



ULSTER
ARCHAEOLOGICAL
SOCIETY

Survey Report

Reference: **Survey Report No. 34**

Author: **June Welsh, Carly Cooper and Randal Scott**

Location:

**Survey of World War II
Pillbox, Murlough, County
Down**

In association with:

 **THE NATIONAL TRUST**



© Ulster Archaeological Society

First published in 2012, this revision 2017

Ulster Archaeological Society

c/o School of Natural and Built Environment

The Queen's University of Belfast

Belfast BT7 1NN

Cover illustration: Survey work in progress at Murlough Pillbox

CONTENTS

	Page
List of figures	4
1. Summary	5
2. Introduction	6
3. 2011 UAS survey	8
4. Discussion	10
5. Bibliography	25
Appendix	
Photographic Record	26

LIST OF FIGURES

Figures	page
1. Location map for World War II Pillbox at Murlough, County Down	5
2. The beach at Murlough, with view of Pillbox ruins, looking east	6
3. UAS survey team at work at Murlough WWII Pillbox	7
4. Ordnance Survey Map, County Series 43 (part of) 1935	7
5. Other World War II beach defences at Murlough, looking west	8
6. Plan of Murlough Pillbox	9
7. View of Pillbox remains, with Mourne Mountains to the south	10
8. UAS survey team at work	10
9. Designs, dimensions and elevations for FW3/Type 22 Pillbox	12
10. Concrete Type 22 at Newport, Shropshire	13
11. Camouflage and merging are both effective here	13
12. Type 22 Pillbox overlooking Porthminster Beach, St. Ives, Cornwall	14
13. Large Pillbox at High Ercall, Shropshire, disguised as a house	14
14. Nine-sided Pillbox on the Isle of Man	15
15. Inside a Type 22 Pillbox in Elstead, Surrey	15
16. Pillbox on western side of Portstewart Strand	16
17. Table of Information for examples of Coastal Defence Pillboxes	17
18. Downhill Pillbox, with basalt blocks as additional camouflage	18
19. Tyrella Beach Pillbox	18
20. Comber Pillbox	19
21. Table of Information for examples of River Bann “stop line” Pillboxes	19
22. Bleary Pillbox, where the River Bann provides an effective defence line	20
23. Murlough House, Dundrum, County Down	20
24. Scattered fragments of Murlough WWII Pillbox	21
25. Elements of Pillbox still in situ	21
26. Evidence for sectional construction	22
27. Metal rails used as roof supports	22
28. Ten regularly placed sockets with some stone pegs still in situ	23
29. Indent of partial gun loophole	23
30. Angular stones set into concrete matrix	24
31. Iron/metal items within the Pillbox structure	24

1. Summary

1.1 Location

A site survey was undertaken at a World War II Pillbox on the beach at Murlough in County Down on Saturday 27 August 2011. This site is in the townland of Murlough Lower, in the parish of Kilmegan and in the barony of Lecale Upper. Irish Grid reference is J 3450 3371.

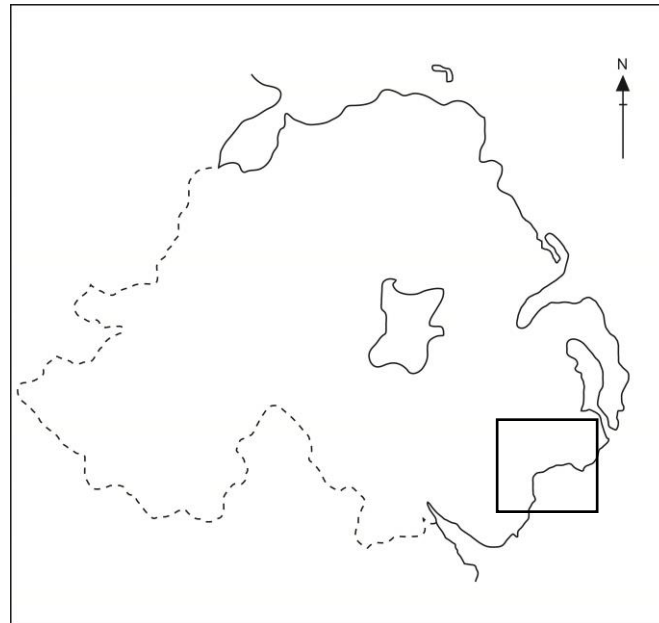


Figure 1: Location map for World War II Pillbox at Murlough, County Down

The National Trust is a conservation charity, which protects and provides access to some of the most beautiful coast and countryside, in addition to houses and gardens within Northern Ireland. Murlough National Nature Reserve became Ireland's first nature reserve in 1977, ten years after the property was acquired by the National Trust. It has been designated as a Special Area of Conservation and also an Area of Special Scientific Interest. Murlough contains about 15% of the total United Kingdom resource of coastal dune heathland.

With the imposing profile of the Mourne Mountains to the south, this extremely fragile 6,000 year old sand dune system is an excellent area for walking and bird watching, with its network of paths and boardwalks, designed and maintained by the National Trust. Murlough is the chosen winter habitat for thousands of wildfowl and wader birds. This is a great place to explore the sand dunes, the woodland and the heath, where several species of butterflies and wild flowers can be found. Both common and grey seals are also present at Murlough. Combining the needs of both the landscape and the visitor has required a carefully planned and enlightened approach to education and interpretation, creating at Murlough the Trust's most intensely managed coastal or countryside property in Northern Ireland. An information centre, guided walks, leaflets and residential weekends have ensured that Murlough remains one of the liveliest nature reserves in the country.

The survey was the seventh in a series of planned surveys undertaken by members of the Ulster Archaeological Society during 2011.

1.2 Aims

In order to enhance the archaeological record of this site, the aims of this survey were to produce accurate plan drawings of the monument and carry out a photographic survey. This information was compiled into a report and copies submitted to the Northern Ireland Environment Agency: Built Heritage, to the National Trust and to the archives of the Ulster Archaeological Society.



Figure 2: The beach at Murlough, with view of Pillbox ruins, looking east

2. Introduction

2.1 Background

The survey of the World War II Pillbox on Murlough beach was undertaken on Saturday 27 August 2011. It was carried out by members of the Ulster Archaeological Society in response to a decision taken by the committee of the society to extend an opportunity to members to participate in practical surveys of archaeological monuments that had not previously been recorded. This followed a bequest to the society from the late Dr Ann Hamlin, from which the items of survey equipment were purchased. During discussions with Malachy Conway, Archaeologist with the National Trust in Northern Ireland, it was noted that many archaeological sites on National Trust property had not been subject to a detailed archaeological survey. It was therefore agreed that members of the society would commence a programme to survey these sites and the World War II Pillbox at Murlough, County Down was subsequently chosen to be the thirty-fourth of these.



Figure 3: UAS survey team at work at Murlough WWII Pillbox

2.2 Previous archaeological surveys

As far as it is known, there have been no previous archaeological surveys at this site.

2.3 Cartographic evidence

The Murlough Pillbox is not recorded on any Ordnance Survey map, but this 1934 map shows Dundrum Inner Bay, Murlough Lower and Ballykinler townlands and the sand dunes.

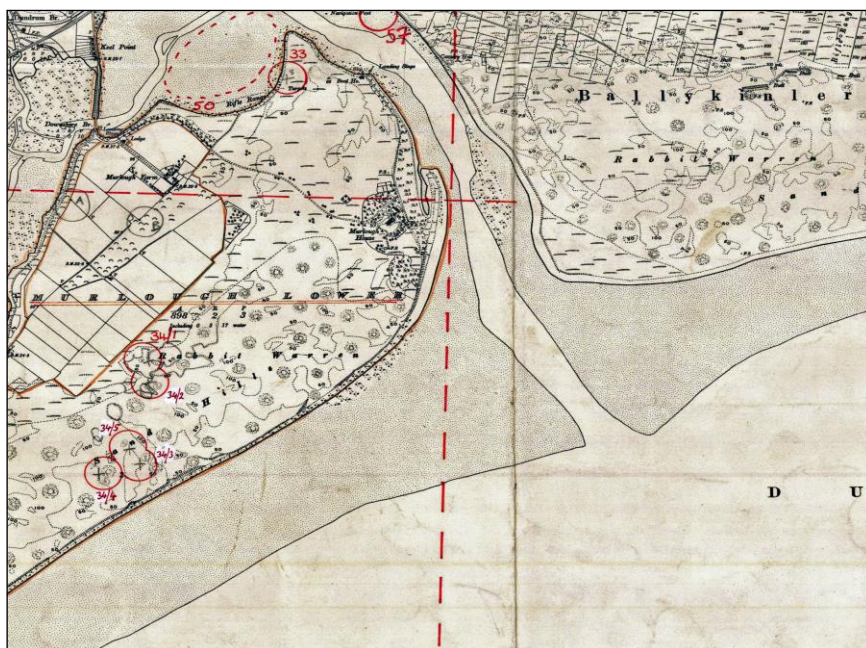


Figure 4: Ordnance Survey Map County Series 43 (part of) 1934 *Crown Copyright*

2.4 Archiving

Copies of this report have been deposited with the Northern Ireland Environment Agency: Built Heritage, the National Trust and the Ulster Archaeological Society. All site records have been archived by the National Trust at Rowallane, Saintfield, in County Down.

2.5 Credits and Acknowledgements

The survey was led by Harry Welsh and other members of the survey team were Carly Cooper, Randal Scott and June Welsh. The remaining UAS survey group members concentrated on investigating medieval fish traps along Murlough beach and other World War II beach defences. The Ulster Archaeological Society is particularly grateful to Malachy Conway, Archaeologist with the National Trust, who worked closely with the survey team in choosing the site and facilitating access. We would also like to thank Andy Glenfield for permitting the use of photographs and information from his very informative website *The Second World War in Northern Ireland* at www.ww2ni.webs.com.



Figure 5: Other World War II beach defences at Murlough, looking west

3. 2011 UAS Survey

3.1 Methodology

It was decided that the survey would take the form of the production of plan drawings, accompanied by a photographic survey. The report was compiled using the information obtained from these sources, in addition to background documentary material.

3.2 Production of plan drawings

Plan drawings were completed, using data obtained from a field survey. Measurements were obtained by using the method of tapes and off-sets. A detailed plan at 1:50 scale was completed on site by recording these measurements on drafting film secured to a plane table and backing up the data on a field notebook for subsequent reference. Field plans were later transferred to a computer-based format for printing.

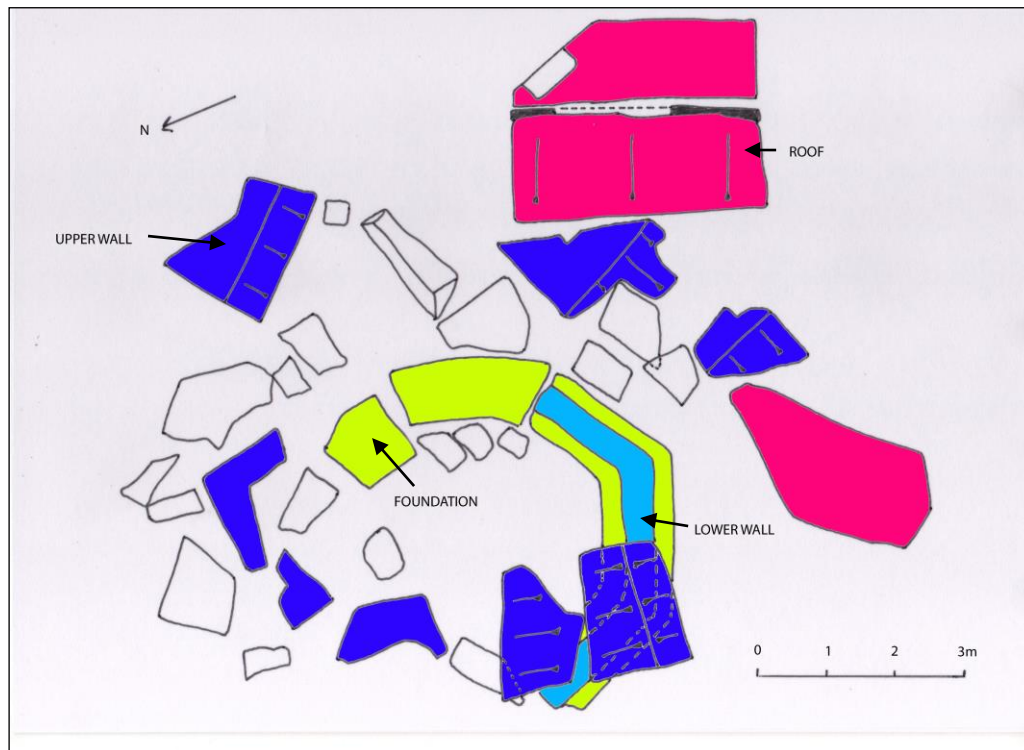


Figure 6: Plan of Murlough Pillbox

3.3 Photographic archive

A photographic record of the site was taken by using a *Ricoh G600* 8 megapixel digital camera and a photograph record sheet was employed, corresponding to photographs taken during the site survey on Saturday 27 August 2011. The archive has been compiled in jpeg format and saved to compact disc.



Figure 7: View of Pillbox remains, with Mourne Mountains to the south



Figure 8: UAS survey team at work

4. Discussion

4.1 Introduction

World War II broke out in September 1939 and by June 1940 the German Army had overwhelmed France, Poland, Holland, Belgium, Denmark and Norway. Britain now stood alone against a German dominated Europe, with only twenty-five miles of the English Channel separating it from the victorious German armies. A full-scale German invasion was considered to be a very real threat and this enemy had the potential of attacking from the sea and the air. At this time, the Branch of the Directorate of Fortifications and Works (FW3) at the War Office was set up under the directorship of Major-General G.B.O. Taylor. Its purpose was to provide specific

pillbox designs to be constructed throughout the country at defensive locations. During June/ July 1940 seven basic designs were issued, aimed at providing a simple 'fieldwork standard' which could be constructed very quickly.

After Dunkirk 18,000 pillboxes were built by Royal Engineers or civilian contractors in a matter of days in that British tradition of 'make do and mend.' Their presence in today's landscape has been described as:

The pillboxes of the Second World War are the Norman castles and Roman ruins of the 20th century; historical remains of a period so near yet so far. They are as poignant and pointed a reminder of the war as a parade of bemedalled veterans- stooped shoulders, slow gait and proud faces on Armistice Day (Tierney-Jones 2010).

He goes on to say that inside these makeshift fortresses, real-life Captain Mainwarings waited ready and willing to give their lives in the defence of their country. That risk of invasion persisted until the winter of 1944. Although most are now gone, our countryside is still home to a surprising number of pillboxes. Yet whether they and the Home Guard inside would have stood a chance against the battle-hardened regulars of the Wehrmacht and their Panzers is indeed questionable.

4.2 Why the name pillbox?

Almost all published references agree that it gained this name due to its shape. Some argue for a connection between the term pillbox and the term fort, as a fort may be either a place of resistance, capable of defence or simply a bomb-proof barrack with no real defensive capabilities.

There are varying ideas as to when the term pillbox was first used. Both the Oxford English Dictionary and the Etymological Dictionary of Modern English state that it was used in 1917; the former in accounts in the *Scotsman* in September that year relating to the failure of German use of Bavarian Storm Troopers to capture Inverness Wood and the latter in an account in November of an award of a Victoria Cross. Yet in 1887 the Barnhart Dictionary of Etymology has an insertion of pillbox: small, round emplacement for housing a machine gun etc. The first official use of the word seems to be in an engineering manual published by the War Office in 1925. The word was also hyphenated (pill-box) until the Second World War.

4.3 Pillbox designs

John Hellis, a Taunton-based military archaeologist, is one of the leading lights behind the Pillbox Study Group, which has catalogued thousands of military relics. The group have identified various possible shapes for pillboxes: square, rectangular, circular, both regular and irregular hexagons and also octagonal. Many were

modified in the field to suit the terrain and construction materials also varied. The WWII Pillbox at Murlough, County Down appears to be hexagonal in design and this would give it the official designation of FW3/22.

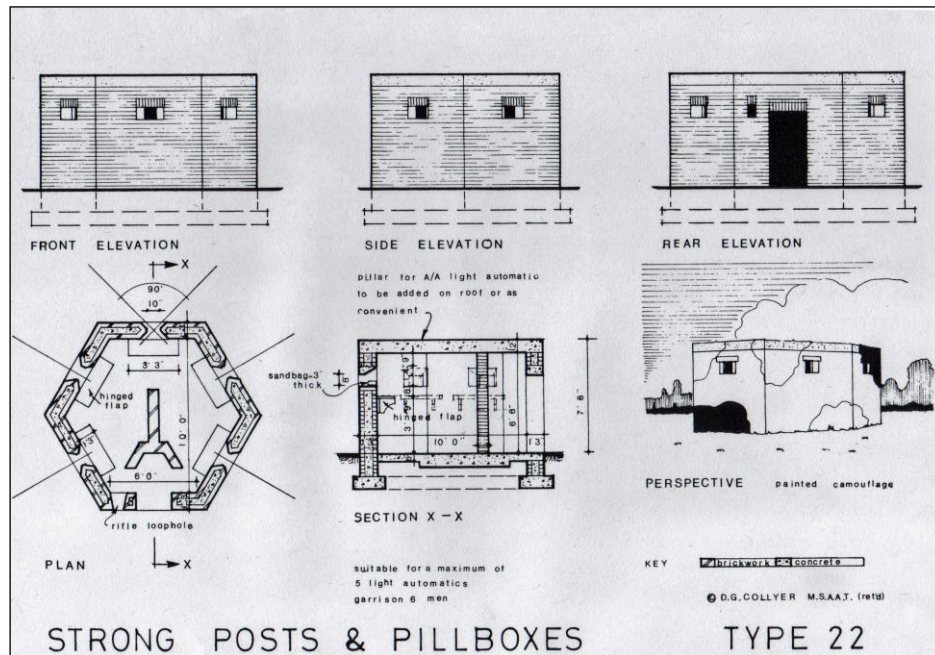


Figure 9: Designs, dimensions and elevations for FW3/Type 22 Pillbox
(after Wills 1985, 28)

Pillboxes are dug-in guard posts, usually made from concrete and equipped with loopholes, through which to fire weapons. After 1940 they were designed for use by riflemen, rather than machine gunners. Loopholes were sometimes furnished with flip-up shutters of wood or asbestos or steel shutters pivoting vertically. However, many Type 22 Pillboxes were so crudely built that loopholes are little more than holes in the wall, wider on the outside than the inside.



Figure 10: Concrete Type 22 at Newport, Shropshire, www.pillbox-study-group.org.uk

Pillboxes were often camouflaged in order to conceal their location and to maximise the element of surprise. Merging with the background proved effective and also sinking into the ground, as the lower the roof the greater the chance of concealment.

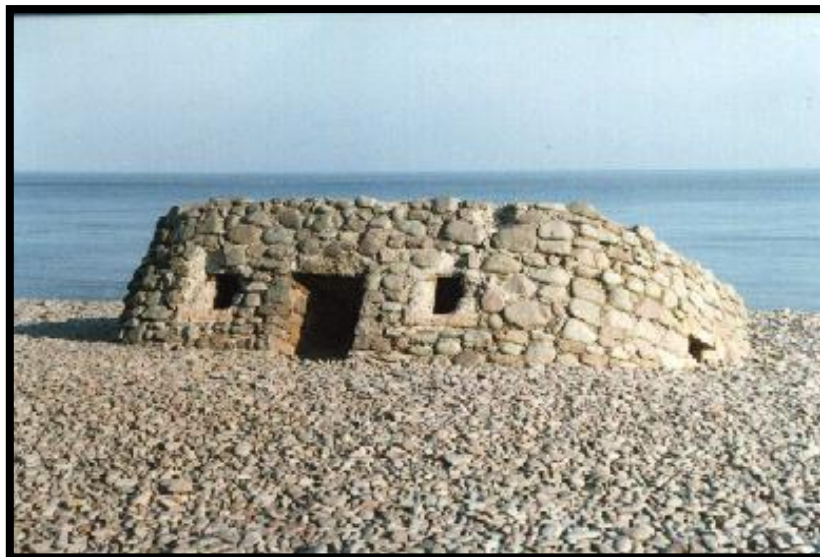


Figure 11: Camouflage and merging are both effective here, www.pillbox-study-group.org.uk



Figure 12: Type 22 Pillbox overlooking Porthminster Beach, St.Ives,Cornwall,
www.pillbox-study-group.org.uk



Figure 13: Large Pillbox at High Ercall, Shropshire, disguised as a house,
www.pillbox-study-group.org.uk



Figure 14: Nine-sided Pillbox on the Isle of Man, www.pillbox-study-group.org.uk



Figure 15: Inside a Type 22 Pillbox in Elstead, Surrey, complete with concrete loop-hole tables, www.pillbox-study-group.org.uk

4.4 World War II Defences in Northern Ireland

Northern Ireland's situation was unique in that it had a long land border with a neutral country. Special arrangements and planning were required because of this border and the neutral status of Eire.

The UK defence strategy against the threat of German invasion in 1940 was to provide a series of "stop lines" and mobile columns. The stop lines were designed to halt or delay the enemy invasion force for a period, until the mobile columns could be mustered and deployed at the point or points of invasion. The plans for Great Britain, but not Northern Ireland, are outlined in detail in the book: *Pillboxes, A Study of UK Defences 1940* by Henry Wills. The implementation of this strategy involved the construction of a "Coastal Crust" along beaches, together with inland "stop lines". These inland "stop lines" were constructed using natural obstacles, where possible and were usually sited along rivers, canals and high ground. They would also have been placed to protect vital industrial sites and lines of communication etc. Pillboxes were a major component of these lines of defence, together with anti-tank emplacements and ditches.

Although we have no available plans for Northern Ireland, it can be inferred from comparison with Great Britain and the locations of existing pillboxes, that a similar strategy was adapted in Northern Ireland and there was a "Coastal Crust" running from Magilligan on the north coast to Newcastle in the south-east. The Pillbox at Murlough, County Down surveyed in this report, was part of those "Coastal Crust" defences. There also appears to have been an inland "stop line" running mostly along the line of the Lower and Upper River Bann.



Figure 16: Pillbox on western side of Portstewart Strand, to protect the Bann estuary
 Courtesy of Andy Glenfield, *The Second World War in Northern Ireland* at
www.ww2ni.webs.com

Accordingly, eight of Northern Ireland's beaches were provided with defences, the most important of these being Magilligan, Portrush and Portstewart. Those defences included pillboxes, many of which were the hexagonal shaped Type 22, in common with the rest of the UK.

Examples of Coastal Defence Pillboxes

LOCATION	NUMBER	COMMENTS
Culmore	1	Part of a radar station and heavy anti-aircraft gun battery
Magilligan Point	1	
Downhill	1	
Portstewart Strand (west)	2	On either side of the Bann estuary
Portstewart Strand (east)	1	
Portrush	2	
Carrickfergus Castle	1	
Kilroot	2	
Bangor	1	Now Bangor Golf Club site
Ballyvestor	1	Near Donaghadee
Strangford shore (north)	1	Between Comber and Newtownards
Tyrella Beach	1	
Ballykinler	1	
Murlough Beach	1	Subject of this report
Newcastle	1	

Figure 17: Table of Information for examples of Coastal Defence Pillboxes



Figure 18: Downhill Pillbox, with basalt blocks as additional camouflage Courtesy of Andy Glenfield, *The Second World War in Northern Ireland* at www.ww2ni.webs.com



Figure 19: Tyrella Beach Pillbox Courtesy of Andy Glenfield, *The Second World War in Northern Ireland* at www.ww2ni.webs.com

Tyrella Beach is in close proximity to the Army's Abercorn Barracks along the coast at Ballykinler. Such defences would be useful in preventing any planned airborne landing by enemy forces.



Figure 20: Comber Pillbox, Courtesy of Andy Glenfield, *The Second World War in Northern Ireland* at www.ww2ni.webs.com

The Pillbox at Comber is located on the shore of Strangford Lough and has been sited to afford excellent views of the lough. The grass roof provides interesting and effective camouflage.

Examples of the River Bann “stop line” Pillboxes

LOCATION	NUMBER	COMMENTS
Portna	2	Near Kilrea, defending the canal and the River Bann
Portglenone	1	On the River Bann
Randalstown	1	Overlooking the River Main
Bleary	2	
Portadown	4	Near the Tandragee and Gilford Roads
Madden	2	Near Gilford, overlooking canal and railway bridges
Scarva	3	
Rathfriland	2	

Figure 21: Table of Information for examples of River Bann “stop line” Pillboxes

The concentration of pillboxes around the Portadown/Rathfriland area and also the inclusion of five of the larger Type 23 and Type 28 pillbox types, suggests the possibility of a “stop line” designed to deal with invasion from the south of Ireland.



Figure 22: Bleary Pillbox, where the River Bann provides an effective defence line,
 Courtesy of Andy Glenfield, *The Second World War in Northern Ireland* at
www.ww2ni.webs.com

4.5 Murlough's Involvement in World War II

Murlough House at Dundrum

became home to the 1st Battalion, 13th Armour of the United States 1st Armoured Division in 1942 and up until 29 April 1944, it was also a base for the 818th Tank Destroyer Battalion of the 15 Corps United States Army... At Murlough, located between Dundrum and Newcastle, there was an airfield known as 19 Satellite Landing Ground and this was operated by 23 Maintenance Unit from Aldergrove from 11 March 1941. The only intact building to survive from the airfield appears to have been a tractor shed. (Glenfield www.ww2ni.webs.com).



Figure 23: Murlough House, Dundrum, County Down, Courtesy of Andy Glenfield,
The Second World War in Northern Ireland at www.ww2ni.webs.com

4.6 The World War II Pillbox on Murlough Beach

The remains of this Pillbox, which lie on the beach at the southern end of the sand dunes, are spread over an area of approximately 11m east/west and 12m north/south. There are about twenty-five visible fragments above the level of the sand and it is possible that more may be buried. These fragments of concrete range in size from 4m in length by 3m in width and 0.3m in depth to 0.5m in length by 0.4m in width and 0.3m in depth.



Figure 24: Scattered fragments of Murlough WWII Pillbox



Figure 25: Elements of Pillbox still in situ

To the north-west of the debris field, some elements of the Pillbox remain relatively undisturbed, as evident above. From this we can tell it was hexagonal in shape and its internal width measures about 4m, with walls between 30cm and 40cm thick. The

visible remains are 0.75m maximum height above the level of the sand. From the scattered remains it appears that it was constructed in sections, with a strip foundation at its base, constructed from corrugated iron shuttering, into which concrete was poured. The lower wall on top of the base has a shaped moulding at the upper external face and the upper wall measures about 2m in height. Finally, the concrete roof, some 0.3m thick, is set in place, giving an overall height of approximately 3.35m.



Figure 26: Evidence for sectional construction

The roof appears to be cast in three sections, supported by what appears to be re-used metal rails, perhaps from railway lines. Its overall external measurement is approximately 5.5m in diameter. Although the entrance to the Pillbox is not visible, it seems likely that it would be at the rear of the structure and facing the sand dunes. It is important to remember that over the years the sand dunes have been eroded to the north, leaving the Pillbox further out on the beach.



Figure 27: Metal rails used as roof supports

The upper face of several sections of the lower wall display evidence of regularly placed sockets and also stone pegs, some of which are still in situ. These were obviously used to provide a secure joint.



Figure 28: Ten regularly placed sockets with some stone pegs still in situ

Elements of gun loopholes are visible from some fragments of the upper wall of the Pillbox.



Figure 29: Indent of partial gun loophole

The entire structure is constructed of angular stones, which vary from 3cm to 6cm in diameter and were set into a concrete matrix. Some evidence exists for the use of corrugated iron shuttering in constructing its foundations. However, the presence of angular stones and not beach-rolled pebbles in the fabric of the other structural

components indicates that these were not constructed on the beach, but were transported to the site and erected, using a pre-fabricated design.



Figure 30: Angular stones set into concrete matrix

Within the remains of the Pillbox were a number of iron items, some partially buried in the debris. It is difficult to determine accurately their function.



Figure 31: Iron/metal items within the Pillbox structure

This Pillbox at Murlough is comprehensively damaged, with every wall section shattered and its roof lying inverted to the south, strongly suggesting that it was destroyed by explosives. This was most likely carried out by the military during the

recent civil disturbances in Northern Ireland, to prevent its use by terrorists to attack the nearby Ballykinler Army Camp, which lies to the east.

Bibliography

Books and Websites

[http: www.nationaltrust.org.uk](http://www.nationaltrust.org.uk)

Further information about types of pillbox commonly used in the United Kingdom can be found at: <http://www.pillbox-study-group.org/uk>

Gallagher L. and Rogers D. 1992. *Castle, Coast and Cottage, The National Trust in Northern Ireland*, 92-95.

Wills H. 1985. *Pillboxes. A Study of UK Defences 1940*, Leo Cooper in association with Secker and Warburg 1985.

Tierney-Jones A. 2010. *Pillboxes-a poignant legacy* (<http://www.telegraph.co.uk>)

Further information about the part played by Northern Ireland during the second world war can be obtained from: www.ww2ni.webs.com *The Second World War in Northern Ireland*.

APPENDIX

PHOTOGRAPH RECORD FORM

Site: **World War II Pillbox, Murlough, County Down**

Date: **27 August 2011**

Film number	B/W Print	Colour print	Colour slide	Digital image (megapixels)
				8

Make and model of camera...*Ricoh G600* & others

Frame Number	Direction viewed from	Details
DSC 1180	NW	The beach at Murlough, with view of Pillbox remains, looking east
DSC 1182	NW	UAS survey team at work at Murlough WWII Pillbox
DSC 1121	E	Other World War II beach defences at Murlough, looking west
RIMG 0003	E	View of Pillbox remains, with Mourne Mountains to the south
RIMG 0004	N	UAS survey team at work
RIMG 0036	S	Scattered fragments of Murlough WWII Pillbox
RIMG 0034	S	Elements of Pillbox still in situ
RIMG 0008	W	Evidence for sectional construction
RIMG 0009	W	Metal rails used as roof supports
RIMG 0007	N	Ten regularly placed sockets with some stone pegs still in situ
RIMG 0010	S	Indent of partial gun loophole
RIMG 0035	SW	Angular stones set into concrete matrix
RIMG 0030	SE	Iron/metal items within the Pillbox structure