

BENT RIGG RADAR STATION,
SOUTH-EAST OF RAVENSCAR, STANTON DALE,
NORTH YORKSHIRE

ARCHAEOLOGICAL MONITORING OF
2013 REPAIR WORKS



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CONTENTS

EXECUTIVE SUMMARY

1	INTRODUCTION.....	1
2	SITE LOCATION AND DESCRIPTION	1
3	METHODOLOGY	1
4	OUTLINE BACKGROUND INFORMATION TO THE SITE.....	3
5	RESULTS FROM THE MONITORING WORK.....	4
6	CONCLUSIONS	6
7	BIBLIOGRAPHY.....	7
8	ACKNOWLEDGEMENTS.....	8

Appendices

1	Photographic Record
2	Scheduled Monument Consent

EXECUTIVE SUMMARY

In November 2012, Ed Dennison Archaeological Services Ltd (EDAS) were commissioned by the National Trust (Yorkshire Region) to undertake a programme of archaeological monitoring during various conservation and repair works to parts of the Bent Rigg radar station, south-east of Ravenscar, Stainton Dale, North Yorkshire (NGR NZ 9893 0072 centred). These repair works were carried out in February-May 2013.

The buildings subject to the repair works form part of a Scheduled Monument (National Heritage List for England entry 1018142 - World War II Radar station 600m east of Bent Rigg Farm), and the works were granted Scheduled Monument Consent (SMC) on 13th September 2012. Amongst the conditions of the SMC was a requirement for the supervision of the works by Ed Dennison of EDAS, with an appropriate level of reporting.

A small trench excavated at the north-east corner of the Communications Hut porch (Building R3) showed that the concrete pad on which the porch had been constructed was laid directly on the topsoil, which no doubt led to its slight subsidence. It was not possible to directly confirm whether the porch was a later addition to the rest of the building, although the fact that it butted up to the north elevation suggested it might. Further information regarding the rest of the structures, for example evidence for the power supply to and from the transmitter/receiving block (Building R4), may well have been revealed had the originally proposed drainage works been implemented but, in the event, these works were not carried out.

The monitoring of the various structural repairs added little to the existing knowledge of site, which had been obtained from previous archaeological surveys undertaken in 1997-1998 and 2000, and 2011-2012. However, the internal clearance of the buildings which preceded the repair works did reveal significant information on the layout and function of the buildings, and this has been reported elsewhere. The primary aim of the 2013 repairs was to arrest decay and improve the visual appearance of the site, and this was undoubtedly achieved. As a result, and with new and improved interpretation, the site will now be much better appreciated by locals and visitors alike.

1 INTRODUCTION

- 1.1 In November 2012, Ed Dennison Archaeological Services Ltd (EDAS) were commissioned by the National Trust (Yorkshire Region) to undertake a programme of archaeological monitoring during various conservation and repair works to parts of the Bent Rigg radar station, south-east of Ravenscar, Stainton Dale, North Yorkshire (NGR NZ 9893 0072 centred). These repair works were carried out in February-May 2013.
- 1.2 The buildings subject to the repair works form part of a Scheduled Monument (National Heritage List for England entry 1018142 - World War II Radar station 600m east of Bent Rigg Farm), and the works were granted Scheduled Monument Consent (SMC) on 13th September 2012 (see Appendix 2). Amongst the conditions of the SMC was a requirement for the supervision of the works by Ed Dennison of EDAS, with an appropriate level of reporting.

2 SITE LOCATION AND DESCRIPTION

- 2.1 The Bent Rigg Chain Home Low Radar station lies in the north-east half of a rectangular-shaped pasture field adjoining the Cleveland Way footpath, on a high cliff top c.1km south of Ravenscar (NGR NZ 9893 0072 centred) (see figure 1); the long axis of the field, which slopes gently down to the cliff, is aligned north-east/south-west and has been bisected by the now disused Whitby to Scarborough railway line. The radar station complex lies on the east side of the railway line, occupying an area of 300m by 160m (maximum) (see figure 2). The radar group of buildings, comprising a fuel store (Building R1), engine house (R2), communications hut (R3) and a transmitter/receiver block (R4), lies towards the lower north-end end of the site, while a group of 13 accommodation buildings and structures lies in the north-west corner (see figure 3).
- 2.2 The site is owned by the National Trust, and the field is tenanted to Mr P Cother of Colcroft Farm. It has been subject to a Higher Level Stewardship scheme since February 2010. The site also lies within the North York Moors National Park, and a permission footpath passes through the complex. The North Yorkshire and Cleveland Heritage Coast Project have erected a notice board on the Cleveland Way adjacent to the site, outlining the history and development of the complex, and there is a smaller information board at a Coastguard lookout. More recently, the National Trust have erected a series of interpretation panels within the site.
- 2.3 The radar buildings and the remains of an associated barrack complex were protected as a Scheduled Monument on 7th March 2002 (SM 34842 & NHLE entry 1020544). The complex is also listed in the English Heritage Archives (sites NZ 90 SE 85 & NZ 90 SE 143), the National Trust's Sites and Monuments Record (NT SMR 31160/1-4 and 31161), and the North York Moors Sites and Monuments Record (site 4669). None of the structures within the site are Listed as being of Special Architectural or Historic Interest.

3 METHODOLOGY

- 3.1 Given the requirements of the SMC, which details which repair works were to be monitored and the reporting requirements (see Appendix 2), no EDAS 'Written Scheme of Investigation' or Methods Statement for the archaeological watching brief was produced. Nevertheless, general advice produced by the Institute for Archaeologists in relation to watching briefs and building recording (IFA 2008a & b) was considered. The aim of the work was to monitor the limited groundworks, in

order to record and recover information relating to the nature, date, depth and significance of any archaeological features which might be present and which might be damaged or disturbed by any new construction, and to photographically record the above-ground repair works.

- 3.2 The extent of the repair works were defined by a specification produced by the project architect, Peter Gaze Pace (2012b); the schedule of works was later revised and reduced following discussions with The National Trust (Pace 2013). The works were confined to the radar group of buildings on the site, with a view to arresting further decay. In summary, the repair works involved limited patch repairs to the concrete walls and roofs of the four buildings, the repainting of exposed softwood window and door frames, the removal of some rotted frames/glass and replacement with new metal grills, the treatment of exposed metalwork, the replacement of eroded brickwork and some repointing in Building R3, and the erection of new metal screens in the doorways of Buildings R1, R2 and R3 and a window in Building R2; these screens were designed to prevent unauthorised access and to prevent rubbish being thrown in but at the same time to allow nesting swallows in and out. Additional work was also undertaken to the door and window openings and furniture in Building R4. It was initially proposed to excavate French drains around the outsides of all four buildings to improve localised drainage, and to repair the broken asbestos roof panelling in Building R3, but these works were omitted due to budgetary constraints. The extent of the actual groundworks was therefore limited to a small-scale trench associated with the underpinning of the north porch of Building R3 to prevent further subsidence.
- 3.3 The main phase of repairs was carried out between February-May 2013, and visits were made to the site on 5th March 2013 and 25th May 2013 to undertake the required archaeological monitoring. The first visit recorded the limited groundworks and other repair works in progress, while the second visit took place towards the end of the programme so that the completed repairs could be photographed. Other monitoring visits were made by the project architect, and the archaeologist remained on call throughout the period of works in case further attendance was needed.
- 3.4 In view of the limited nature of the groundworks (see below), individual context numbers were not assigned to exposed archaeological deposits, although in-house recording and quality control procedures ensured that all recorded information was cross-referenced as appropriate. The position of the monitored groundworks was recorded on a site plan of Building R3 at 1:50 scale, and a colour digital photographic record was also made; other drawings were sourced from Dennison and Richardson (2014). No archaeological artefacts were recovered from the watching brief. The photographic record of the more general repair works was also produced using a digital camera with a minimum of 10 mega pixel resolution. English Heritage photographic guidelines were followed (English Heritage 2006, 10-12) and each photograph was provided with a scale, where practicable. All photographs were clearly numbered and labelled with the subject, orientation, date taken and photographer's name, and have been cross referenced to digital files and a photographic catalogue (see Appendix 1). A total of 71 photographs were taken.
- 3.5 The limited project archive, comprising paper, magnetic and plastic media, has been ordered and indexed according to the standards set by English Heritage (EDAS site code BRR 13). This was combined with the archive arising from the previous archaeological survey on the site, and was deposited with the National Trust (Yorkshire Region).

4 BACKGROUND INFORMATION TO THE SITE

- 4.1 The Bent Rigg radar station was first visited by National Trust archaeologists in the 1990s. Subsequent monitoring visits were augmented in 1997-98 when a volunteer, Katie Kenyon, carried out a survey of the structures and produced 1:50 scale plans and elevations of all the standing buildings, and 1:200 scale plans of the two main complexes. Further detailed recording of internal and external fittings and fixtures was carried out in June 2000, together with a photographic record. The results of both phases of recording were published in September 2000 as a National Trust archive report (Newman & Kenyon 2000).
- 4.2 The complex was also recorded by 'The Defence of Britain' project, run by the Council for British Archaeology between 1995 and 2001; the precise date of the site visit to the Bent Rigg site is not known. The results for the Whitby area were subsequently published by the North Yorkshire and Cleveland 20th Century Defence Study Group (NYCDSG) (Harwood & McMillan 2008). As part of these works, extensive research was undertaken at the National Archives in London, where little or no primary documentation relating to the Bent Rigg site was found to survive (John Harwood, *pers. comm.*). The radar complex was also briefly recorded by a National Trust coastal survey (Schofield 2007), and it was included in English Heritage's Rapid Coastal Zone Assessment project (Buglass & Brigham 2008 & 2011).
- 4.3 A programme of repairs and restoration was undertaken by the National Trust in late 2000 which included removing damaged roof sections, removing window frames and bricking up the openings in the Communications Hut, removing and/or replacing broken glazing and repairing the doors in the Tx/Rx building, and generally cleaning out the buildings (National Trust 2000).
- 4.4 A detailed archaeological survey of the site, including the radar buildings, the associated accommodation buildings and an adjacent Coastguard Station, was undertaken by EDAS between December 2011 and February 2012 (Dennison & Richardson 2014). The results of this survey, together with a Condition Report (Pace 2012a), informed the 2013 repair works.
- 4.5 The results of the EDAS survey established that the first station at Bent Rigg was probably built by the Army after March 1941, and it was initially equipped with a static Type 2 radar. By February 1942, and perhaps as early as October 1941, it had a 1.5m wavelength radar and formed part of the Army's Coastal Defence/Chain Home Low (CD/CHL) chain; it was designated as Station M47. At some point around March 1942, the radar was replaced by a centimetric Type 52 set and it became part of the RAF's Chain Home Extra Low (CHEL) system; it was designated station K47 by July 1942. It is assumed that the station was decommissioned after September 1944. The, admittedly limited, published accounts of the history of the Bent Rigg site are sometimes contradictory, and it has not been possible to resolve whether there were two different Transmitting and Receiving (Tx/Rx) blocks on the site, or whether a single example was equipped with two different versions of the Type 52 radar over its lifetime. For example, Building R3 is a Turners curved asbestos hut, a type of structure which was only manufactured from May 1942 onwards, and so it could not have been present when Bent Rigg is first known to be active.
- 4.6 The surviving Tx/Rx block, standby set house and other structures are very similar to those recorded at other CD/CHL chain sites, such as that at Craster in Northumberland (Hunt & Ainsworth 2006). However, the Tx/Rx block at Bent Rigg

(Building R4) appears to be unusually well preserved, retaining both fixtures and fittings and evidence for their former positioning. The Bent Rigg site also differs markedly from Craster in that the EDAS survey uncovered virtually no evidence for defensive positions around the station.

- 4.7 A national survey of Second World War radar stations has identified some 242 sites at 200 separate locations. Thirty-six of these are CHEL sites, of which only six are complete or near complete; Bent Rigg is one of the best preserved of these six examples and is one of only two which have been the subject of any detailed archaeological survey.

5 RESULTS FROM THE MONITORING WORK

- 5.1 Figure 4 depicts the overall layout of the radar buildings. The following text makes reference to the photographic record which appears as Appendix 1; individual photographs are referenced in italic type with square brackets, the numbers before the stroke representing the film number and the number after indicating the frame e.g. [1/32]. Finally, for ease of description, the following text assumes that the long axis of the site is aligned east-west.

Building R1 - Fuel Store

- 5.2 This building has maximum external dimensions of 4.95m east-west by 3.00m north-south, and it is built of machine-moulded brick set with a cement mortar, with a concrete render added to the external elevations. The clearance of the interior revealed the 0.55m high brick supports for the fuel tank (Dennison & Richardson 2014, 16-17).
- 5.3 The repair works comprised the treating of all exposed metalwork, including the steel rods visible on the eroded roof edges, the patching of several areas of eroded/spalled concrete render (c.0.25m thick) to the external wall faces [1/919, 1/920; 2/656, 2/658, 2/660, 2/706] (see plate 1, the repair of eroded roof edges [2/657], the removal of the rotted frame and glass to the window in the west elevation, and the repainting of the door frame in the east elevation [2/654]. New steel grilles were also added to the window and door openings to prevent unauthorised access [2/655, 2/659] (see plates 1 and 2).

Building R2 - Engine House

- 5.4 This building has maximum external dimensions of 6.95m east-west by 5.10m north-south. Much remains as recorded in October 1997, although the 2000 repair works added some detail, including new wooden double doors to the internal doorway, which only partially survived in 2012 [1/917, 1/918]. Internal clearance revealed a concrete floor together with the outline of the former machine bed which would have supported the generator (Dennison & Richardson 2014, 17-18).
- 5.5 As with Building R1, the repair works involved the treating of all exposed metalwork, including the steel rods visible on the eroded roof edges, the patching of several areas of eroded/spalled concrete render to the external wall faces [2/665, 2/667, 2/668], the repair of eroded roof edges, and the repainting of the internal door frame in the east elevation. The mesh grilles to the wall vents were treated with a rust inhibitor and repainted [2/664, 2/666, 2/669] (see plate 4), and a new steel grille was added to the internal door opening to prevent unauthorised access [2/661, 2/662] (see plate 3). Once repairs were complete, the building's appearance was much improved [2/670, 2/697, 2/705] (see plate 5).

Building R3 - Communications Hut

- 5.6 This building is a Turners curved asbestos hut - these were manufactured by Turners Asbestos Company Limited of Trafford Park in Manchester from May 1942 onwards. This type of hut required no frame, with 'Everite Six' curved asbestos cement corrugated sheets being bolted together to form an arch fixed to a concrete curb above the floor to a radius of 9ft. A number of internal wooden purlins supported a lining of flexible asbestos sheets. The end walls were usually timber framed with plasterboard inside and felted plasterboard outside, although cement rendered temporary brick was used. Typically, the internal span was 17ft 4ins, the internal length was a multiple of 6ft (usually 36ft) and the internal height was 9ft 2ins (Dennison & Richardson 2014, 19).
- 5.7 The long axis of the building is set at right-angles to the other brick and concrete structures in the radar complex, and it has maximum external dimensions of 7.40m (24.2ft) east-west by 5.70m (18.6ft) north-south (see figure 5). Prior to the start of this phase of repairs, the external elevations remained largely as previously recorded in November-December 1997 and described in June 2000, although the windows in the north elevation and the doors and windows in the south elevation were blocked with brick and the frames taken out during the late 2000 conservation works, and the ventilation openings over the two doors were bricked with honey-comb brickwork.
- 5.8 As noted above, the amount of actual ground disturbance work was limited to a small trench dug around the north-east corner of the north porch. The small brick-built porch is founded on a concrete base and measures 1.15m east-west by 1.37m north-south, with a doorway in the west side; the porch was possibly built at a later date than the rest of the building as there is a straight joint between the two. The L-shaped excavated trench measured 0.75m along the long sides, 0.30m along the short sides and was a maximum of 0.30m deep, slightly undercutting the corner of the porch [1/901-1/906] (see figure 5 and plate 6). A 0.30m depth of dark brown clay topsoil with no inclusions was revealed, with occasional small stones in the base of the trench; it is unlikely that these formed any sort of foundation, and it was clear that the 0.40m thick concrete slab at the bottom of the porch had been founded directly onto the topsoil. Once recorded, the trench was filled with concrete to form a firm foundation [2/673] (see plate 7).
- 5.9 Other work at this building comprised the small-scale replacement of eroded brickwork to the south gable and around the porch, and selective areas of repointing. On the south gable, the eroded brickwork had to be cut out using a jack hammer because of the hardness of the cement mortar, and 'new' matching bricks were inserted [1/907, 1/912, 1/913]. This was not done on the single skin porch walls because it was feared that the vibrations from the hammer would cause damage - instead, the porch was tied into the main building using stainless steel ties. Some repointing was done inside and outside the porch, as well as on the south gable [2/672, 2/675-2/677]. Finally, a new metal screen was fitted to the internal doorway of the building [2/679].
- 5.10 Once repairs were complete, the building was much improved, although the unrepaired asbestos roof still detracted from its overall appearance [2/674, 2/678, 2/698] (see plates 7 and 8).

Building R4 - Transmitter/Receiving Block

- 5.11 This building is set on a north-east/south-west alignment; for ease of description, the long axis of the building is considered to be aligned east-west. It measures 13.20m east-west by 6.20m north-south externally and the clearing out of the interior revealed that each of the three rooms was floored with concrete into which east-west aligned softwood battens had been set at 0.35m centres - it is likely that floorboards were once laid over the battens. Cutting through these battens and into the floor were several interlinked channels or cable ducts which passed through the internal walls and exited through the south-west corner of the building. These features were subsequently recorded by EDAS prior to the start of the repair works, and are fully detailed elsewhere (Dennison & Richardson 2014, 22, 23 & 26) (see figure 6). The opportunity was also taken at this time to record the remains of the radar fixings on the roof (Dennison & Richardson 2014, 21-22) (see also figure 6).
- 5.12 The main works to this building involved the two external steel sheet blast doors, in the north and west elevations (D1 and D2 respectively) which were in a poor condition. In each case, the surviving leafs and frames were sanded down, the rusting sections repaired using new steel sheets and flush welded joints, repainted with appropriate red-oxide primer, undercoat and topcoat, and then rehung [1/908, 1/916] (see plate 9); the 'new' doors are a significant improvement [2/680, 2/681, 2/688, 2/693] (see plate 10). On door D1, where only one of the two leafs remained, a new metal screen was inserted [2/689, 2/692] (see plate 14).
- 5.13 Elsewhere on the building, the metal frames to windows W1, W2, W4 and W8 were sanded, treated and repainted, and Georgian 5mm wire glass replaced [1/914, 1/915; 2/683] (see plates 11 and 12). In windows W3, W5, W6 and W7, the previous plyboard blocking was replaced with a 5mm thick steel plate, and repainted to match the other window frames [1/909; 2/686, 2/691]. The various grilles over the wall vents were also treated with a rust inhibitor and repainted to match the window frames. Some cracks and fractures in the more modern render were also repaired, and some small areas were re-rendered, for example around window W2 and under window W8. On the roof, the exposed metalwork and bolts of the radar fixings were treated, and the ceramic cable vent was capped to prevent rainwater entry. Several eroded/spalled areas of the concrete roof were also re-rendered [1/910, 1/911; 2/694-2/696, 2/699] (see plate 13), and the eroded roof edges were repaired [2/684, 2/703]. Internally, the wooden frames to the vents and shutters to windows W3, W4 and W7 were treated, and the exposed hinges were rubbed down, treated with a rust inhibitor and repainted. The eroded concrete cable duct adjacent to door D2 and window W8 was also repaired. Once repairs were complete, the building had a much improved appearance [2/682, 2/685, 2/687, 2/690, 2/704] (see plates 14 and 15).

6 CONCLUSIONS

- 6.1 Due to the limited nature of the repair works, little new information was forthcoming regarding the radar group of buildings at the Bent Rigg site.
- 6.2 The small-scale trench excavated at the north-east corner of the Communications Hut porch (Building R3) showed that the concrete pad on which the porch had been constructed was laid directly on the topsoil, which no doubt led to its slight subsidence. It was not possible to directly confirm whether the porch was a later addition to the rest of the building, although the fact that it butted up to the north elevation suggested it might have been. Further information regarding the rest of

the structures, for example evidence for the power supply to and from the transmitter/receiving block (Building R4), may have been revealed had the originally proposed drainage works been implemented but, in the event, these works were not carried out.

- 6.3 The monitoring of the various structural repairs added little to the existing knowledge of site, which had been obtained from the archaeological surveys undertaken in 1997-1998 and 2000 (Newman & Kenyon 2000), and 2011-2012 (Dennison & Richardson 2014). However, the internal clearance of the buildings which preceded the repair works did reveal significant information on the layout and function of the buildings, and this is reported elsewhere (Dennison & Richardson 2014). The primary aim of the 2013 repairs was to arrest decay and improve the visual appearance of the site, and this was undoubtedly achieved (see plate 16). As a result, and with new and improved interpretation, the site will now be much better appreciated by locals and visitors alike.

7 BIBLIOGRAPHY

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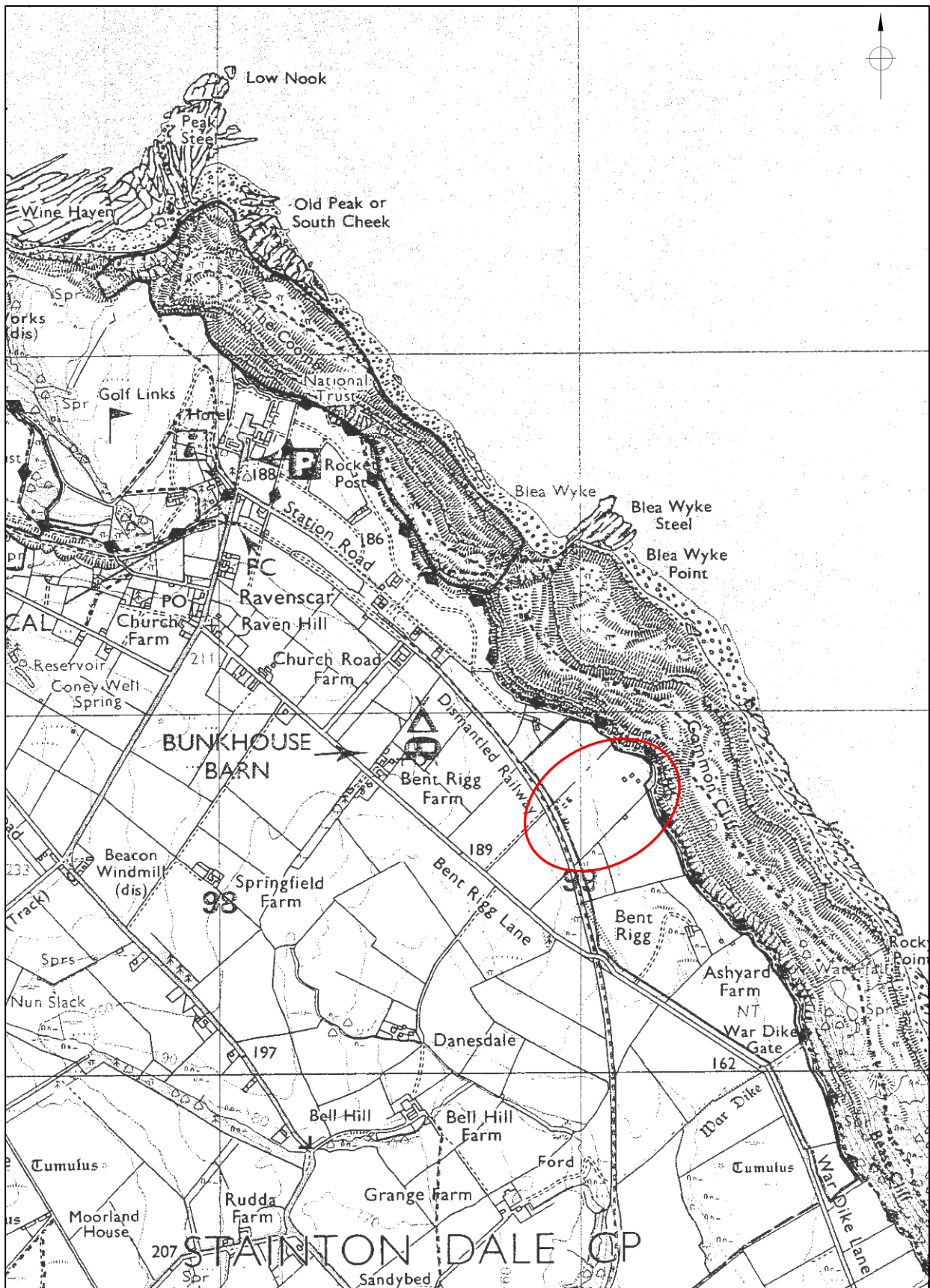
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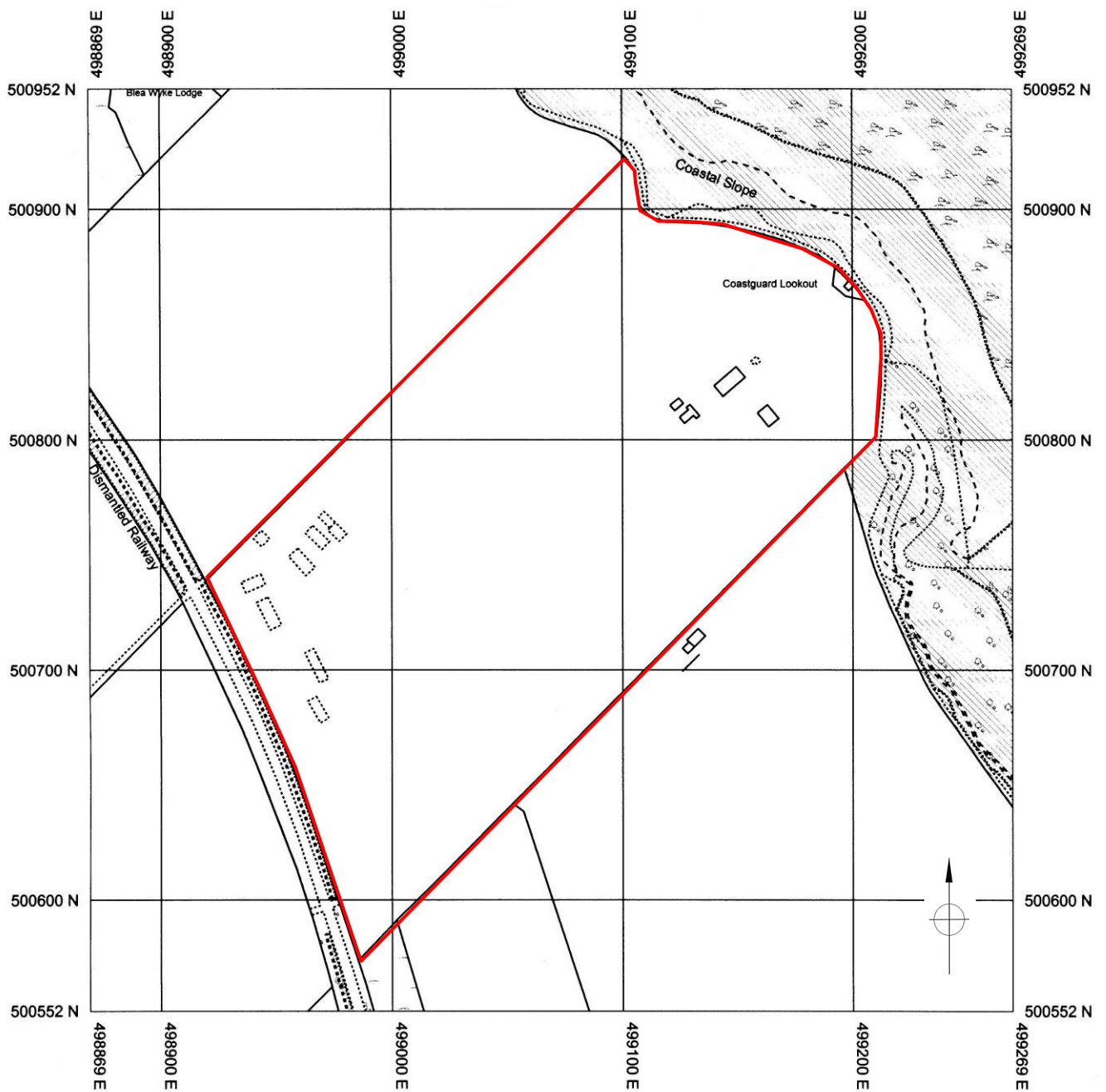
8 ACKNOWLEDGEMENTS

- 8.1 The archaeological monitoring of the 2013 repair works was commissioned by the National Trust (Yorkshire Region), and funded by Natural England. EDAS would like to thank Bob Dicker, Julian Carlisle and John Moorey (National Trust) and Margaret Nieke (Natural England) for their help in initiating and running the project. Thanks are also due to Mark Newman (National Trust Regional Archaeologist), Peter Pace (Project Architect) and Matt Harker (E-Build York Ltd) and his site staff for their help and assistance throughout the project.
- 8.2 The site recording was undertaken by Ed Dennison of EDAS who also produced the final report and drawings, and with whom the responsibility for any errors or inconsistencies remains.



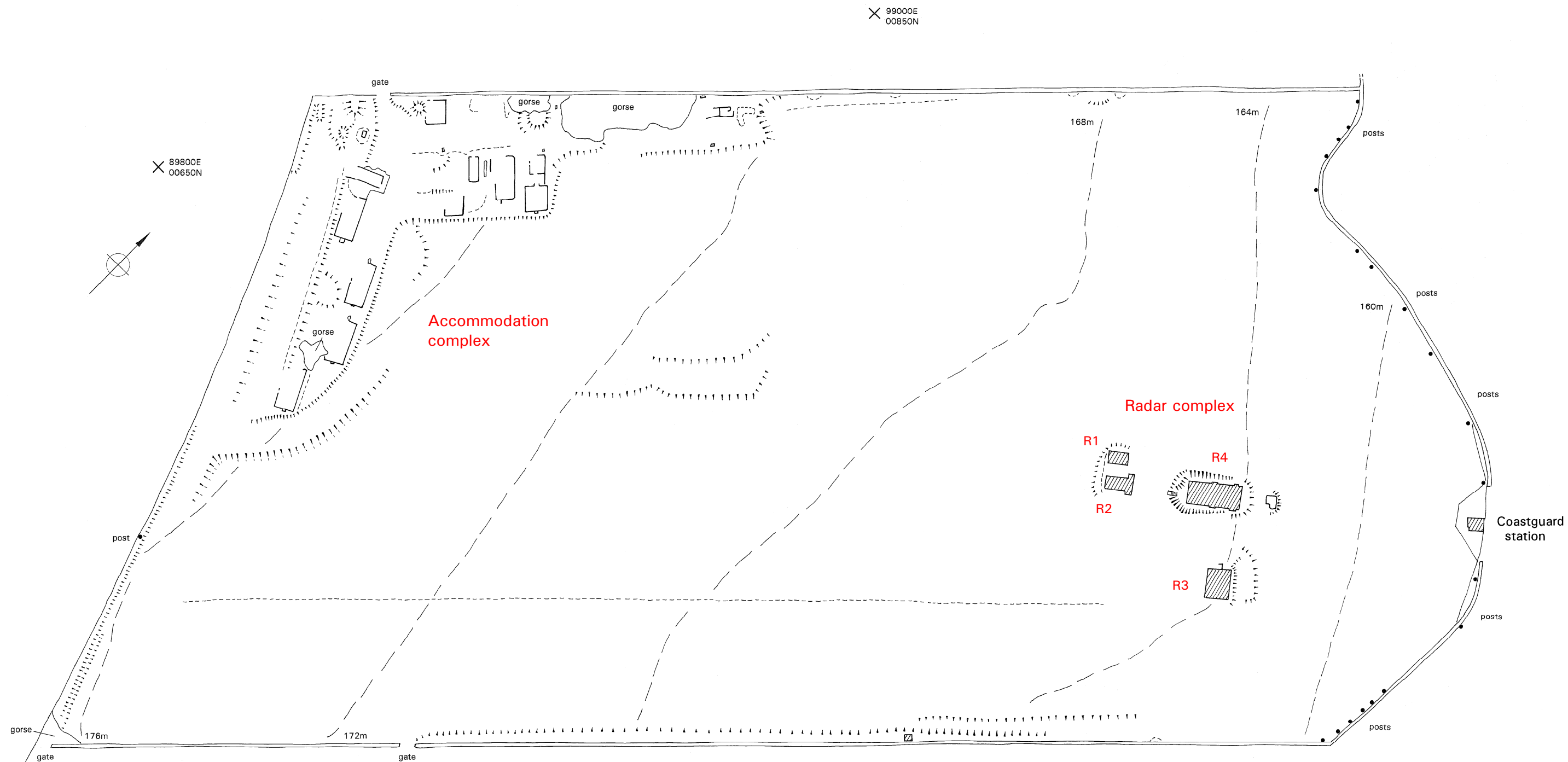
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PROJECT		BENT RIGG WATCHING BRIEF	
TITLE		GENERAL LOCATION	
SCALE	NTS	DATE	SEPT 2014
EDAS		FIGURE	1



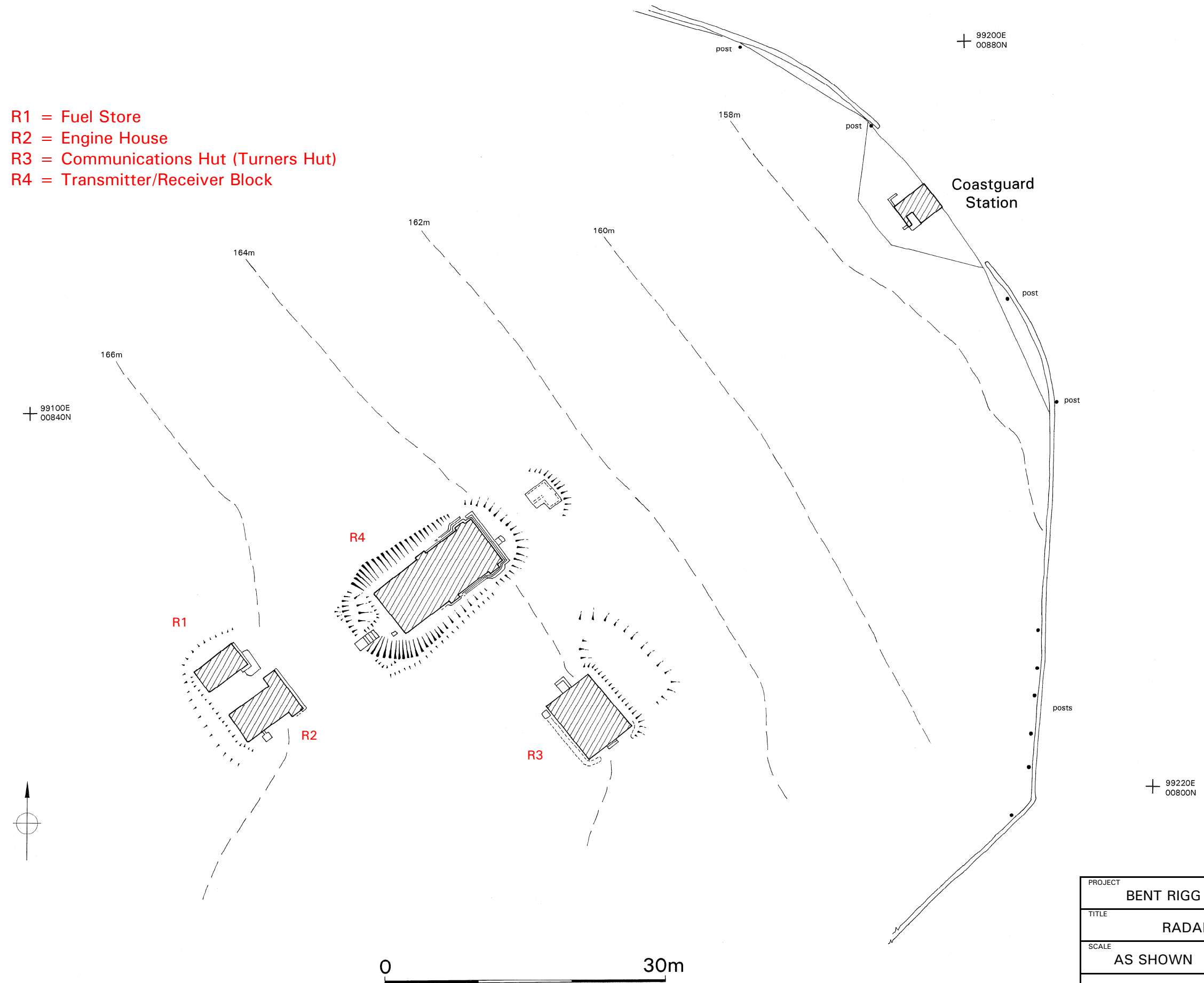
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PROJECT		BENT RIGG WATCHING BRIEF	
TITLE		DETAILED LOCATION	
SCALE	NTS	DATE	SEPT 2014
EDAS		FIGURE	2

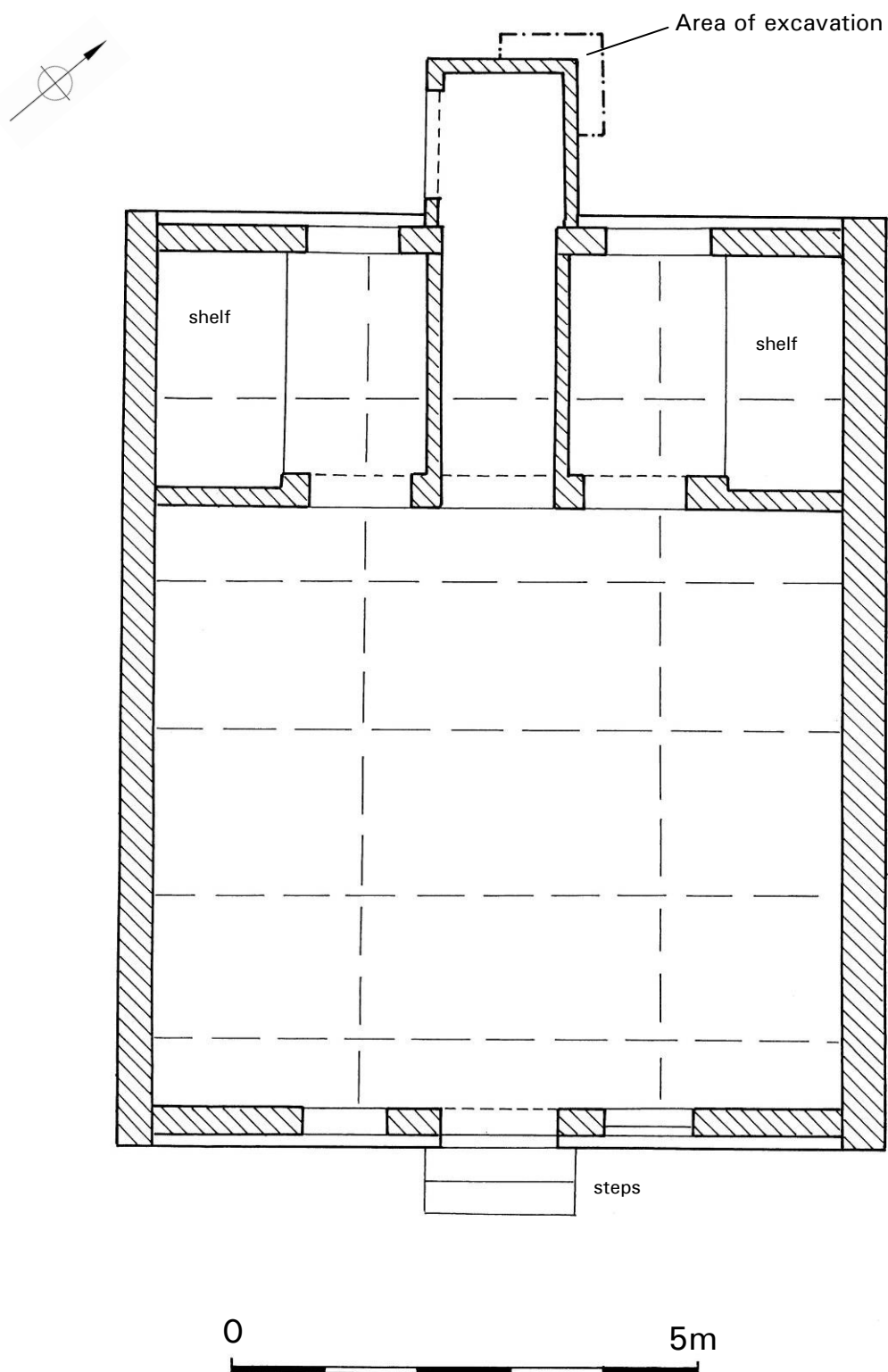


PROJECT	
BENT RIGG WATCHING BRIEF	
TITLE	
GENERAL SITE LAYOUT	
SCALE	DATE
AS SHOWN	SEPT 2014
EDAS	FIGURE
	3

- R1 = Fuel Store
- R2 = Engine House
- R3 = Communications Hut (Turners Hut)
- R4 = Transmitter/Receiver Block

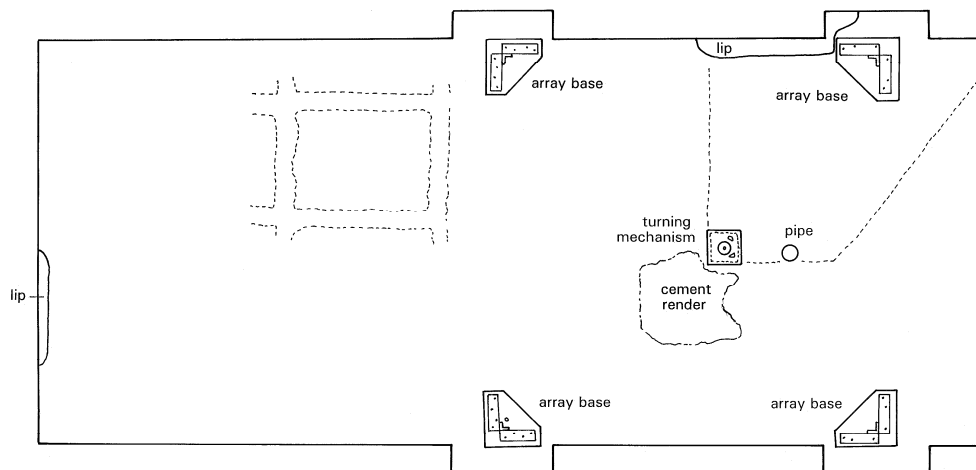


PROJECT		BENT RIGG WATCHING BRIEF	
TITLE		RADAR BUILDINGS	
SCALE	AS SHOWN	DATE	SEPT 2014
EDAS		FIGURE	4

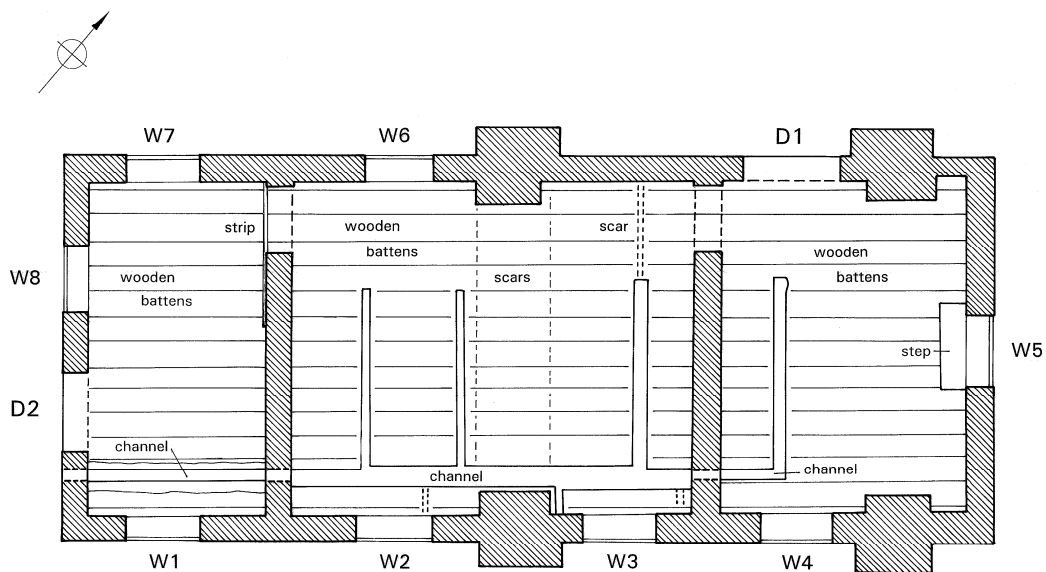


Plan based on survey drawings produced by Newman & Kenyon (2000) and Pace (2013).

PROJECT BENT RIGG WATCHING BRIEF	
TITLE BUILDING R3 PLAN	
SCALE AS SHOWN	DATE SEPT 2014
EDAS	FIGURE 5



Roof plan



Floor plan showing channels and wooden battens



PROJECT BENT RIGG WATCHING BRIEF	
TITLE BUILDING R4 PLANS	
SCALE AS SHOWN	DATE SEPT 2014
EDAS	FIGURE 6



Plate 1: Repairs to render and inserted window screen, W side of Building R1, looking NE (photo 2/658).



Plate 2: Inserted door screen to Building R1, looking SW (photo 2/655).



Plate 3: Inserted door screen to Building R2, looking SW (photo 2/662).



Plate 4: Repairs to vent grill on W side of Building R2, looking NE (photo 2/666).



Plate 5: Repairs complete to S side of Building R2, looking NW (photo 2/668).



Plate 6: Completed excavation for new foundations under porch of Building R3, looking SW (photo 1/906).



Plate 7: Repairs complete to north end of Building R3, looking SE (photo 2/672).



Plate 8: Repairs complete to S end of Building R3, looking N (photo 2/675).



Plate 9: Work in progress to doorway D2 of Building R4, looking N (photo 1/908).

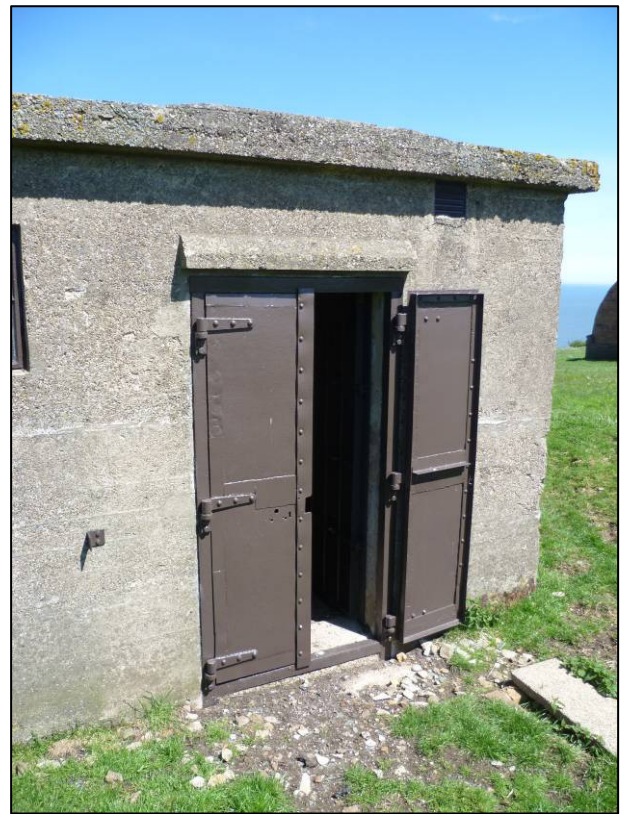


Plate 10: Repairs complete to door D2 in Building R4, looking E (photo 2/693).



Plate 11: Repairs complete to window W1 in Building R4, looking NW (photo 2/683).



Plate 12: Repairs in progress to Building R4, looking N (photo 1/914).



Plate 13: Repairs in progress to roof of Building R4, looking NE (photo 1/911).



Plate 14: Repairs complete to N side of Building R4, looking SW (photo 2/687).



Plate 15: Repairs complete to Building R4, looking N (photo 2/682).



Plate 16: General view of repaired buildings, looking SE (photo 2/709).

APPENDIX 1

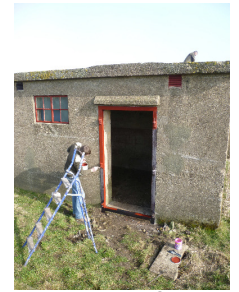
APPENDIX 1: PHOTOGRAPHIC CATALOGUE

Film 1: Digital colour photographs taken 5th March 2013

Film 2: Digital colour photographs taken 25th May 2013

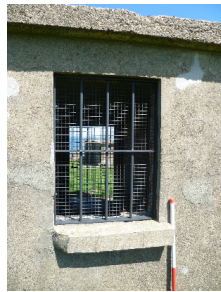
Film	Frame	Subject	Scale
1	901	Completed excavation for new foundations under porch of Building R3, looking S	1m
1	902	Completed excavation for new foundations under porch of Building R3, looking S	1m
1	903	Completed excavation for new foundations under porch of Building R3, looking S	1m
1	904	Completed excavation for new foundations under porch of Building R3, looking SW	1m
1	905	Completed excavation for new foundations under porch of Building R3, looking S	1m
1	906	Completed excavation for new foundations under porch of Building R3, looking SW	1m/0.3m
1	907	Repairs to brickwork in S gable of Building R3, looking N	1m
1	908	Work in progress to doorway D2 of Building R4, looking N	-
1	909	Repairs in progress to roof of Building R4, looking SE	-
1	910	Repairs in progress to roof of Building R4, looking NE	-
1	911	Repairs in progress to roof of Building R4, looking NE	-
1	912	Repairs to brickwork in S gable of Building R3, looking NE	1m
1	913	Repairs to brickwork in S gable of Building R3, looking NE	1m
1	914	Repairs in progress to Building R4, looking N	-
1	915	Repairs to window W2 in Building R4, looking NW	-
1	916	Repairs in progress to Building R4, looking N	-
1	917	Repairs in progress to Building R2, looking W	-
1	918	Eroded roof edge to E side of Building R2, looking W	-
1	919	Spalled render revealing brickwork to Building R1, looking SE	-
1	920	Spalled render revealing brickwork to Building R1, looking NE	-
2	654	Repairs complete to E side of Building R1, with door screen inserted, looking SW	1m
2	655	Inserted door screen to Building R1, looking SW	1m
2	656	Repairs to render on N side of Building R1, looking SE	1m
2	657	Repairs to roof edge on N side of Building R1, looking SE	1m
2	658	Repairs to render and inserted window screen, W side of Building R1, looking NE	1m
2	659	Inserted window screen on W side of Building R1, looking NE	1m
2	660	Repairs to render on Building R1, looking NW	1m
2	661	Repairs complete to E side of Building R2, looking SW	1m
2	662	Inserted door screen to Building R2, looking SW	1m
2	664	Repairs complete to N side of Building R2, looking SE	1m
2	665	Repairs complete to W side of Building R2, looking NE	1m
2	666	Repairs to vent grill on W side of Building R2, looking NE	-
2	667	Repairs complete to SW corner of Building R2, looking N	-
2	668	Repairs complete to S side of Building R2, looking NW	1m
2	669	Repairs to vent grill on S side of Building R2, looking NW	-
2	670	Repairs complete to Building R2, looking N	1m
2	672	Repairs complete to N end of Building R3, looking SE	1m
2	673	Repairs complete to porch of Building R3, looking S	1m
2	674	Repairs complete to Building R3, looking NE	1m
2	675	Repairs complete to S end of Building R3, looking N	1m
2	676	Detail of replaced and repointed brickwork to S gable of Building R3, looking N	-
2	677	Repairs complete to S gable of Building R3, looking NW	1m
2	678	Repairs complete to Building R3, looking NW	1m
2	679	Inserted door screen to Building R3, looking SE	1m
2	680	Repairs complete to W end of Building R4, looking NE	1m
2	681	Repairs complete to door D2 in Building R4, looking NE	1m
2	682	Repairs complete to Building R4, looking N	1m
2	683	Repairs complete to window W1 in Building R4, looking NW	-

2	684	Repairs to roof edge on S side of Building R4, looking N	-
2	685	Repairs complete to Building R4, looking NW	1m
2	686	Repairs complete to E end of Building R4, looking NW	1m
2	687	Repairs complete to N side of Building R4, looking SW	1m
2	688	Repairs to door D1 with inserted screen in N side of Building R4, looking SE	1m
2	689	Repairs to door D1 with inserted screen in N side of Building R4, looking SE	1m
2	690	Repairs to N side of Building R4, looking SE	1m
2	691	Repairs to window W7 on N side of Building R4, looking SE	-
2	692	Inserted screen to door D1 in Building R4, looking NE	-
2	693	Repairs complete to door D2 in Building R4, looking E	-
2	694	Repairs complete to roof of Building R4, looking E	1m
2	695	Repairs complete to roof of Building R4, looking E	-
2	696	Repairs complete to roof of Building R4, looking NE	1m
2	697	Repairs complete to Buildings R1 & R2, looking SW	-
2	698	Repairs complete to Building R3, looking SE	-
2	699	Repairs complete to roof of Building R4, looking NE	1m
2	703	Repairs to roof edge of Building R4, looking NE	-
2	704	Repairs complete to Building R4, looking E	-
2	705	Repairs complete to Building R2, looking NW	-
2	706	Repairs complete to N side of Building R1, looking SE	-
2	707	General view of repaired Buildings R3 & R4, looking SE	-
2	708	General view of repaired Buildings R1 & R2, looking SE	-
2	709	General view of repaired buildings, looking SE	-





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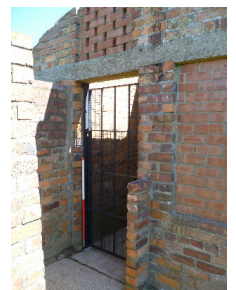
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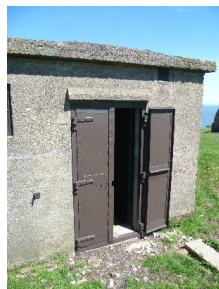
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2-709.JPG

APPENDIX 2



ENGLISH HERITAGE
YORKSHIRE & THE HUMBER OFFICE

Mr Peter Pace
The Old Rectory
Scrayingham
York
YO41 1JD

Direct Dial: 01904 601988
Direct Fax: 01904 601999

13 September 2012

Dear Mr Pace

**Ancient Monuments and Archaeological Areas Act 1979 (as amended); Section 2
control of works
Application for Scheduled Monument Consent**

**WORLD WAR II RADAR STATION, 600M EAST OF BENT RIGG FARM, STANTON
DALE, SCARBOROUGH, NORTH YORKSHIRE
Scheduled Monument No: SM 34842, HA 1020544
Our ref: S00043610
Application on behalf of The National Trust.**

1. I am directed by the Secretary of State for Culture, Media & Sport to advise you of the decision regarding your application for Scheduled Monument Consent dated 13 August 2012 in respect of proposed works at the above scheduled monument concerning the conservation repairs to Buildings R1 to R4 inclusive.. The works were described in the following documentation submitted by you:

Documentation list:

Scheduled Monument Consent, including:

1 x Condition Report

1 x Specification for repair

2. In accordance with paragraph 3(2) of Schedule 1 to the 1979 Act, the Secretary of State is obliged to afford you, and any other person to whom it appears to the Secretary of State expedient to afford it, an opportunity of appearing before and being heard by a person appointed for that purpose. This opportunity was offered to you by English Heritage and you have declined it.

3. The Secretary of State is also required by the Act to consult with the Historic Buildings and Monuments Commission for England (English Heritage) before deciding whether or not to grant Scheduled Monument Consent. English Heritage considers the effect of the proposed works upon the monument to be

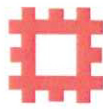


37 TANNER ROW YORK YO1 6WP

Telephone 01904 601901 Facsimile 01904 601999
www.english-heritage.org.uk

English Heritage is subject to the Freedom of Information Act 2000 (FOIA) and Environmental Information Regulations 2004 (EIR). All information held by the organisation will be accessible in response to an information request, unless one of the exemptions in the FOIA or EIR applies.

English Heritage will use the information provided by you to evaluate your application for Scheduled Monument Consent. Information contained in this application and any information obtained from other sources will be retained in all cases in hard copy form and/or on computer for administration purposes and future consideration where applicable.



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beneficial for the preservation of the monument, with arrangements for necessary archaeological recording included within the application.

I can confirm that the Secretary of State is agreeable for the works to proceed providing the conditions set out below are adhered to, and that accordingly Scheduled Monument Consent is hereby granted under section 2 of the 1979 Act for the works described in paragraph 1 above, subject to the following conditions:

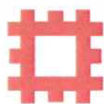
- (i) The works to which this consent relates shall be carried out to the satisfaction of the Secretary of State, who will be advised by English Heritage. At least 2 weeks' notice (or such shorter period as may be mutually agreed) in writing of the commencement of work shall be given to Dr Keith Emerick, Inspector of Ancient Monuments, English Heritage, 37 Tanner Row, York, YO1 6WP in order that an English Heritage representative can inspect and advise on the works and their effect in compliance with this consent.
- (ii) The specification of work for which consent is granted shall be executed in full.
- (iii) This consent may only be implemented by Mr Peter Pace.
- (iv) Where consent is transferable to future owners, English Heritage shall be notified of land disposal upon completion of the sale.
- (v) Original material shall be reused wherever possible.
- (vi) Any replacement material shall be of a type, texture and colour which matches the original material.
- (vii) All fixings shall be made into the joints and not into the brick/ stone.
- (viii) All pointing and mortar work shall be in a mixture and finish to match the existing in composition, colour, texture and style.
- (ix) Any vegetation growing in the masonry shall be cut off level with the surface of the stonework and the roots poisoned/ carefully removed.
- (x) All those involved in the implementation of the works granted by this consent must be informed by the owner and developer that the land is designated as a scheduled monument under the Ancient Monuments and Archaeological Areas



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Act 1979 (as amended); the extent of the scheduled monument as set out in both the scheduled monument description and map; and that the implications of this designation include the requirement to obtain Scheduled Monument Consent for any works to a scheduled monument from the Secretary of State prior to them being undertaken.

- (xi) Equipment and machinery shall not be used or operated in the scheduled area in conditions or in a manner likely to result in damage to the monument or ground disturbance other than that which is expressly authorised in this consent.
- (xii) Any works to which this consent relates shall be carried out under the archaeological supervision of Mr Ed Dennison (EDAS) 18, Springdale Way, Beverley, East Yorkshire, HU17 8NU who shall be given at least 2 weeks' notice (or such shorter period as may be agreed) in writing of the commencement of work. No works shall commence until Mr Ed Dennison has confirmed in writing to English Heritage that they are willing and able to undertake the agreed supervision.
- (xiii) A report on the archaeological recording shall be sent to:
Graham Lee, Senior Archaeological Conservation Officer, NYMNPA, The Old Vicarage, Bondgate, Helmsley, N. Yorks., YO62 5BP (the National Park Historic Environment Record);
Dr Keith Emerick, Inspector of Ancient Monuments, English Heritage, 37 Tanner Row, York, YO1 6WP and to
The National Monuments Record (NMR), Swindon
within 3 months of the completion of the works (or such other period as may be mutually agreed).
- (xiv) The contractor shall complete and submit an entry on OASIS (On-line Access to the Index of Archaeological Investigations - <http://oasis.ac.uk/england/>) prior to project completion, and shall deposit any digital project report with the Archaeology Data Service, via the OASIS form, upon completion.

4. By virtue of section 4 of the 1979 Act, if no works to which this consent relates are executed or started within the period of five years beginning with the date on which this consent was granted (being the date of this letter), this consent shall cease to have effect at the end of that period (unless a shorter time period is set by a specific condition above).

5. This letter does not convey any approval or consent required under any enactment,



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bye law, order or regulation other than section 2 of the Ancient Monuments and Archaeological Areas Act 1979.

6. Your attention is drawn to the provisions of section 55 of the 1979 Act under which any person who is aggrieved by the decision given in this letter may challenge its validity by an application made to the High Court within six weeks from the date when the decision is given. The grounds upon which an application may be made to the Court are (1) that the decision is not within the powers of the Act (that is, the Secretary of State has exceeded the relevant powers) or (2) that any of the relevant requirements have not been complied with and the applicant's interests have been substantially prejudiced by the failure to comply. The "relevant requirements" are defined in section 55 of the 1979 Act: they are the requirements of that Act and the Tribunals and Inquiries Act 1971 and the requirements of any regulations or rules made under those Acts.

Yours sincerely

pp

Keith Emerick

Ancient Monuments Inspector

E-mail: Keith.Emerick@english-heritage.org.uk

For and on behalf of the Secretary of State for Culture, Media and Sport

cc: Graham Lee, Senior Archaeological Conservation Officer, NYMNPA, The Old Vicarage, Bondgate, Helmsley, N. Yorks., YO62 5BP



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English Heritage will use the information provided by you to evaluate your application for Scheduled Monument Consent. Information contained in this application and any information obtained from other sources will be retained in all cases in hard copy form and/or on computer for administration purposes and future consideration where applicable.