continue to be lost unless protected. Other sites have been lost to development pressures or cleared away for agriculture. Also when erected long-term survival was not anticipated. The result is a highly fragmentary rate of survival.⁴³

- 839 decoy sites were built in England and documented in public records - only 12 survive in anything like their original form.
- 28,000 pill-boxes were built in the England; a recent survey calculated that 6,500 probably survive.
- 981 heavy anti-aircraft batteries were originally built in England but only 57 survive in anything like their original form. Coastal erosion will account for others in the decades ahead.⁴⁴
- Air gunners range survives in only a fragmentary form.

As individual sites, there are many comparative examples to those on Walney Island. For example, the North West Rapid Coastal Zone Assessment (NWRCA) recorded an air gunners training range on the Grune Peninsula. The site formed part of a training base which was associated with RAF Silloth. The gunner range at Grune whilst similar in form was found to be better preserved than the Walney example.⁴⁵

Another site is located 1.75km south-west of Haverigg, Cumbria. Its layout is similar to the Walney Island range which is still legible in modern aerial images.⁴⁶ One of the best surviving examples is located near Wigtown, Dumfries in Scotland which was associated with RAF Wigtown and hosted the No.1 Observers School during part of the Second World War.⁴⁷

Better preserved examples of coastal defence and heavy anti-aircraft batteries also exist around Britain. They tend to be more numerous, varied and better preserved in more remote contexts where there is less pressure for the land to be redeveloped or cleared for agriculture. For example, Orkney boasts extensive remains from the First and Second World including Ness Battery which was one of three coastal defence batteries near Stromness, which covered the western approaches to Scapa Flow and was initially occupied in the First World War. Remains of the two gun emplacements, observation tower and camp are still extant. Another battery which covered Hoxa Sound into Scapa Flow is Hoxa Battery; photographs of the installation have been nominated as one of Scotland's favourite archive images.⁴⁸ Brixham Coastal Battery was an emergency battery emplacement built in 1940. It remains largely intact and is cared for by a local organisation, the Brixham Battery Heritage Group. The site is open to the public and covers 14 acres including gun emplacements, searchlights, a battery observation post (BOP) and other buildings. Examples of HAA batteries include Gravel Bay in Pembrokeshire.

42 Also suggested as a pontoon by Richard Bowden, lancashireatwar.co.uk, pers comm, Louise Martin, Morcambe Bay Trust

43 J Lake, 2003, Twentieth-century military sites, English Heritage, p3

44 Ibid, p11

45 Eadie 2012, p342

46 <https://www.google.co.uk/maps/@54.192565,-3.317163,249m/data=!3m1!1e3>

47 <https://www.airfieldresearchgroup.org.uk>

48 Treasured Places, www.treasuredplaces.org.uk

2 UNDERSTANDING

Decoy sites vary in their survival. Generally, all that remains are the decoy control buildings. Barrow-in-Furness was protected by four decoy sites all of which survive to a varying degree. The control building at Whicham Valley is similar in design to that on Walney Island and remnants of the decoy site survive in surrounding fields.

Coastal Artillery Searchlight emplacements can be found around Britain's coast, including Langdon Bay, Dover, where the searchlights are built into the base of the chalk cliffs, and along the Pembrokeshire coast, at locations like Angle which formed part of the defences of Milford Haven.

The military defences on Walney formed a network of sites which protected the port of Barrow. Similar networks existed near other important ports. Plymouth, for example, is believed to be the best location in Britain to observe the evolution of coastal defences, with sites ranging from the 15th century through to the 20th century. It also includes some well preserved sites, including the HAA battery at Maker Heights. Walney is not unique in its range of coastal defences. It does however include training sites, a site aimed at deceiving the enemy, at least one HAA battery and two coastal defence batteries. Walney Island's military remains are therefore significant both for their variety and particularly for their group value.

3 ASSESSMENT OF SIGNIFICANCE

3.1 SIGNIFICANCE ASSESSMENT METHODOLOGY

Significance can be defined as the sum of the cultural, social and/or natural heritage values that make a place important to this and future generations. As well as the physical fabric, age and aesthetic value and more intangible qualities such as communal value, association with historic people and events and former uses are all important in defining the significance of a place. Understanding the significance of a place is vital to inform sensitively managed change to ensure that the significance is maintained and, where possible, further revealed, reinforced and enhanced.

The significance assessment is based on the heritage values identified in English Heritage's Conservation Principles, Policies and Guidance, which defines value as "an aspect of worth or importance...attached by people to qualities of place" and separates heritage values into four categories:

- Evidential - The potential of a place to yield evidence about past human activity.
- Historical - The ways in which past people, events and aspects of life can be connected through a place to the present. This can be both illustrative and associative.
- Aesthetic - The ways in which people draw sensory and intellectual stimulation from a place.
- Communal - The meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory.

The significance of the building is assessed using a number of significance ratings: High, Medium, Low, Neutral and Intrusive. The definitions of these ratings are provided on pages 42-44.

3.2 SUMMARY OF SIGNIFICANCE

The landscape of Walney Island has a great many structures that are a legacy of its wartime heritage and the strategic importance of the Barrow shipyards. While these defences are not highly significant in a national context on an individual level – similar searchlight emplacements can be found around the coastline of the UK for example on Orkney, at Langdon Bay near Dover, on the Pembrokeshire coast and at Lossiemouth in Scotland and the Type 24 Pill-box is a common type in the UK with more than 1700 recorded as being extant – they have high local historic value. They are part of the cultural landscape of Walney and are of high communal value, with local people and visitors able to appreciate tangible reminders of the military history of the area.

While Walney Island's 20th century military remains are not unique, they are significant for their variety; the island includes training sites, a decoy site, at least one HAA battery and two coastal defence batteries. Walney Island's military remains are therefore significant for their group value on a national level.



3.3 EVIDENTIAL VALUE

Evidential value derives from the potential of a place to yield evidence about past human activity. Physical remains of past human activity are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them. Evidential value is proportionate to its potential to contribute to people's understanding of the past. The ability to understand and interpret the evidence tends to be diminished in proportion to the extent of its removal or replacement.

Although investigations of 20th century defence features have been extensive in recent years, they have not exhausted the potential of such sites. Despite the prolific amount of professional and amateur research, field evidence of standing and buried sites, documentary evidence, contemporary and current aerial images all indicate that there is still much more to discover about such sites. Despite the level of current research, there are still significant gaps in our understanding of the military and coastal defence sites on Walney Island.

Whilst many structures and sites were built to standard designs (the Type 24 pill-box is one example) local conditions, topography and access to materials led to modifications of designs with unique local types resulting. The pill-boxes on Walney Island are an example of such a modification which requires further research.

Further detailed recording and research may be able to establish the functions of sites I and K, whilst field surveys may be able to trace extant remains of site H, the bombing decoy and make comparison to other sites. It is also unclear if the CASLs located at Fort Walney and the firing range were originally constructed during the First World War. A detailed recording of all the structures could provide new insights into or other variations to the standard designs originally drawn up by the War Department. They may also provide more personal histories such as previously unrecorded wartime graffiti,

There is a great deal of potential for the furtherance of knowledge of the military remains on Walney Island through field work and documentary research. The island has a remarkable historic depth with evidence of human occupation going back as far as the Mesolithic. The forces that are revealing the archaeology of the island are also responsible for the destruction of its military coastal defences so there is an urgency to investigate and record them before they are lost.

The sites on Walney Island are collectively of **high evidential value** locally, and of **medium significance nationally**.

3.4 HISTORIC VALUE

Historical value derives from the ways in which past people, events and aspects of life can be connected through a place to the present. Historic aspects of the site that help us understand life in the past and the broader context of British social history, especially where it reveals important trends or events in historic development and associational links, including links to significant people that are important in the site's history or design, or the history of the area or nation. Historic value can also include the changing use of a site or its evolving place in a local community. Historic values tend to be illustrative or associative.

The structures discussed in this report along with many more on the island are a legacy of Walney's wartime heritage. They illustrate the types of coastal defence methods employed around Britain's coasts particularly in the defence of important shipyards and ports.

None of the sites on Walney Island survive to any remarkable degree of completeness – the pill-boxes and CASLs at Fort Walney, along with a few other features are all that remain of the former Coastal Battery. The bombing decoy near Hillock Whins compares very well with another site which was part of a network of four such sites operating around Barrow-in-Furness. Together they have a degree of group value which is of significance. The southernmost CASLs at Site L, the former Hilpsford Emergency Coastal Battery, is the best surviving example on the island retaining its metal doors and shutters; at a local level it is of significance, but nationally this extent of survival is not unique. Sadly, the majority of site J, the HAA battery, has been lost to coastal erosion, and as has been shown above, more complete examples exist around the country.

The sites on Walney Island do not appear to have any connections to important historical figures. Designed by the War Office, the CASLs, gun emplacements, decoy sites and firing ranges were constructed by local men or members of the armed forces and operated by armed forces and sometimes the Home Guard. The gunner range on North Walney is one of only 10 gunnery schools which were set up during the Second World War.

Walney Fort is known to have been connected to a minor historical episode in January 1915 - the rebuttal by the coastal defence battery to an attack by a German U-boat on the Vickers airship sheds. The island's position on the west coast of Britain meant, however, that, unlike other sites, it did not directly play a role in the most famous battles of the Second World War such as the Battle of Britain, or the D-Day landings. Its value lies in its role defending the Vickers dockyard and the town of Barrow.

Many of the sites illustrate the fear of invasion and the rush to construct defences in the Spring of 1940. The simple materials and simple designs were functional. The use of corrugate metal sheeting demonstrates the shortage of good timber for shuttering concrete during construction. The execution of many also illustrates the War Departments standard form, but also demonstrates local variety and adaptation to local needs and conditions.

Walney Island's military remains illustrate a change in warfare. At the start of the 20th century, coastal batteries predominate – an attack from the sea was still seen as the greatest threat to Britain. However, the construction of anti-aircraft defences, bombing decoys, barrage balloon emplacements and its RAF training school illustrate the increased threat from the skies.

Overall the sites constitute a regionally significant group. They are the most heavily concentrated wartime defences around Morecambe Bay and provide examples of related and interlinked structures rather than the sporadic individual pill-boxes and structures found elsewhere.

Low historic value at a national level, but high historic at a local level.

3 ASSESSMENT OF SIGNIFICANCE

3.5 AESTHETIC VALUE

Aesthetic value derives from the ways in which people draw sensory and intellectual stimulation from a place. Aesthetic values can be the result of the conscious design of a place or the seemingly fortuitous outcome of the way in which a place has evolved and been used over time. Aesthetic values tend to be specific to a time and cultural context but appreciation of them is not culturally exclusive. While aesthetic values may be related to the age of a place, they may also (apart from artistic value) be amenable to restoration and enhancement.

Many military sites especially those 'thrown up' during the early years of the Second World War were designed to be utilitarian structures and were not intended to be aesthetically pleasing. However, it could be argued that in their present state, there is a beauty in their decay, and graffiti on the firing range in North Walney is of some interest.

Low aesthetic value at a local and national level.

3.6 COMMUNAL VALUE

Communal and spiritual values derive from the meanings of a place for the people who relate to it, or for whom it figures in their collective experiences or memory. Spiritual value is attached to places associated with organised religion or perceptions of the spirit of a place, including places of worship. Social value is associated with places that people perceive as a source of identity, distinctiveness, social interaction and coherence, and are often public places. Commemorative / symbolic value often symbolise positive or negative aspects relating to the history of a place. It can also be used of buildings, structures or landscapes that have specifically been created to commemorate a particular historical event or person.

They are part of the cultural landscape of Walney and are of high communal value, with local people and visitors able to appreciate tangible reminders of the military history of the area. Although few people had first-hand experience, the events of the two world wars are still kept very much alive by decedents, local interest groups and individuals. All the sites on the Walney Island have an emotive power which connects communities with world events of the greatest magnitude.

High communal value at a local and national level.

4 CONDITION SURVEY AND RECOMMENDATIONS

4.1 SITE B - RIFLE RANGE

4.1.1 STOP BUTT

The Rifle Range features a monumental dune grass covered stop butt, which could easily be mistaken for a natural dune feature to the casual passer-by. Whether there is an underlying built structure to the stop butt was not assessed. The stop butt would have received shots after they had passed through the target and was built large enough to accommodate any ricochet.



Stop Butt viewed from the Markers Gallery

4.1.2 MARKERS' GALLERY WALL

Across a gulley facing the butt is the markers' gallery, which takes the form of a cast concrete revetment wall, the south elevation of which is also covered in dune grass.

The impression of the timber formwork is very clearly visible on the exposed face. There are remnants of a projecting canopy support structure embedded within the concrete.

Some of these supports protrude from the existing concrete structure and pose a potential hazard to walkers or those jumping from the top of the wall. It is advised that these should be recorded and removed.



Markers Gallery in Context

4 CONDITION SURVEY AND RECOMMENDATIONS

The casting to the top of the wall indicates that the canopy was provided with corrugated sheet roofing.

There is a clear constructional break in the casting of the revetment wall to the east and west. Beyond the two constructional breaks the wall has subsided. There is risk of eventual collapse of the east and west flanks should consolidation not take place.

It is recommended that a structural assessment should be completed and the wall pinned back into the existing grass dune as required.

The main central section of the markers' gallery revetment wall is in good condition, despite some graffiti. Graffiti could be cleaned subject to future site interpretation. Trial cleaning in discreet locations should be undertaken to confirm an appropriate methodology prior to wholesale cleaning.



Subsiding wall rear view



Subsiding wall front view

4.1.3 MARKERS' GALLERY FLOOR

The concrete floor of the markers' gallery is present to the west of the gallery and may still exist beneath the dune grass to the full length of the gallery.

It is recommended that the build-up of dune grass should be cleared away to reveal the extant walkway, although any such work will require permission and liaison with Natural England.

The remnants of protruding steel bases for the target mechanism are present in the adjacent ground and pose a health and safety hazard.

It is advised that the steel remnants should be removed following archaeological recording.

4.2 SITE C – AIR GUNNERS' RANGE

The site at present consists of little more than concrete platforms and concrete remnants set in the dunes. The concrete has decayed and exposed corroded reinforcements are present. The exposed reinforcement ends pose a potential health and safety hazard.

There is potential for additional below ground archaeology associated with the Air Gunners' Range.

It would be beneficial to make provision for archaeological recording/investigation of this area to explore the extents of the Air Gunner's Range



Concrete remnants at Air Gunner's Range



Concrete remnants at Air Gunner's Range with exposed reinforcements

4 CONDITION SURVEY AND RECOMMENDATIONS

4.3 SITE D – PILL-BOX AND SEARCHLIGHT EMPLACEMENTS NEAR EARNSE POINT (ASSOCIATED WITH WALNEY FORT)

4.3.1 PILL-BOX

The pill-box is a simple cast in-situ concrete structure with an irregular hexagonal plan form. All apertures have been infilled with brickwork and concrete, therefore the internal condition is unknown.

The weathering of the infills indicate that they have not been recently installed. No roof covering is present however it appears in reasonable condition.



Pill-box on approach to Golf Course

The structure externally is in good condition with no evidence of failure or spalling to the concrete. Day joints in the construction of the pill-box are clearly visible.

It may be beneficial to remove concrete and brick in-fill to ventilate the structure and allow interior inspection. Discreet grilles may be provided for security.



Roof of Pill-box



Infilled Openings

4.3.2 SEARCHLIGHT EMPLACEMENTS

These are simple buildings rectangular in plan with a semi-circular termination facing the sea. The emplacements were originally accessed, via a reinforced concrete stair from the higher ground.

The cylindrical elevations comprise knee walls with full height, full width openings above. These openings provided a 180° clear-range for the searchlight and were installed with metal shutters.

Each emplacement is set into the dunes, with flat roofs level with the adjacent golf course. The roof is supported on three sides by reinforced concrete walls with the semi-circular termination cantilevered over the full-width opening below.



Northern Searchlight Emplacement

4.3.2.1 Northern Searchlight Emplacement

The northern emplacement appears structurally unsafe.

The semi-circular I-beam which originally supported the cantilevered section of the roof slab is no longer present, although its existence is evidenced by the remaining embedded steel. It is unlikely the cantilever was designed to be self-supporting. Jacking of the roof from the walls has occurred due to corrosion of the extant embedded steel.

It is advised that the corroded steel should be removed and a new I-beam fabricated and installed to support the roof.

The cracking caused by the jacking of the roof should be repaired on completion of the I-beam replacement.

The steel I-beams supporting the roof internally are heavily corroded with significant loss of fabric to the web and it would be beneficial for these to be replaced.



Concrete jacking due to corroded steelwork

The section of the concrete floor slab below the cantilevered roof has sheared from the main structural floor slab due to shifting ground levels.

To facilitate the long term stability of the structure it is recommend that the slab should be underpinned and concrete repairs undertaken at the junction of the knee and main walls.



Cracking due to subsidence

Should the recommended conservation works be undertaken to stabilise the structure, it would advantageous to install a handrail to the stairs or access closed-off. Balustrading could be provided to restrict access to the roof from the golf course.

The internal walls have been heavily vandalised. Graffiti could be cleaned subject to future site interpretation. Trial cleaning in discreet locations should be undertaken to confirm an appropriate methodology prior to wholesale cleaning.

It is imperative that the structure is fenced off, temporarily supported and relevant signage installed as soon as possible, pending a full structural appraisal and consideration of recommendations presented for remedial works..



Deteriorated girders and graffiti.

4 CONDITION SURVEY AND RECOMMENDATIONS

4.3.2.2 Southern Searchlight Emplacement

The southern emplacement suffers from similar issues to that of the northern emplacement, albeit at an earlier stage of deterioration.

The semi-circular I-beam which supports the cantilevered section of the roof slab is heavily corroded, particularly at the upper flange. This has resulted in jacking of the roof from the walls.

To enable the long-term preservation of this structure it is recommended that the corroded steel should be removed and a new I-beam fabricated and installed to support the roof. Following this work it is recommended that the cracking caused by the jacking of the roof should be repaired on completion of the I-Beam replacement.

The interior of the emplacement was inaccessible due to the presence of a modern concrete block wall.

It is recommended that the blockwork is removed and allowance made for replacement of the steel I-beams internally.



Southern emplacement.



Subsidence cracking

The section of the concrete floor slab below the cantilevered roof has sheared from the main structural floor slab due to shifting ground levels.

The slab should be underpinned and concrete repairs undertaken at the junction of the knee and main walls.

There are signs of water ingress through cracks in the roof slab. Iron oxide staining is also present which would indicate corrosion to embedded re-enforcement.

It would be beneficial for the concrete cover be removed, reinforcements treated or provided with cathodic protection as necessary and concrete repairs completed.



Crack on soffit

The stair to the rear of the emplacement has been backfilled to provide level ground between the roof and the golf course.

It would be beneficial to provide balustrading to restrict access to the roof.



Roof of Emplacement with backfilled stair

It is advised that the structure is fenced off, temporarily supported and relevant signage installed as soon as possible, pending a full structural appraisal and consideration of recommendations suggested for remedial works.

4.4 SITE E – PILL-BOX ON GOLF COURSE



Exterior of pill-box

This pill-box is of the same type as that at Site D. Although some of the apertures have been bricked up, one of the embrasures provides a view to the interior where a ricochet wall can be noted. The pill-box is generally in good condition, with the exception of an area of cracking near the open embrasure relating to corroding reinforcements.

It is recommended that any corrosion should be treated or provided with cathodic protection and concrete repairs undertaken, following structural assessment.

It may be beneficial to remove concrete and brick in-fill to ventilate the structure and allow further interior inspection. Discreet grilles may be provided for security.



Brick up entrance to pill-box

4 CONDITION SURVEY AND RECOMMENDATIONS

The interior concrete soffit and walls appear in good condition with no obvious damp issues. Timber formwork marks can be clearly seen on the face of the concrete.

There are signs of unauthorised access. The interior should be cleared of debris.



Interior of pill-box

4.5 SITE H – PILL-BOX NEAR HILLOCK WHINS (IDENTIFIED AS DECOY CONTROL BUILDING)

4.5.1 EXTERNAL CONDITION

The pill-box has in fact been identified as a decoy control building. The single storey building is constructed with English bond brickwork and a flat cast in-situ concrete roof slab. The internal floor level is approximately 1.5metres below the adjacent ground and is accessed by a projecting in-situ cast concrete stair. The stair wall has been extended more recently with English bond brickwork.



Decoy control building



Entrance

There is a single round aperture to the west elevation, a loop-hole facing south-east and an opening in the concrete roof deck which appears to have housed a metal shutter.

The roof has remnants of a bituminous roof covering which has completely failed. Parts of the East and South elevations have remnants of a cementitious rendered finish.

Structurally the building is stable, however there is severe spalling to the brickwork, most likely due to the high water table and rubbing of livestock who shelter around the building.



Spalling brickwork near water trough

4.5.2 INTERNAL CONDITION

Internally the structure has flooded making it inaccessible. The remaining structure viewed through the rounded aperture appear to be in good condition.

It would be unfeasible to attempt to keep water out of the structure as a full tanking system would be required internally as well as a new roof covering. Significant repairs externally would be required to consolidate spalling brickwork.

It is recommended that the structure is recorded and its potential decay is monitored. Provisions should also be made to provide access restrictions and signage to the entrance to minimise potential hazards for passers-by and livestock.

Provision could be made for archaeological investigations to explore the extents of the decoy installation in the surrounding area.



Flooded interior:

4 CONDITION SURVEY AND RECOMMENDATIONS

4.6 SITE I – POSSIBLE ANTI-AIRCRAFT DEFENCES / PONTOON



Slabs



Iron fixings in the corners of the slabs

A number of loose rectangular concrete slabs cast in metal trays are located on the beach to the south of Walney Island. These may either be holdfasts or remnants of temporary pontoons. The slabs are in fair condition.

The fixings set into the corners of the slabs have some minor corrosion and have seized up due to presence of salts and sand. In due course the tray will continue to corrode and ultimately fail albeit they are in fair condition at present.

It is recommended that the slabs are recorded and consideration given to relocating them.



Corrosion to tray



Discarded fixings found in the vicinity

4.7 SITE J – COASTAL BATTERY

The site has been identified as a Heavy Anti-Aircraft Battery (HAA). The octagonal cast concrete gun platform is in good condition with the existing fixing points suffering from minor corrosion. The ammunition locker walls are constructed out of double leaf blockwork, with concrete floor slabs cast between the blockwork partitions.

The flat roof is cast in concrete in a single slab, however the interior soffit demonstrates that both timber and corrugated sheet formwork were utilised, with very little quality control. The concrete block partitions do not appear to have significant foundations.



Flooded interior of pill-box.

The battery is currently fenced off, being in a poor state of repair. The end walls of the two outer lockers have collapsed and due to subsidence the remaining walls are in the process of collapse, leaving sections of the roof slab unsupported. Vertical cracks are present in the blockwork.

Since it is unlikely that any re-enforcement was utilised in casting the roof slabs, it is recommended the unsupported sections of roof slab are removed, in a controlled manner, to prevent uncontrolled collapse.

Removal of unsupported sections of roof slab may also reduce stress on the remaining and slow the deterioration process.

Due to the extremely poor build quality and current condition of the battery, we recommend that works to record and make the building safe are completed and it is the view of the conservation architect that, following full consultation with the landowner, stakeholders and advisory bodies that consideration should be given to managed decline.



Interior ribbed soffit



Large structural crack in wall

4 CONDITION SURVEY AND RECOMMENDATIONS

4.8 SITE K – PILL-BOX (POSSIBLE COMMUNICATION BUILDING), NOW BIRD HIDE



Large structural crack in wall.

4.8.1 ROOF

The asphalt roof covering has failed exposing the concrete slab. Moss and vegetation have grown within the cracks of the asphalt.

It is recommended that the existing asphalt and vegetation should be removed and a new asphalt roof covering applied. Loose areas of asphalt around the eaves of the building should be removed as they currently present a health and safety risk.

There are remnants of a steel framework on top of the roof slab, indicating that historically a roof mounted structure or mast was present. It is recommended that these should be recorded and removed.



Asphalt roof

4.8.2 ELEVATIONS

The brick facades are largely in fair condition with no spalling to the brickwork, however a crack is present adjacent to the entrance on the north elevation related to corroding fixings.

It is recommended that the fixings are removed and the brickwork repaired. There are open joints generally at high level associated with the loss of asphalt at the eaves and at low level.

It would be beneficial for the open joints to brickwork are raked out and repointed.

4.8.3 WINDOWS, DOORS AND STEPS

Four of the six apertures to the East and West elevations have been enlarged and provided with square fixed-light uPVC windows. Of the remaining openings one has been fitted with a timber single glazed window and the other boarded up.

Consideration should be given to the removal of the uPVC windows and the provision of a new window to the boarded opening. The timber framed windows also require redecoration.

The hide would benefit from natural cross ventilation being maintained when the building is not in use; trickle vents could be installed to the windows or a louvered panel provided within the door leaf.

The long horizontal opening to the south elevation is provided with timber shutters and is used for bird watching over the bay.

The timber shutters require redecoration.

The entrance door appears to be in fair condition, however further investigation is required to establish whether it is an older panelled door with hardboard facing applied. Previous repairs at the base of the door jambs have failed.

Timber splice repairs are required to the base of both jambs of the door frame. The door and frame require full redecoration.

The concrete sill below the door appears to require decoration.



Long horizontal openings.

The makeshift concrete block entrance steps pose a trip hazard and it is recommended that they are renewed.

4.8.4 INTERNAL CONDITION

The interior consists of a single room with painted brick walls and painted concrete floor and soffit. Interpretation boards are provided, and provided with some interpretation. There is evidence of damp to the soffit due to the failure of the asphalt externally.

Salt contamination appears to be prevalent at low level around the walls, with micro biological growth at floor and wall junction.

The interior would benefit from redecoration, which could take place following external repairs.



Interior opening

The concrete floor slab falls to the south slightly, however this is most likely associated with poor construction rather than subsidence. The metal covers to the small service channel require resetting.

4.8.5 FLAGPOLE

Adjacent to the pill-box is a flag pole, the top half of which has been taken down and is lying on the ground. The pole requires full repair if reinstatement is intended.



Flag pole

4 CONDITION SURVEY AND RECOMMENDATIONS

4.9 SITE L – SEARCHLIGHT EMPLACEMENTS (PART OF HILPSFORD FORT COASTAL BATTERY)

These two searchlight emplacements are similar in plan and form to those at Earnse Point with the exception of a slight camber to the roof slab. Originally located on flat ground, each emplacement was accessed via double metal doors to the rear of the unit. Due to shifting sand dunes both have lost their direct views of the sea.



Northern Emplacement

4.9.1 NORTHERN EMPLACEMENT

The Northern emplacement is suffering from significant structural degradation.

The semi-circular I-beam which supports the cantilever roof is suffering from serious corrosion and unfit for purpose. Horizontal cracking is present along the roof slab eaves. It is likely that due to corrosion of the embedded reinforcement the slab has separated into two layers. The internal I-beams are in better condition with most corrosion occurring to the upper flanges.

In the short term, it is recommended that temporary supports are installed and access to the site restricted.

A build-up of sand and vegetation on the roof is providing additional dead-load and acting as a water trap. Consideration should be given for its removal once the structure has been propped and a structural survey carried out.

The corroded I-beams internally should be assessed and cleaned back and treated or replaced as required.

The semi-circular cantilever I-beam should be replaced with new to match existing.

Reinforcement to the roof slab should be treated or provided with cathodic protection and concrete repairs undertaken.



Corrosion to the doors

The walls externally exhibit a pattern of horizontal cracking. At high level, this is likely jacking caused by the corrosion of the embedded cantilever I-beam as at Earnse Point. At lower level this is possibly related to corroding reinforcement causing poorly constructed day joints to open up.

On the potential replacement of the semi-circular I-beam, concrete repairs should be carried out at high level. At low level, the reinforcement should be exposed in discreet locations and cathodic protection provided. Concrete crack repairs could then be completed to prevent further water ingress.

There are remnants of in-situ cast concrete screen walls around the entrance which are in varying states of decay. Consideration should be given to their future management, or recording and removal.

Internally, the structure appears to be in good condition with less evidence of the cracking which is apparent externally. There are isolated areas of concrete cover loss exposing the embedded steel reinforcement.

It is advised that the reinforcement should be exposed to allow treatment or cathodic protection.

The entrance double doors have significant amount of corrosion with areas missing. These could be conserved or recorded and removed as potential future options require.

To the internal face of the semi-circular cantilever beam, a concrete down-stand beam is present, below which are the remnants of corroded shutter guide brackets.

A large horizontal crack is present between the concrete down-stand beam and the concrete soffit. It is unclear whether the concrete is reinforced to the soffit or fixed to the cantilever beam, however the appearance is that it is resting on the corroded shutter brackets.

It is advised that the concrete down-stand should be investigated by a structural engineer and removed or repaired as necessary.



Interior



Corrosion to cantilever I-beam

It is advised that the structure is fenced off, temporarily supported and relevant signage installed pending a full structural appraisal and consideration of recommendations suggested for remedial works.

4.9.2 SOUTHERN EMPLACEMENT

Shifting dunes have caused the battery to have become largely buried meaning that most of the exterior could not be inspected. This may have protected the structure and although corrosion is present this is not as advanced as the northern emplacement.



Emplacement

The emplacement at present is used as a storage facility with a lockable door giving access to the interior. Similar to the previous sites, reinforcement to the concrete roof slab is exposed and it is advised that these undergo treatment or cathodic protection prior to completion of minor concrete repairs.



Entrance and roof

4 CONDITION SURVEY AND RECOMMENDATIONS

The semi-circular cantilever beam appears to be in fair condition as do the internal I-beams with only minor surface corrosion present.

Should long-term conservation be agreed, the beams should be cleaned back and treated with a corrosion inhibitor.

There is evidence of jacking to the concrete walls associated with the corrosion of the embedded cantilever beam.

Following treatment of the beam it is recommended that concrete crack repairs should be completed.

The original metal shutters are intact, although surface corrosion has rendered them inoperable at present.

For the long-term conservation of the structure it is recommended that the shutters and shutter guides are cleaned back and treated with a corrosion inhibitor.

The metal entrance doors to the rear of the structure, inaccessible due to sand dunes externally, were inaccessible for close inspection internally due to stored items. What could be seen appeared in good condition, with minor surface corrosion.

It is recommended that the doors should be cleaned back and treated with a corrosion inhibitor.



Original Metal Shutters

A temporary timber hide has been placed on the roof of the emplacement; it is recommended that this is removed. It is also unlikely that the roof was designed to support additional dead or live loads. The hide also detracts the visual aspect of one of the best conserved emplacements.



Formwork marks on the soffit

Overall, this is the emplacement in the best condition and the only one which has original shutters. Its retained condition is possibly due to its semi-burial within the sand dunes.

Exposing the emplacement would provide further information regarding its condition externally and open up additional possibilities for interpretation. Any such work would, however, have to be agreed by the landowners, Natural England, the Cumbria Wildlife Trust, County Council Archaeologists and with consideration of the SSSI status of the Reserve.

4.10 SUMMARY OF RECOMMENDATIONS

4.10.1 SITE B – RIFLE RANGE

Consider the recording and removal of remains of iron posts which protrude from the markers' gallery wall.

It is recommended that a structural assessment should be made of the retaining wall to the markers' gallery revetment and the wall pinned back into the existing grass dune as required.

Consideration should be given to the cleaning of graffiti to the markers' gallery wall. Trial cleaning in discreet locations should be undertaken to confirm an appropriate methodology prior to wholesale cleaning.

It is recommended that the build-up of dune grass should be cleared away from the markers' gallery floor to reveal the extant walkway, although any such work will require permission and liaison with Natural England.

It is advised that the steel remnants of the target mechanism are removed following archaeological recording as these pose a trip hazard.

4.10.2 SITE C – AIR GUNNERS RANGE

It would be beneficial to make provision for archaeological recording/investigation of this area to explore the extents of the Air Gunner's Range.

4.10.3 SITE D – PILL-BOX AND SEARCHLIGHT EMBLEMMENTS (ASSOCIATED WITH WALNEY FORT)

4.10.3.1 Pill-box

It may be beneficial to remove concrete and brick in-fill to ventilate the pill-box and allow interior inspection. Discreet grilles could be installed for security.

4.10.3.2 Northern searchlight emplacement

It is advised that the corroded steel I-beam supporting the walls of the northern searchlight is removed and replaced with a new steel I-beam. Once this is completed the cracking caused by the jacking of the roof should be repaired.

The steel I-beams similarly are heavily corroded and it would be beneficial if these are replaced.

To facilitate the long-term stability of the structure it is recommend that the slab should be underpinned and concrete repairs undertaken at the junction of the knee and main walls.

Should the recommended conservation works be undertaken to stabilise the structure, it would advantageous to install a handrail to the stairs or access closed-off. Balustrading could be provided to restrict access to the roof from the golf course.

Consideration should be given for the removal of graffiti.

It is advised that the structure is fenced off pending a full structural appraisal and consideration of recommendations suggested for remedial works.

4.10.3.3 Southern searchlight emplacement

To enable the long-term preservation of this structure it is recommended that the corroded steel should be removed and a new I-beam fabricated and installed to support the roof. Following this work, it is recommended that the cracking caused by the jacking of the roof should be repaired on completion of the I-Beam replacement.

It is recommended that the blockwork wall currently preventing access into the emplacement is removed and allowance made for replacement of the steel I-beams internally.

It is recommended that the floor slab should be underpinned and concrete repairs undertaken at the junction of the knee and main walls.

It would be beneficial for the concrete cover to areas of corrosion of the embedded re-enforcements be removed, reinforcements treated or provided with cathodic protection as necessary and concrete repairs completed.

It would be beneficial to provide balustrading to restrict access to the roof.

It is advised that the structure is fenced off, temporary support and relevant signage installed as soon as possible, pending a full structural appraisal and consideration of recommendations suggested for remedial works.

4.10.4 SITE E – PILL BOX

It is recommended that any corroded reinforcements are treated or provided with cathodic protection and concrete repairs undertaken, following structural assessment.

It may be beneficial to remove concrete and brick in-fill to ventilate the structure and allow further interior inspection. Discreet grilles may be provided for security.

It is recommended that the interior is cleared of debris.

4.10.5 SITE H – PILL-BOX (IDENTIFIED AS DECOY CONTROL BUILDING) NEAR HILLOCK WHINS

It is recommended that the structure is recorded and decay is monitored. Provisions should also be made to provide access restrictions and signage to the entrance to minimise potential hazards for passers-by and livestock.

Provision could be made for archaeological investigations to explore the extents of the decoy installation in the surrounding area.

4.10.6 SITE I – CONCRETE SLABS (AA DEFENCES OR PONTOON)

It is recommended that the concrete slabs are recorded and consideration given to relocating them.

4.10.7 SITE J – COASTAL BATTERY (IDENTIFIED AS HAA BATTERY)

Due to the extremely poor build quality and current condition of the battery, it is the view of the conservation architect that, following full consultation with the landowner, stakeholders and advisory bodies that consideration should be given to managed decline.

4.10.8 SITE K – ‘PILL-BOX’ (POSSIBLE COMMUNICATION BUILDING), NOW BIRD HIDE

It is recommended that the existing asphalt and vegetation should be removed from the roof and a new asphalt roof covering applied. Loose areas of asphalt around the eaves of the building should be removed as they currently present a health and safety risk.

It is recommended that the remnants of a steel structure on the roof are recorded before being removed.

It is recommended that the corroded fixings adjacent to the entrance are removed and the brickwork is repaired.

4 CONDITION SURVEY AND RECOMMENDATIONS

It would be beneficial for any open joints to the brickwork is raked out and repointed.

Consideration should be given to the removal of the uPVC windows and the provision of a new window to the boarded opening. The timber framed windows also require redecoration.

The hide would benefit from natural cross ventilation being maintained when the building is not in use; trickle vents could be installed to the windows or a louvered panel provided within the door leaf.

Investigate whether it is an older panelled door below the hardboard facing of the entrance door.

The entrance door, frame and the concrete sill require redecoration.

Timber splice repairs are required to the base of both jambs of the entrance door frame.

The timber shutters to the bird hide require redecoration.

It is recommended that the makeshift concrete block entrance steps are replaced.

The interior would benefit from redecoration, which could take place following external repairs.

The metal covers to the small service channel to the floor require resetting.

The flagpole requires repair and redecoration.

4.10.9 SITE L – SEARCHLIGHT EMPLACEMENTS (PART OF HILPSFORD FORT COASTAL BATTERY)

4.10.9.1 Northern Searchlight Emplacement

It is recommended that temporary supports are installed and access to the site restricted.

Consideration should be given for its removal of sand and vegetation on the roof once the structure has been propped and a structural survey carried out.

It is recommended that the corroded I-beams internally should be assessed and cleaned back and treated or replaced as required.

It is recommended that the semi-circular cantilever I-beam should be replaced with new to match existing. Carry out concrete repairs.

It is advised that the embedded steel reinforcement to the roof slab and internal and external walls should be exposed and treated or provided with cathodic protection and concrete repairs undertaken.

In-situ cast concrete screen walls around the entrance could be recorded and managed or removed as required.

The corroded doors could be conserved, or recorded and replaced.

Consider the investigation of the concrete down-stand by a structural engineer and repair/replace as necessary.

4.10.9.2 Southern Searchlight Emplacement

It is recommended that the steel reinforcement to the roof slab should be exposed and treated or provided with cathodic protection and concrete repairs undertaken.

Should long-term conservation be agreed, it is advised that the I-beams are cleaned back and treated with a corrosion inhibitor.

Minor concrete crack repairs are required.

For the long term conservation of the structure it is recommended that the shutters and shutter guides, and the metal doors are cleaned back and treated with a corrosion inhibitor.

It is recommended that the temporary hide on the roof is removed.

As the best-preserved CASL, options for its conservation and future use should be explored including its exposure from the sand dune, following full consultation with all stakeholders.

5 ISSUES AND OPPORTUNITIES

This section will look at the issues and potential options for the future of the military sites on Walney Island to ensure that the sites are better appreciated and enjoyed by visitors.

The main issues are summarised as follows:

- Condition and coastal erosion
- Coastal Erosion
- Location and Accessibility
- Anti-social behaviour
- Use

The main opportunities are:

- Opportunity to improve signage
- Potential for some sites to be restored
- Opportunity for interpretation
- Opportunity to link up with other organisations
- Themed trails

5.1 CONDITION

Recommendations have been discussed in full in the previous section and costings for works have been supplied to the Morecambe Bay Partnership.

5.2 LOCATION AND ACCESSIBILITY

The sites on Walney are in a variety of locations and under different ownerships. Whilst many are close to public footpaths, roads, or within nature reserves, the pill-box and southernmost CASL in Site D are integrated into Walney Island's golf course. This makes accessibility both difficult and dangerous. The decoy site near Hillock Whins is within an agricultural field which also makes access problematic.

Access to all sites can only be obtained by the ambulant. For those able to walk or drive to the sites, a number of them are difficult to locate given their isolated or hidden positions, particularly within sand dunes.

There are opportunities to increase the accessibility of some sites; owners of the golf course may be accommodating to provide access to the sites on their land on special open days. Consideration should be given to the installation of new pathways to some which should be suitably surfaced. Sites should be made easier to find by the use of maps, mobile phone apps, or by improved signage and could form part of specific trails, or walking or cycle tours linking up with the new Bay Cycle Way, for example.¹

¹ Bay Cycle Way <http://www.sustrans.org.uk/ncn/map/route/the-bay-cycle-way>.

5 ISSUES AND OPPORTUNITIES

5.3 USE

Only two of the sites are in use today. Site K is used as a bird hide, and one of the CASLs at Site L is used for storage and has a hide positioned on its roof. Site K has been modified in the past and its current use is an appropriate one. Several other sites have potential for a new use, but only if stabilisation works, repairs and conservation are carried out; a number of the CASLs could be used as shelters for walkers or as bird hides. Like an example on Orkney, they could be fitted with glazing or like another example have their metal sliding shutters repaired or refitted. The southernmost CASL at South Walney is the best preserved. Local organisation Art Gene have already proposed to open a bird hide in one CASL to include historic interpretation, and a refreshed hide and reinforcement works on the most southerly CASL.²

Pill-boxes could also be given public access and used for interpretation purposes; the blocked gun-loops could be reopened. Their interpretation could include methods of camouflage which might be reinstalled on special interpretation days.



CASL at Carness Battery, Orkney put to use

² pers comm. Maddi Nicholson, Founder Director of Art Gene

5.4 RESEARCH AND INTERPRETATION

There is a distinct lack of interpretation of the sites on Walney Island. Interpretation could take the form of discrete but robust interpretation panels, leaflets, website information or a mobile phone app. The latter is already in development by Art Gene for the north of the island and due for launch later in 2016. Art Gene are also considering extending their mobile app to cover Hilpsford Fort. Further consideration could be given to building upon this work.³ There is the potential to tell the story of how the Walney Island sites worked as part of the defence of Barrow, and how men were trained to fight in two World Wars. Forming partnerships with local organisations such as the nature reserve on Walney, or the Barrow Dock Museum to jointly promote both the natural and cultural heritage of the island, could allow the sharing of resources such as website space, promotional materials, signage and interpretation boards.

An improved understanding of the Walney Island sites and its 20th century military heritage could have a positive outcome by leading to increased enjoyment and appreciation of the sites and could potentially improve interest by the local community, drive a voluntary programme of care and reduce anti-social behaviour:

Themes for interpretation might include:

- The defence of Barrow Docks and the airship industry during the wars making connections to other sites on the mainland.
- The role of the Home Guard.
- Bombing Decoys.
- Air Gunner schools.

³ Art Gene, 'Fort Walney Uncovered' http://art-gene.co.uk/nb/index.php?option=com_content&view=article&id=242&Itemid=280

There are opportunities to continue a programme of research and to carry out a detailed recording of the sites on Walney Island, particularly those facing destruction from coastal erosion. Morecambe Bay Partnership, for example, have recently captured digital aerial photography and created 3D models of a number of the sites. Additionally, they are planning on carrying out further recording/ investigation with Manchester Metropolitan University as part of a community archaeology training programme during Spring/Summer 2016. A number of sites (site I and K) are little understood and would benefit from further research.

There is clearly a great deal of potential for sites at Walney Island to reveal further information which would be of interest at a local level, and may add to our knowledge of similar sites and their variations at a national level.



Sign in the North Walney nature reserve

6 OPTIONS APPRAISAL

6.1 SUMMARY

The difficulties in providing physical access to many of the sites, combined with land ownership and the various stages of decay create a complex set of issues when appraising Walney Island as a site.

In general, the most visually appealing and readily accessible structures are located within the reserve at South Walney, the Searchlight Emplacements at sites D, and L and the Observation Post at site K, however, the Rifle Range at site B and the Air Gunners' Range at site C also lend themselves to some low key interpretation.

A full structural survey is required for the majority of the structures to ascertain the stability of the structures, with some requiring urgent attention regarding temporary propping and restricting access to minimise danger to the public pending delivery of any longer-term project.

6.2 OPTION A

The first option would be to limit intervention to further structural assessments and temporary stabilisation of dangerous structures to ensure the safety of the public. The stabilised structures could then form the basis of a community archaeological and recording project. Consideration should be given to managed decline following full consultation with landowners, stakeholders and advisory bodies.

6.3 OPTION B

Following structural assessment, temporary stabilisation work and community archaeological and recording projects, more permanent repair works could be completed. These works would be limited to those items which ensure the structural integrity of the sites, to mitigate health and safety risks and arrest further decline and allow safe public access.

Interpretation boards could be provided at each of the sites touching upon preferred themes such as those identified in section 5, however the sites would be presented in their current condition, albeit with local clearance works to expose elements hidden by sand dune encroachment.

Given the advanced deterioration of the Coastal Battery at site J, it is not proposed that further works would be undertaken beyond temporary stabilisation to allow recording and it is the view of the conservation architect that consideration should be given to managed decline following a full discussion with landowners, stakeholders and advisory bodies.

6 OPTIONS APPRAISAL

6.4 OPTION C

There is potential for a mixed approach to the repair of the sites. As with the other options, following structural assessment, temporary works and recording projects, some of the sites would be stabilised and be presented in their current condition, however other sites offer further potential for restoration or creative adaptation.

Building upon the work already undertaken by Art Gene, sites B and C lend themselves most readily to being presented in their current condition with the inclusion of interpretation boards. This would not preclude the sites being used creatively for school or interest groups on open days, when re-enactment and dramatic interpretation could be staged.

The Pill-boxes at sites D and E provide difficulties regarding access, due to their situation within the Golf Course. As described in section 5, if public access was granted they could be used for interpretation purposes. Alongside interpretation boards, methods of camouflage might be reinstalled on special interpretation days.

The Searchlight Emplacements at site D offer opportunities beyond consolidation. Although fabrication of semi-circular I-beams to support the cantilever would be costly, the cost of the template would be shared between the two emplacements at site D and the two emplacements on South Walney. Beyond stabilisation works, minimal interventions would be required to convert the emplacements as pavilions to shelter walkers, particularly given their evocative views out to sea. Interpretation boards could direct visitors to some of the other more remote sites and in particular the well conserved emplacement at South Walney.

As with the Pill-boxes at sites D and E, the decoy building at site H poses difficulties regarding access, due to its location on private agricultural land. Any work beyond brick repair externally would comprise a major intervention to tank the building and would only prove worthwhile should a suitable use be found either by the landowner, or as a visitor site if access was agreed. Any works would certainly need to take account of the other decoy sites identified in section 2.

The Anti-Aircraft Defences at site I would most readily be suitable for interpretation if relocated for viewing adjacent to one of the other sites on South Walney.

As discussed in section 4, the Coastal Battery at site J is largely beyond repair, given the poor quality of construction and advanced state of deterioration. It is not proposed that further works would be undertaken beyond temporary stabilisation and it is the view of the conservation architect that consideration should be given to managed decline following a full discussion with landowners, stakeholders and advisory bodies.

Sites K and L offer the most potential for reuse and interpretation. The Observation Post at site K previously identified as a Pill-box, is suited to its continued use as a bird hide following remedial works. The interpretation within the hide could be extended to include interpretation of its history and this could be extended to include the fenced area within which it is located.

The southern Searchlight Emplacement is the best preserved of the four on Walney Island. A programme of conservation repair and clearance externally would allow it to be readily interpreted using the original fittings. It also offers a template for a restoration of the northern emplacement. Combined with adjacent spigot mortar domes, holdfast fittings and below ground ammunitions stores, a programme of interpretation could be devised that would provide an additional element of attraction and revenue for the nature reserve.

6.5 OPTION D

The final option would expand on Option C, creating a heritage walking trail based on the sites included in this report but also the other sites which made up Walney and Hilpsford Forts. This could include reference to Barrow's wider coastal defences as well as other historic and present activity on Walney Island, including the former gravel works and associated archaeology and the present day oyster-farming operation on South Walney.

APPENDICES

Appendix A: Bibliography

Appendix B: Proposed Repair and Interpretation Schedule

APPENDIX A: BIBLIOGRAPHY

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Cumbria Archives Service

APPENDIX B: PROPOSED REPAIR AND INTERPRETATION SCHEDULE

Category	A	Works immediately necessary to prevent collapse or significant deterioration of the building/features. (Items marked in red are considered urgent to prevent risk to public safety)	
	B	Works necessary within the next 3-5 years to avoid acceleration in the rate of the deterioration of the building or features.	
	C	Works necessary to ensure long term cyclical maintenance and likely to arise in the next 5-15 years.	
	D	Costs for any beneficial works to bring the building into use.	
Item	Condition Report Ref	Summary	Quantity
SITE B			
MARKERS' GALLERY WALL			
1	4.1.2	Allow for structural survey	
2	4.1.2	Allow to remove corroded fixings protruding from concrete wall.	
3	4.1.2	Allow to pin back walls walls of concrete back into the sand dunes according to S.E Specification.	
4	4.1.2	Allow for DOFF clean to remove graffiti	
MARKERS' GALLERY FLOOR			
5	4.1.3	Allow to remove protruding steel bases from existing target mechanism.	10no.
6	4.1.3	Allow to remove sand-build up to expose concrete floor to markers' gallery.	
ALTERATIONS AND SIGNAGE			
7		Allow for 1no. AI interpretation board	

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	D	Costs for any beneficial works to bring the building into use.	
Item	Condition Report Ref	Summary	Quantity
SITE C			
1	4.2	Remove any dangerous exposed re-inforcements	
2	4.2	Allow for archaeological investigations	
ALTERATIONS AND SIGNAGE			
3		Allow for Ino. AI interpretation board	

APPENDIX B: PROPOSED REPAIR AND INTERPRETATION SCHEDULE

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	D	Costs for any beneficial works to bring the building into use.	
Item	Condition Report Ref	Summary	Quantity
SITE D			
PILL-BOX			
1	4.3.1	Allow for a structural survey	
2	4.3.1	Allow for the removal of infill to openings to provide access to survey and maintain	10no.
3	4.3.1	Allow for the installation of stainless steel grilles to prevent un-authorized access into openings.	
4		Allow to generally clean site and remove debris	
5		Allow for 1no. AI interpretatio board	
NORTHERN SEARCHLIGHT EMPLACEMENT			
1	4.3.2.1	Allow for a structural survey	
2	4.3.2.1	Allow for temporary propping	
3	4.3.2.1	Allow to fence off the site completely and provide relevant danger signs	
4	4.3.2.1	Allow to replace semi-circular I-beam to S.E. Specification	1no.
5	4.3.2.1	Allow to replace I-beam to S.E. Specification	2no.
6	4.3.2.1	Allow crack repair to jacking roof	2no.
7	4.3.2.1	Allow to underpin dwarf wall	

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	C	Works necessary to ensure long term cyclical maintenance and likely to arise in the next 5-15 years.	
	D	Costs for any beneficial works to bring the building into use.	
Item	Condition Report Ref	Summary	Quantity
8	4.3.2.1	Allow to treat corroded re-enforcements and localised concrete repair	10no.
9		Allow to generally clean site and remove debris	
10	4.3.2.1	Allow to install cathodic protection	
11	4.3.2.1	Allow to install a minimum 316 grade stainless steel handrail to stairs	
12	4.3.2.1	Allow to install a minimum 316 grade stainless steel balustrade to roof	
13	4.3.2.1	Allow for Doff clean to remove graffiti. Subject to trials.	
ALTERATIONS AND SIGNAGE			
14		Allow for modifications to knee wall to allow access from beach	
15		Allow for the installation of seating	
16		Allow for 1no. AI interpretation board	
SOUTHERN SEARCHLIGHT EMPLACEMENT			
1	4.3.2.2	Allow for a structural survey.	
2		Allow for temporary propping	
3		Allow to fence off the site completely and provided relevant danger signs	
4	4.3.2.2	Allow to replace semi-circular I-beam to S.E. Specification	1no.
5	4.3.2.2	Allow to replace I-beam to S.E. Specification	2no.

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	D	Costs for any beneficial works to bring the building into use.	
Item	Condition Report Ref	Summary	Quantity
6	4.3.2.2	Allow crack repair to jacking roof	2no.
7	4.3.2.2	Allow to underpin dwarf wall.	
8	4.3.2.2	Allow to treat corroded re-enforcements and localised concrete repair	10no.
9	4.3.2.2	Allow to remove concrete blockwork internally	
10	4.3.2.2	Allow to generally clean site and remove debris.	
11	4.3.2.2	Allow to install a minimum 316 grade stainless steel balustrade to roof	
12	4.3.2.2	Allow to install cathodic protection	
13	4.3.2.2	Allow for Doff clean to remove graffiti. Subject to trials.	
ALTERATIONS AND SIGNAGE			
14		Allow for modifications to knee wall to allow access from beach	
15	4.3.2.2	Allow to install a minimum 316 grade stainless steel handrail to stairs.	
16		Allow for the installation of seating	
17		Allow for for 1 No. AI interpretation board.	

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	D	Costs for any beneficial works to bring the building into use.	
Item	Condition Report Ref	Summary	Quantity
SITE E			
1	4.4	Allow for a structural survey to be conducted.	
2	4.4	Allow to treat corroded re-enforcements and localised concrete repair	
3	4.4	Allow to install cathodic protection	
4	4.4	Allow for the installation of stainless steel grilles to prevent un-authorised access into openings.	
5	4.4	Allow to generally clean site and remove debris	
ALTERATIONS AND SIGNAGE			
6		Allow for 1no. AI interpretation board	
SITE H			
1	4.5	Allow to record structure in photos and drawings with archaeological investigations within the areas to search for decoys.	
2		Allow for 1no. AI interpretation board	
SITE I			
1	4.6	Allow to relocate 4no. slabs	

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	C	Works necessary to ensure long term cyclical maintenance and likely to arise in the next 5-15 years.	
	D	Costs for any beneficial works to bring the building into use.	
Item	Condition Report Ref	Summary	Quantity
SITE H			
1	4.7	Allow to carefully demolish and dispose of 2no. concrete roof slabs which are structurally unsafe.	
2	4.7	Allow for structural survey of existing structure	
3	4.7	Allow for additional signage and fencing off for structure.	
4	4.7	Allow to record structure in photos and drawings for local archives.	
SITE K			
1	4.8.1	Allow to remove existing asphalt roof covering, clean and prepare roof	
2	4.8.1	Allow to renew asphalt roof covering	
3	4.8.1	Allow to remove steel fixings	
4	4.8.2	Allow to remove corroded fixings from brickwork	2no.
5	4.8.2	Allow to rake out any loose mortar, clean joint and re-point to match existing mortar in localised areas	5m ²
6	4.8.3	Allow to decorate shutters	
7	4.8.3	Allow to decorate door and frame (following investigation)	
8	4.8.3	Allow for 200mm scarf repair to bottom of existing frame	2no.
9	4.8.3	Allow to decorate timber framed window	

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	C	Works necessary to ensure long term cyclical maintenance and likely to arise in the next 5-15 years.	
	D	Costs for any beneficial works to bring the building into use.	
Item	Condition Report Ref	Summary	Quantity
10	4.8.3	Allow to install new timber framed window	
11	4.8.3	Allow for installation of trickle vents to uPVC windows and louvred panel to existing door	
12	4.8.3	Allow to renew entrance steps in concrete or equivalent	
13	4.8.4	Allow to clean, remove dirt and re-paint floor	16m ²
14	4.8.4	Allow to clean, remove dirt and re-paint ceiling	16m ²
15	4.8.4	Allow to re-paint walls and furniture	
16	4.8.5	Allow to repair new flag pole	
17		Allow for for 1 no. AI interpretation board.	

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Category	A	Works immediately necessary to prevent collapse or significant deterioration of the building/features. (Items marked in red are considered urgent to prevent risk to public safety)	
	B	Works necessary within the next 3-5 years to avoid acceleration in the rate of the deterioration of the building or features.	
	C	Works necessary to ensure long term cyclical maintenance and likely to arise in the next 5-15 years.	
	D	Costs for any beneficial works to bring the building into use.	
Item	Condition Report Ref	Summary	Quantity
SITE L			
NORTHERN SEARCHLIGHT EMPLACEMENT			
1	4.9.1	Allow for a structural survey	
2	4.9.1	Allow for temporary propping	
3	4.9.1	Allow to fence off the site completely and provide relevant danger signs.	
4	4.9.1	Allow to carefully remove vegetation off the roof.	
5	4.9.1	Allow to replace semi-circular I-beam to S.E. Specification	1no.
6	4.9.1	Allow to replace I-beam to S.E. Specification	2no.
7	4.9.1	Allow crack repair to jacking roof	2no.
8	4.9.1	Allow to treat corroded re-enforcements and undertake repair to delaminating roof slab	
9	4.9.1	Allow to treat corroded re-enforcements and localised concrete repair	20no.
10	4.9.1	Allow to install cathodic protection	
11	4.9.1	Allow to generally clean site and remove debris	
12	4.9.1	Allow for stabilisation or replacement of semi-circular plan downstand beam on assessment by S.E.	
13	4.9.1	Allow to record external screen walls	

APPENDIX B: PROPOSED REPAIR AND INTERPRETATION SCHEDULE

Category	A	Works immediately necessary to prevent collapse or significant deterioration of the building/features. (Items marked in red are considered urgent to prevent risk to public safety)	
	B	Works necessary within the next 3-5 years to avoid acceleration in the rate of the deterioration of the building or features.	
	C	Works necessary to ensure long term cyclical maintenance and likely to arise in the next 5-15 years.	
	D	Costs for any beneficial works to bring the building into use.	
Item	Condition Report Ref	Summary	Quantity
14	4.9.1	Allow to take record of existing doors for possible construction of replica	
15		Allow to replicate shutters from Southern Emplacement	
16		Allow to replicate entrance doors from Southern Emplacement	
17		Allow for 1no. AI interpretation board	
SOUTHERN SEARCHLIGHT EMPLACEMENT			
1	4.9.2	Allow for a structural survey	
2	4.9.2	Allow to carefully move the existing Bird Hide off the roof of the emplacement and relocate nearby.	
3	4.9.2	Allow to blast clean and treat semi-circular I-beams to S.E. Specification	1no.
4	4.9.2	Allow to blast clean and treat I-beams to S.E. Specification	12no.
5	4.9.2	Allow to repair jacking to concrete roof following cleaning and treatment of embedded steelwork to semi-circular I-beam	2no.
6	4.9.2	Allow to conserve and treat steel shutters and overhaul track to ensure smooth operation.	
7	4.9.2	Allow to conserve and treat steel entrance doors and overhaul ironmongery to ensure smooth operation	
8	4.9.2	Allow to generally clean site and remove debris	
9	4.9.2	Allow to excavate near entrance of emplacement to allow for access for repair works.	

APPENDIX B: PROPOSED REPAIR AND INTERPRETATION SCHEDULE

Category	A	Works immediately necessary to prevent collapse or significant deterioration of the building/features. (Items marked in red are considered urgent to prevent risk to public safety)	
	B	Works necessary within the next 3-5 years to avoid acceleration in the rate of the deterioration of the building or features.	
	C	Works necessary to ensure long term cyclical maintenance and likely to arise in the next 5-15 years.	
	D	Costs for any beneficial works to bring the building into use.	
Item	Condition Report Ref	Summary	Quantity
10		Allow for excavation of sand-dunes around emplacement generally	
11		Allow for Ino. AI interpretation board	
OVERALL SUMMARY			
1	B	Rifle Range	
2	C	Air Gunner's Range	
3	D	Pill-box and Searchlight Emplacements near Earnse Point	
4	E	Pill-box on Golf Course	
5	H	Pill-box near Hillock Whins	
6	I	Anti-Aircraft Defences / pontoons	
7	J	Coastal Battery	
8	K	Pill-box on South Walney	
9	L	Searchlight Emplacements	

