



Ormonde Offshore Windfarm Project:

Archaeological Watching Brief Along Route of Onshore Cable Connection at Heysham

Oxford Archaeology North



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SUMMARY

A planning application was submitted by Vattenfall UK to connect the Ormonde Offshore Windfarm to the Heysham Electricity Sub-Station in Lancashire. Part of the works involved the excavation of a trench from the landfall at Half Moon Bay, Heysham, (SD 4075 6085) to the sub-station (SD 4200 5986). RPS Planning and Development, at the request of Vattenfall UK, had previously compiled a desk-based assessment on the route of the cable to assess the impact of the development on the potential archaeological resource (RPS Planning and Development 2009). Based on the results of this document, Lancashire County Archaeological Services (LCAS) requested an archaeological watching brief to be conducted on the excavation of the cable trench in three areas as a condition of the planning consent (Fig 1).

Oxford Archaeology North were employed by RPS Planning and Development on behalf of Vattenfall UK to carry out the archaeological watching brief, which was undertaken November of 2009, April-June and September of 2010.

Only two of the three areas were covered by the archaeological watching brief. The section of cable crossing the area of scrub south of the railway and across land of Heysham Golf Club up to Middleton Road was not monitored although a subterranean structure discovered on the north-west end of the golf course was investigated.

The section along Middleton Road produced two late nineteenth structures. At the northern end of the watching brief area, wall footing, **1**, was located (Fig 2; Plate 1). This most likely forms part of the perimeter wall of a property formerly located on the north-eastern side of Middleton Road, marked on the 1913 OS map of the area. In the southern part of the watching brief area, sandstone foundation, **2**, was located (Fig 2 and 3; Plate 2). The position of the foundation is a good match for a structure marked on the 1895 OS map of the area, but which is absent from the 1913 edition.

No archaeologically significant deposits were recorded in the watching brief undertaken between the sea wall and Old Smithy Lane at Half Moon Bay. Approximately 2m of cable trench still needs to be excavated at this location, to be undertaken in 2011, although it is argued that given the nature of the findings to date that no further work should be done.

The Royal Observer Corps Monitoring Post identified on Heysham Golf Course was recorded in its present damaged condition (Fig 4; Plates 8-12). Given the number of surviving sites of this type in the country it is of low individual archaeological importance and no further archaeological work is recommended.

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The archaeological watching brief was conducted by Andy Bates, Marc Storey, Chris Wild and Peter Schofield. Andy Bates and Peter Schofield compiled the report, with illustrations produced by Marie Rowland. The project was managed by Murray Cook, who also edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 A planning application was submitted by Vattenfall UK to connect the Ormonde Offshore Windfarm, Heysham, Lancashire to the Heysham Electricity Sub-Station (Fig 1). Part of these works would involve the excavation of a trench for the cable conduit from the site of the cable landfall at Half Moon Bay, Heysham, to the aforementioned sub-station. RPS Planning and Development were employed by Vattenfall UK to compile a desk-based assessment on the route of the works, to assess the impact of the development on potential archaeological remains (RPS Planning and Development 2009). As a result of this assessment, Lancashire County Archaeological Services (LCAS) requested an archaeological watching brief to be conducted on the excavation of cable trench in three areas as a condition of the planning consent. These areas included land immediately east of the sea wall at Half Moon Bay, across an area of grass and scrub, up to Smithy Lane; across an area of scrub south of the railway and across land of the Heysham Golf Club up to Middleton Road; and along a section of Middleton Road adjacent to the caravan park (Fig 1).
- 1.1.2 Acting as consultants for Vattenfall UK, RPS Planning and Development employed Oxford Archaeology North to undertake the archaeological watching brief. These works were undertaken intermittently in November of 2009, April-June 2010 and September 2010. This document sets out the results of the watching brief in the form of a short report.

1.2 LOCATION AND GEOLOGY

- 1.2.1 The cable route lies between Half Moon Bay, Heysham (SD 4075 6085), where the cable makes landfall and the Heysham Electricity Sub-Station (SD 4200 5986), Lancashire.
- 1.2.3 The solid geology along the cable route is predominantly carboniferous Millstone Grit sandstone, outcrops of which are visible on the beach at Heysham Head. This is overlain with extensive drift deposits of glacial till. The higher ground between Middleton and Heysham is formed of a rock-cored drumlin field with scattered rocky outcrops. Most of the cable route is upon level ground, the highest point located on a north-south aligned ridge at the western end of golf course of Heysham Golf Club.

1.3 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

- 1.3.1 The historical background to the cable route is provided to give an historical and archaeological context to the results of the watching brief. A desk-based assessment of the area affected by the development was completed by RPS Planning and Development. The following text is drawn from this source. This study demonstrated that there are no known historic or archaeological sites directly along the route of the cable connection. The route of the cable was

subsequently moved and this new line impacted upon a known Cold War Royal Observer Corps Monitoring Post (*Section 3.2.13*). In addition, Scheduled Monuments in the form of the early Christian chapel of St Patrick and the high cross in the churchyard of the Church of St Peter are located at Lower Heysham, to the north of the landfall for the cable connection. Similarly there are several listed buildings at Heysham and in its environs. The nearest of these to the cable route is the Grade II listed Heysham Head House and its associated boundary walls, *c* 400m to the north of the landfall for the cable connection.

- 1.3.2 **Mesolithic (*c* 8,500 - 4,000 BC):** there are two entries on the Historic environment Record (HER) regarding the finding of material of Mesolithic date in the vicinity of the cable route. Worked flints of this period have been found in the cliff face above Heysham Sands (PRN 2674), whilst similar material and other evidence of contemporary occupation were investigated in 1992 during an excavation at The Barrows, Heysham Head (PRN 24954). The available resources around Morecambe Bay would have made this area particularly suitable for exploitation during the Mesolithic period. There is evidence of activity such as base camps and smaller butchery and bivouac sites (Cowell 1996) along with occupation within caves (Hodgkinson *et al* 2000).
- 1.3.3 **Neolithic (*c* 4,000 - 2,400 BC):** a number of finds of this period have been found within the wider environs of cable route. These included individual stone axes at Half Moon Bay (PRN 2325), at the site of the nuclear power station (PRN 1226) and at Longlands Lane in Heysham (PRN 2040). A polished flint stone axe is more generically cited as having been found in Morecambe Bay (PRN 93). A flint core of possible Neolithic or Bronze Age date was found in the cliff face between Chapel Hill and Heysham Head (PRN 3638). In the early part of the Neolithic period, sea-levels were falling and extensive areas of former tidal flats were changing into coastal plain (Tooley 1980). Although evidence for settlement at this time remains limited, finds of stone implements such as axes are more common and may represent episodes of deliberate deposition, particularly into watery environments such as rivers and wetlands (Bradley and Edmonds 1993).
- 1.3.4 **Bronze Age (*c* 2,400 - 700 BC):** no material evidence of Bronze Age activity has been found in the vicinity of the cable route, except possibly the flint core (PRN 3638) mentioned above. Place names evidence such as 'Little Barrow' (PRN2547), 'Barrows' along Middleton Road (PRN 2548), 'Barrow' at Trummacarr Primary School (PRN 2549) and 'Barrows' at Heysham Head (PRN 2546) may indicate the former presence of Bronze Age burial mounds. However, small sandstone quarries are also recorded in these areas and the 'barrows' may actually be mounds of spoil resulting from this activity.
- 1.3.5 **Iron Age (*c* 700 - 43 BC):** as in the previous period, no material evidence of Iron Age activity has been recorded in the vicinity of the cable route. The scarcity of sites of finds of Iron Age date in the area during this period has been acknowledged within recent studies (Hodgson and Brennan 2004).

- 1.3.6 **Roman (43 BC to AD 410):** a small coin found in 1999 in the Heysham area (PRN 12088) is the only recorded find of Roman date in the vicinity of the cable route. This was a small bronze coin of the reign of the Emperor Constantine I (AD 309-337) but the recorded location is not particularly detailed. A well-established Roman fort and settlement were present at Lancaster during this period, but there is no direct evidence for substantial activity of this period in the Heysham area.
- 1.3.7 **Early Medieval:** St Patrick's Chapel was established on the cliff edge at Lower Heysham in the early 8th century, and there are adjacent rock-cut tombs within the burial grounds of the church. Within the churchyard of the adjacent church of St Peter are a decorated stone cross shaft and a magnificent hogback stone, the latter now displayed within the church. A possible late Saxon spearhead was found in the churchyard c 1800 and the church itself contains some pre-Conquest elements. This activity is focused on the north-facing cliff, looking out across Morecambe Bay towards the Lake District fells. St Patrick's Chapel is located over 800m to the north of the landfall for the cable connection. No material or sites of Early Medieval date are known within the vicinity of the cable route.
- 1.3.8 **Medieval (AD 1066 - 1530):** a small settlement clearly developed at Lower Heysham in this period, centred on Main Street. Stone window tracery of this period has been found on the beach at Half Moon Bay (PRN 2324), although its original provenance remains unknown. Away from the settlement core there would have been outlying farms and estates. Heysham Old Hall, now the Middleton Arms public house, dates back to the 16th century. There are also documented grange farms in the general area, such as at Heaton and at Overton.
- 1.3.9 **Post-Medieval (AD 1530 - 1900):** the earliest detailed map to cover the area crossed by the cable route is the tithe map for the parish of Heysham of 1838, followed soon afterwards by the Ordnance Survey 1st edition 6 inch maps of c 1848. These indicate that the cable route passes through a rural landscape of small farmsteads linked by a network of narrow lanes.
- 1.3.10 There are some small sandstone quarries on either side of Smithy Lane, formerly known as Money Close Lane (PRN 4554, PRN 4555, PRN 4557). The higher ground now occupied by the golf course was previously arable land. The only built development along the cable route shown on these 19th century maps was a farm known as Broadgate Foot (SD 4151 5967; PRN 31297). This was located on the southern side of Middleton Lane, and the location of the former farmstead lies within the site of an industrial estate. Much of the farmstead buildings were located in land currently laid to grass or in use as a car park. However, Middleton Lane has been realigned slightly in this area and a corner of the northern range of the farmstead buildings maybe preserved beneath the current carriageway. The 1st edition Ordnance Survey map also shows a boundary stone just further along Middleton Lane (PRN 5376). The 1895 OS survey map shows a large structure to the north-east of Middleton Road, possibly a barn, the foundation of which is located by the watching brief. This structure is not marked on the 1913 OS map, and must therefore have been fairly short lived.

- 1.3.11 **Modern (20th century):** considerable development in the area began with the construction of Heysham Harbour (1897-1904) by the Midland Railway company to provide an embarkation point for freight and passenger traffic to and from Ireland. The harbour was excavated out of the coastal sand flats, but also involved extensive clearance of Millstone Grit outcrops. A substantial breakwater to the south of the harbour allowed for the drainage and reclamation of the land where the power stations now stand. A vessel called the *Vanadis* (built in Finland in 1874) ran aground in the entrance to the River Lune in 1903 and was blown ashore in Half Moon Bay - the wreck is still visible at low tide (PRN 11359).
- 1.3.12 The railway that connected the harbour to the main part of the Midland rail network cut across the landscape to the south of Heysham. Cottages were constructed to the north of the railway (Midland Cottages) to accommodate railway workers and this development was later expanded (cf. McDonald Road) as the docks and subsequently the power stations provided steady employment. Other major industry moved into the area, and additional sidings were taken off the rail line at Heysham Moss to service the requirements of Shell, ICI and the Air Ministry. These sidings passed just to the east of the existing Heysham substation. Much of this industry has now ended and the sites of these industries are either redeveloped or have been left empty.
- 1.3.13 There are some surviving elements of the group of structures that was constructed to defend the docks during the Second World War. These include an anti-tank cube just above the mean high water line in Half Moon Bay (PRN 25731) and a gun emplacement, probably part of a heavy anti-aircraft battery, at Smithy Lane (PRN 13599).
- 1.3.14 In addition, the new route of the pipeline impacted upon the site of a Cold War Royal Observer Corps Monitoring Post. The Royal Observer Corps was organised into the United Kingdom Warning and Monitoring Organisation (UKWMO) during the Cold War. Its role was to warn of air attack, confirm nuclear strikes, to set off public warnings, to provide an emergency meteorological service, to measure nuclear fallout and help predict fallout paths (Cocroft and Thomas 2004, 177). This particular structure formed part of a web of around 1560 such sites built across the entire United Kingdom. The separate posts were formed into clusters, each of which were placed into larger groups and sectors. The Group and Sector Headquarters for the Heysham monitoring post was originally 21 Group, Western Sector Command, based at Longley Lane, Preston (Cocroft and Thomas 2004, 178; OA North 2008 and OA North forthcoming). The Heysham monitoring post was opened in November 1961 and was decommissioned in September 1991 at the end of the Cold War (Subterranea Britannica 1996-2004). The site was subsequently demolished during redevelopment on the golf course in the early 1990s (Plate 13) when the surface features were removed and the roof of the structure caved-in and filled with demolition rubble. The site was recorded as demolished on a site visit for Subterranea Britannica on 13/07/2001.
- 1.3.15 **Undated sites:** two sites or features identified from aerial photographs cannot be dated, but could potentially be of prehistoric origin, are located within the vicinity of the cable route. These include a linear feature (PRN 2976) and a

soil mark indicating the presence of a circular enclosure (PRN 2975). Both of these are located to the east of the existing Heysham substation.

2. METHODOLOGY

2.1 WATCHING BRIEF

2.1.1 In total, three areas of the cable route were subject to an archaeological watching brief (Fig 1). These are as follows:

- immediately east of the sea wall at Half Moon Bay up to Smithy Lane;
- a section of Middleton Road adjacent to the caravan park;
- across an area of scrub south of the railway and across land of Heysham Golf Club up to Middleton Road;

2.1.2 A permanent archaeological watching brief was maintained for all ground disturbance in the first and second areas. The conduit across Heysham Golf Club was completed using subterranean drilling and was undertaken without archaeological monitoring. OA North were called out to record an exposed concrete bunker structure identified at the entrance to one drilling area (Fig 4). All information identified in the course of the site works was recorded on OA North *pro forma* sheets, using a system adapted from that used by Centre for Archaeology Service of English Heritage, with sufficient pictorial record (plans and sections) to identify and illustrate individual features. A photographic record was compiled comprising digital, 35mm colour slide and 35mm monochrome formats.

2.2 FINDS

2.2.1 The finds' recovery and sampling programmes were carried out in accordance with best practice (following current Institute for Archaeologists guidelines). No artefacts or samples were recovered.

2.3 ARCHIVE

2.3.1 A full professional archive has been compiled in accordance with current IfA and English Heritage guidelines (English Heritage 1991). The paper and digital archive will be provided in the English Heritage Centre for Archaeology format and will be submitted to the Lancashire Record Office on completion of the project. Copies of the report will also be submitted to the Historic Environment Record. The Arts and Humanities Data Service (AHDS) online database *Online Access index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.

3. WATCHING BRIEF RESULTS

3.1 INTRODUCTION

3.1.1 Three areas were subject to archaeological watching brief, an area of grass and scrub between the sea wall at Half Moon Bay up to Smithy Lane; across an area of scrub south of the railway and across land at Heysham Golf Club up to Middleton Road; and the section of Middleton Road adjacent to the caravan park (Fig 1).

3.2 RESULTS

3.2.1 **Middleton Road adjacent to the caravan park:** the excavated trench at Middleton Road measured *c* 0.8m wide and reached a maximum depth of 1.06m, although on average excavations reached a depth of 1.30m. The current road comprised a number of layers of hardcore capped with tarmac, in total reaching a depth of 0.80m.

3.2.2 In the north-western half of the watching brief area, at a depth of 0.40m and surrounded by the hardcore of the current road's makeup, was a red brick footing, **1**, on a north-west/south-east orientation (Fig 1: Plate 1). It comprised late 19th or early 20th century brick, stamped with the lettering 'Claughton Manor Brick Co Caton'. The footing was only one brick wide and two courses high, and interpreted as the remains of a structure such as a boundary wall. It is most likely associated with the former property marked on the 1913 OS map, located on the north-eastern side of Middleton Road.

3.2.3 At the south-eastern end of the watching brief area a sandstone foundation, **2**, was recorded (Fig's 1 and 2 and Plate 2). It measured at least 0.70m wide, and comprised three courses of roughly hewn stone, on a north-east/south-west orientation. Its construction cut, **6**, truncated the remnants of a buried soil horizon, **5**, which overlay glacial till, **8**. The glacial till was located at a depth of 0.95m below the modern road. Two surfaces of the former Middleton Road, prior to its current form, located to the east of the foundation comprised the areas of cobbles, **4**, covered by tarmac, **3**. Foundation **2** matches the position of the southern wall of a structure marked in the 1895 OS map. This structure is absent from the 1913 OS map.

3.2.4 **Sea wall at Half Moon Bay up to Smithy Lane:** on the first visit to the site an area measuring 4.00m long and 1.40m and 1.15m in depth was excavated adjacent to the boundary wall of the Smithy Lane, on a north-west/south-east alignment. This was excavated through 0.34m of topsoil, followed by 0.81m of mid-orange and mid-orange grey silty sand beach deposits. An electricity cable was located running across the trench. No archaeologically significant deposits were present.

3.2.5 Prior to the next visit two areas had been topsoil stripped, with a maximum of 0.3m of soil removed. The larger of these, adjacent to Old Smithy Lane, was a triangular area measuring 76m in length and a maximum of 47m wide (Plate

- 3). The second area measured 0.32m in length and 0.40m wide, located perpendicular to the sea wall, intended to form an access track (Plate 4). The first area was predominantly covered with matting, and could not be inspected. No archaeologically significant deposits were visible in the area adjacent to the sea wall.
- 3.2.6 A pit for the drilling rig was excavated in the northern corner of the larger area. It measured 4.4m in length and 2.50m wide and reached a maximum depth of 1.20m, aligned on an east-west orientation (Plate 5). Excavation proceeded through 0.20m of sandy subsoil, and 1.0m of mid-yellowish orange and dark grey beach sands, at which point the water table was reached. No archaeologically significant deposits were encountered.
- 3.2.7 Prior to the next site visit the pit originally excavated for the drilling rig had been extended 17.40m to the east, and widened to 9.40m, reaching a depth of 3.50m. Within this pit a wall supporting the cable landed from the sea had been built (Plate 6). The excavated area was not entered for health and safety reasons. In section the beach sand deposits previously described were visible, for *c* 2m of the section. Below this a blue grey, possibly marine, clay was visible.
- 3.2.8 A trench measuring 29m in length and 0.60m wide, reaching a maximum depth of 1.6m, was excavated between Old Smithy Lane and the above described pit. Excavation proceeded through 0.20m of modern hardcore, recently laid by the developer, 0.80m of mid-yellow beach sand, 0.1m of dark grey sand, and 0.50m of mid-brown grey sandy clay (Plate 7). No archaeologically significant deposits were encountered. A further *c* 6m remains to link this excavated trench to the cable currently supported by the aforementioned wall. All but *c* 20m of this will be excavated through the backfill of the large 17.40m by 9.40m pit.
- 3.2.9 Within this trench, at a depth of 0.9m, was encountered a thin layer (0.1m thick) of dark grey silty sand which has been interpreted as buried turf or topsoil, **10**. This, in turn, was sealed by 0.85m of light yellow, highly stratified sand, **9**, apparently the result of sand dune formation or spreading. No finds were recovered from the buried topsoil to indicate the date at which it was sealed beneath wind-blown sands. Within the field north of Smithy Lane, parallel to the modern foreshore and promenade, is an observable raised linear (surveying to approximately 0.2m in height) likely to represent the remnants of the coastal dune.
- 3.2.10 **Heysham Golf Club:** the conduit across the golf course was completed without full archaeological monitoring, however possible archaeological features were encountered at the western edge of this area during drilling works and these were investigated.
- 3.2.11 Excavation of a drilling platform revealed a backfilled, concrete-built subterranean structure on the western edge of the golf course (Figure 4; Plates 8-12), located at SD 40892 60128, some 20m east of Money Close Lane. Whilst it was suggested that this may relate to a Second World War Royal Observer Corps Orlit observation post (Rawlings *pers comm*), initial

examination of the fabric strongly suggested it to be of later date. The structure was identified as a Cold War Royal Observer Corps Monitoring Post. The Royal Observer Corps was organised into the United Kingdom Warning and Monitoring Organisation (UKWMO) during the Cold War. Its role was to warn of air attack, confirm nuclear strikes, to set off public warnings, to provide an emergency meteorological service, to measure nuclear fallout and help predict fallout paths (Cocroft and Thomas 2004, 177). This particular structure formed part of a web of around 1560 such sites built across the entire United Kingdom. The separate posts were formed into clusters, each of which were placed into larger groups and sectors. The Group and Sector Headquarters for the Heysham monitoring post was originally 21 Group, Western Sector Command, based at Longley Lane, Preston (Cocroft and Thomas 2004, 178; OA North 2008 and OA North forthcoming). The Heysham monitoring post was opened in November 1961 and was decommissioned in September 1991 at the end of the Cold War (Subterranea Britannica 1996-2004). The site was subsequently demolished during redevelopment on the golf course in the early 1990s (Plate 13) when the surface features were removed and the roof of the structure caved-in and filled with demolition rubble. The site was recorded as demolished on a site visit for Subterranea Britannica on 13/07/2001.

- 3.2.12 The monitoring posts typically had a crew of three that could, in the event of an attack, live in rudimentary conditions for up to fourteen days (Cocroft and Thomas, 2004, 180). The observers were tasked to confirm a nuclear detonation had taken place, its location, strength and type and was to subsequently report fallout directions (*ibid*). The separate monitoring posts were connected via telephone landline to their group and sector command posts along with a backup VHS radio set (*op cit* 185). The post consisted of a reinforced-concrete subterranean chamber cast on site and covered by a layer of soil to increase protection from radiation. The cast structure typically measured 19ft x 8ft 6ins x 7ft 6ins (5.8m x 2.6m x 2.3m) and was accessed at one end by a surface hatched entrance shaft and ladder. At the foot of the shaft was an entrance door into the main room and a door into a smaller store cupboard with an Elsan chemical toilet (Plates 14-16), the opposite end of the chamber contained a shuttered ventilation flue shaft connected to the surface (*ibid*).
- 3.2.13 At the time of the two archaeological site visits (23rd and 28th September 2010) the structure was filled with a mixture of Bentonite and water (apparently in the region of 25,000 gallons), to facilitate drilling, which was also being undertaken at that time (Plate 12). Photographs were furnished of the structure as exposed prior to the demolition and infilling with the mixture (Plates 8-11). Of particular note were the (then) surviving extents of the side walls of the structure (Plates 8 and 10), and in particular the store cupboard/toilet on the west end wall elevation (Plate 11) and the shuttered ventilation shaft on the east wall elevation (Plate 9).
- 3.2.14 During the archaeological site visits it was ascertained that the monitoring post structure *II* had, after its initial exposure and without archaeological monitoring, subsequently been further reduced in height on all but the south

wall elevation and the identified internal features removed (down to roughly 1.5m below current ground level). The surviving structure, where visible, above the surface of the liquid mixture measured approximately 5.6m long on the south side wall elevation with small stubs of the end wall elevations exposed on the west (0.2m long) and east (1m long) sides. The overall exposed area of the drilling access pit measured over 6.5m long by 4m wide and would have contained the entirety of the monitoring post. The surviving cast concrete walls were internally painted white, each measured 0.3m thick and have a relatively dense grey matrix, containing vertical large-diameter (approximately 10mm) smooth cylindrical concrete reinforcing bars. The surviving construction cut for the south wall elevation **12** lay approximately 0.75m from the wall and contained a mixed rubble/glacial till backfilled deposit **13**. The rest of the structure and construction cut could not be observed around the limits of the access pit and the exposed northern end of the pit contained clean glacial till natural **14**. The surviving walling was exposed up to 0.3m above the surface of the liquid mixture, and probing revealed that 0.3m-0.4m of walling survived below the surface. The floor of the structure was not encountered and a layer of demolition rubble and hardcore infill has been left *in-situ* on top of it. It is roughly estimated that only the bottom 1m-1.2m of the structure remains intact on the southern half, and less so towards the north.

4. CONCLUSIONS

4.1 DISCUSSION

- 4.1.1 Lancashire County Archaeological Services (LCAS) requested an archaeological watching brief to be conducted on the excavation of cable trench in three areas as a condition of the planning consent. These areas included land immediately east of the sea wall at Half Moon Bay, across an area of grass and scrub, up to Smithy Lane; across an area of scrub south of the railway and across land of the Heysham Golf Club up to Middleton Road; and along a section of Middleton Road adjacent to the caravan park (Fig 1).
- 4.1.2 Excavations along Middleton Road were observed in November and December of 2009. A late 19th century to early 20th century red brick footing, *1*, was located in the northern part of this stretch of road. It most likely relates to a the boundary wall of property formerly located on the north-eastern side of Middleton Road, and visible on the 1913 OS map of the area.
- 4.1.3 In the southern stretch of this road a sandstone foundation, *2*, was located. The position of this foundation is a good match for a structure marked on the 1895 OS map of the area, but which is absent by the time of the 1913 edition.
- 4.1.4 The excavation to insert the cable duct across the land of Heysham Golf Course identified a Cold War Royal Observer Corps Monitoring Post *11* located on the north-western edge of the golf course adjacent to Money Close Lane. The site was in use between 1961 and 1991 and had been partially demolished in the early 1990s during redevelopment works on the golf course.

4.2 CONCLUSIONS

- 4.2.1 Two late post-medieval to early modern structures were located in the Middleton Road section of the watching brief. These were identified and recorded during the watching brief, prior to being removed to insert the cable duct.
- 4.2.2 The area of land between Old Smithy Lane and the sea wall has *c* 2m of undisturbed land to excavate, to connect the cables. This is to be undertaken in 2011, although it is argued that given the findings to date that no further work should be undertaken. To date two structures of the late post-medieval and early modern periods have been located. No post-excavation works are recommended.
- 4.2.3 The Royal Observer Corps Monitoring Post identified on Heysham Golf Course was recorded in its present damaged condition. Given the number of surviving sites of this type in the country it is of low individual archaeological importance and no further archaeological work is recommended.

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PRIMARY SOURCES

PRN 93 Neolithic polished flint axe, found in general Morecambe area SD 40 60

PRN 1226 Neolithic polished stone axe found at site of nuclear power station SD 401 590

PRN 2040 Neolithic stone axe found in rear garden at no. 20 Longlands Lane SD 41478 61400

PRN 2324 Medieval window tracery found in Half Moon Bay in 1979 SD 40770 60880

PRN 2325 Neolithic polished stone axe found in Half Moon Bay SD 40770 61000

PRN 2546 Barrows placename, Heysham Head SD 40900 6140. Possibly prehistoric

PRN 2547 Supposed site of prehistoric barrow, Little Barrow, Middleton Road, SD 41430 60570

PRN 2548 Supposed site of prehistoric barrow at Barrows, Middleton Road, SD 41450 60510

PRN 2549 Supposed site of prehistoric barrow at Barrows, Trummacarr County Primary School, SD 41400 60370

PRN 2674 Mesolithic flints found in the sea-cliff above Heysham Sands SD 40700 61600

PRN 2975 Undated soil mark of a circular enclosure near to Meadup House SD 42570 59650

PRN 2976 Undated linear earthwork seen on aerial photograph SD 42120 59900

PRN 3638 Neolithic / Bronze Age flint core found between Chapel Hill and Heysham Head, SD 40850 61480

PRN 4554 Small sandstone quarry off Money Close Lane SD 40820 60607 Shown on 1st edition OS map

PRN 4555 Rabbit Warren Quarry, off Money Close Lane, SD 40950 60510; shown on 1st edition OS map

PRN 4557 Small sandstone quarry at Money Close Fields, SD 41153 60245; shown on 1st edition OS map

PRN 5376 Pre-1848 boundary stone within former grounds of petroleum refinery SD 41670 59570

PRN 11359 19th century wreck of the Vanadis, built 1874, wrecked 1903, SD 40130 60978

PRN 12088 Roman coin - aes of Constantine I, SD 41 61

PRN 13599 1939-40 WWII gun emplacement, probably Heavy Anti-Aircraft battery, SD41012 60926

PRN 24954 Mesolithic settlement The Barrows, Heysham, excavated in 1992, SD 41011 61521

PRN 25731 1939-40 anti-tank cube, off Shore Road, Half Moon Bay, SD 40771 60772

PRN 31297 pre-1848 farmstead called Broadgate Foot on Middleton Road, SD 4151 5967

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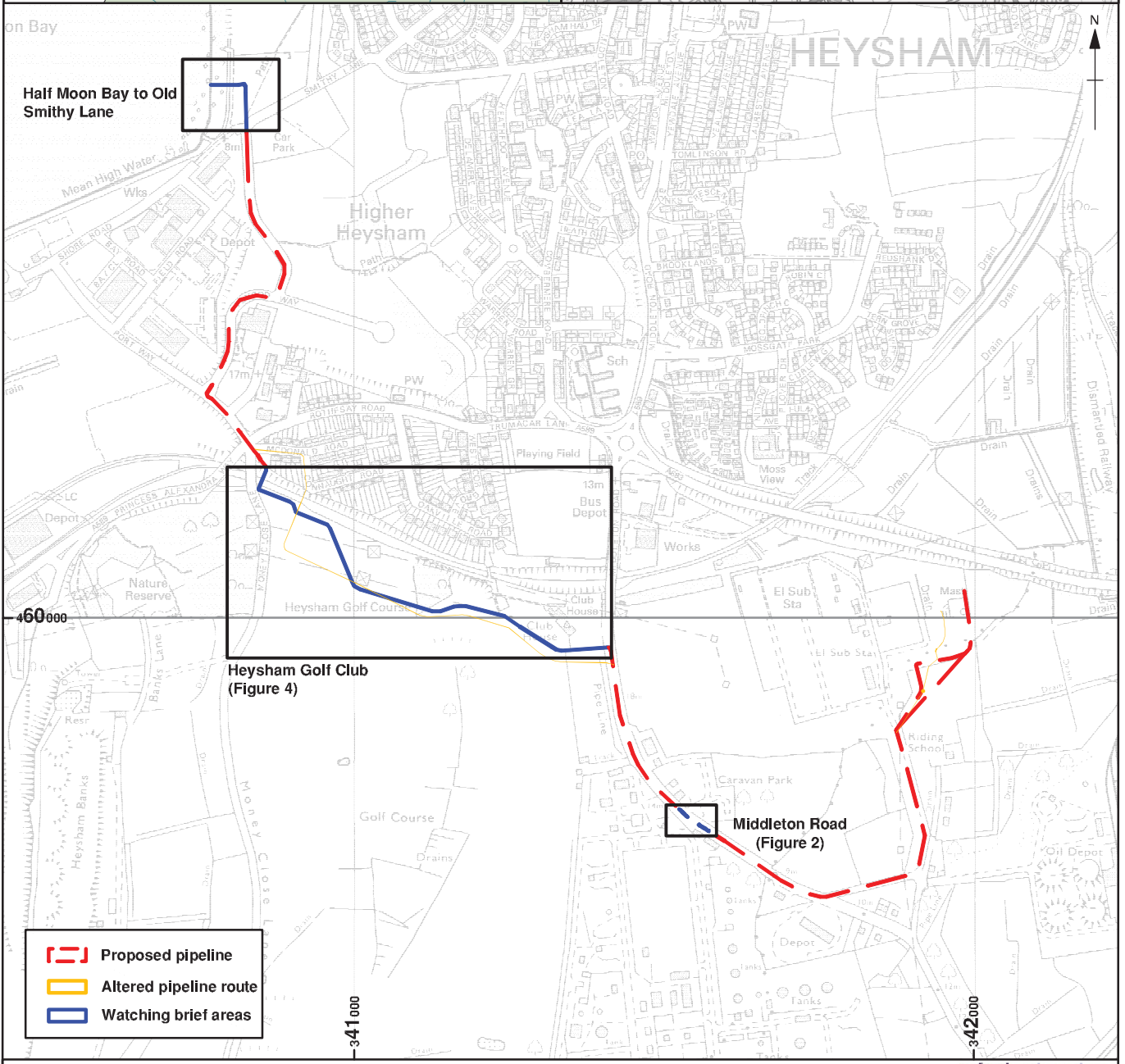
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Figure 1: Site location, showing the route of the proposed pipeline and watching brief areas

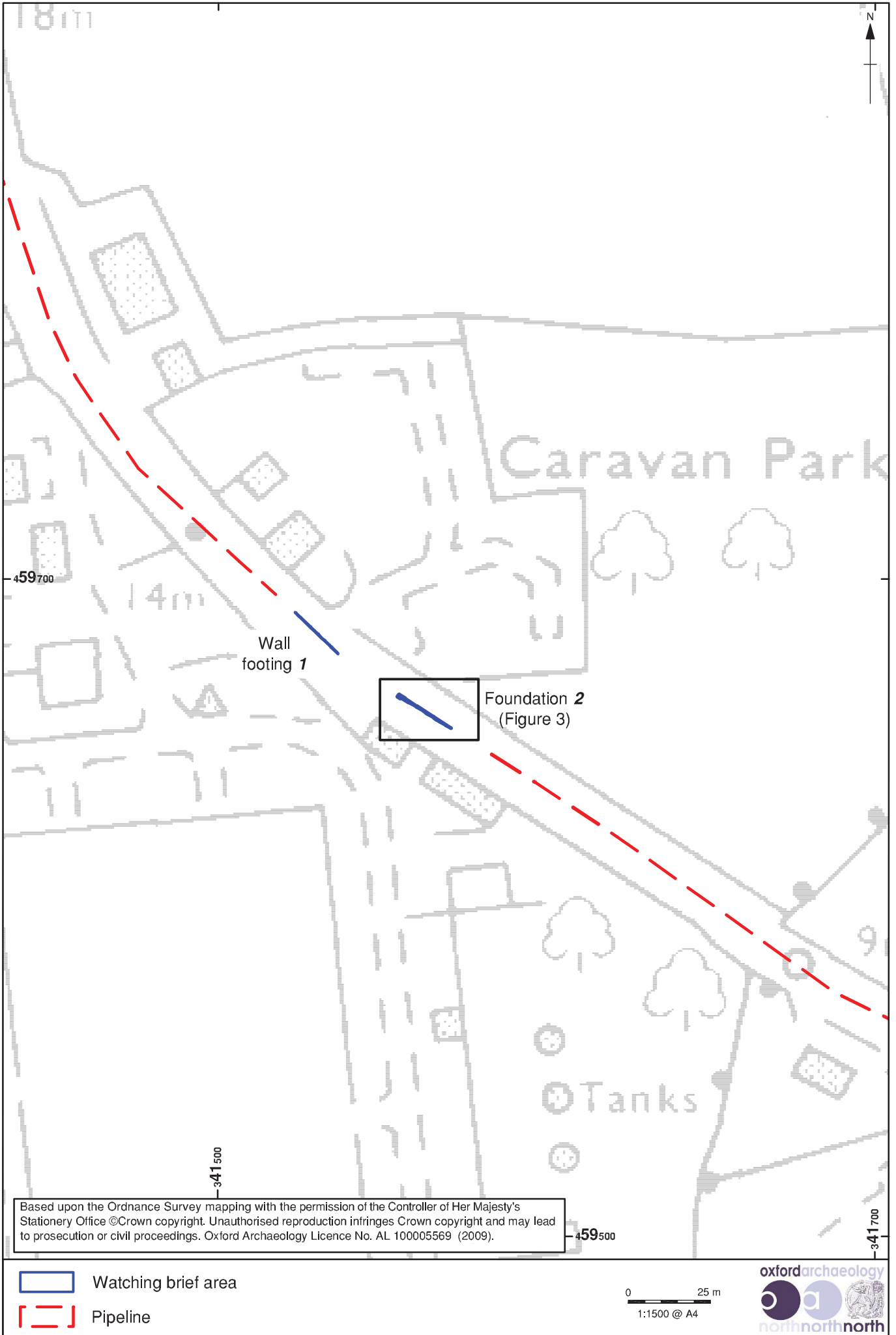
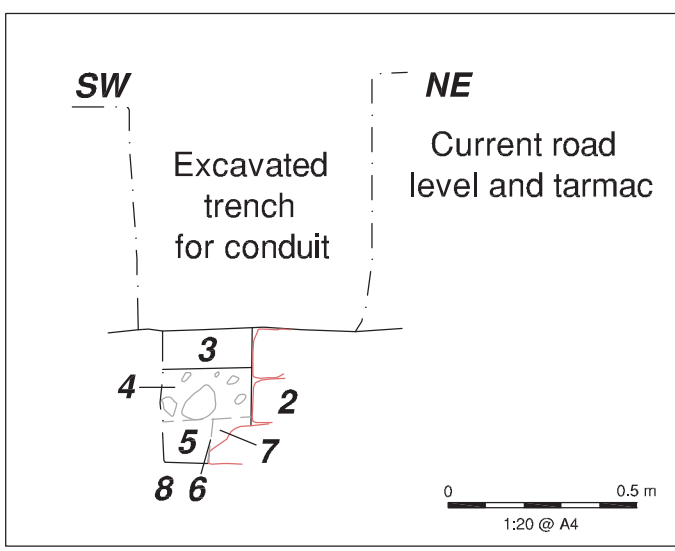
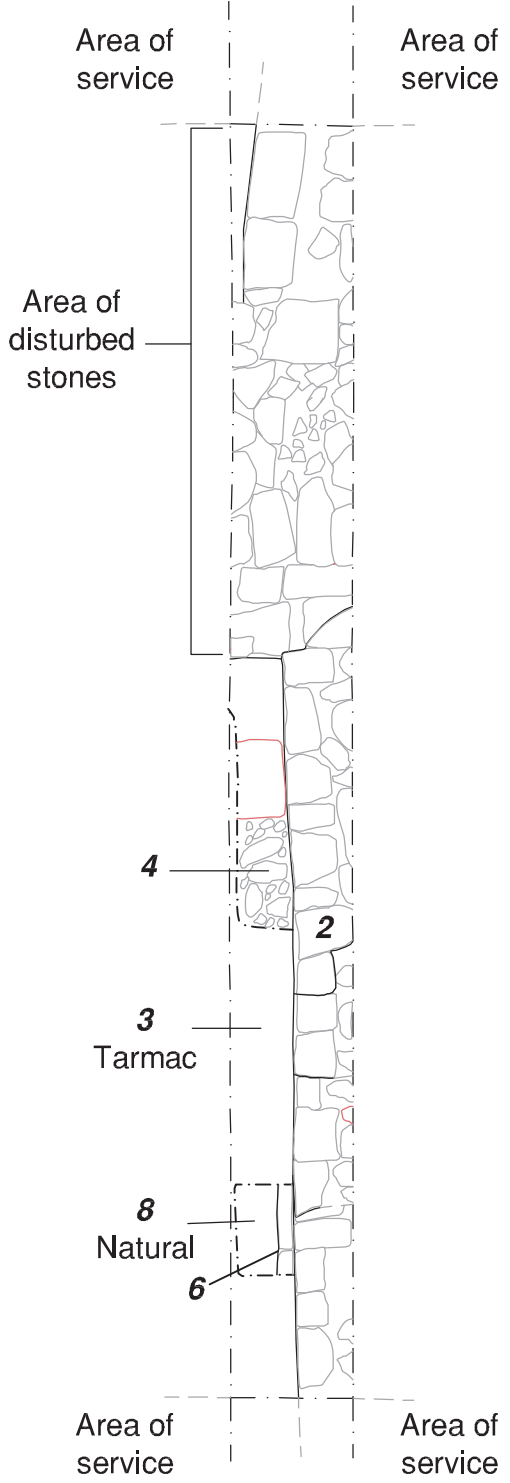
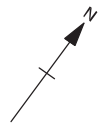


Figure 2 : Location plan of wall footing 1 and foundation 2



Section of foundation 2

- Line of excavation
- Flags
- Uncertain edge
- Stone



Figure 3: Plan and section of foundation 2

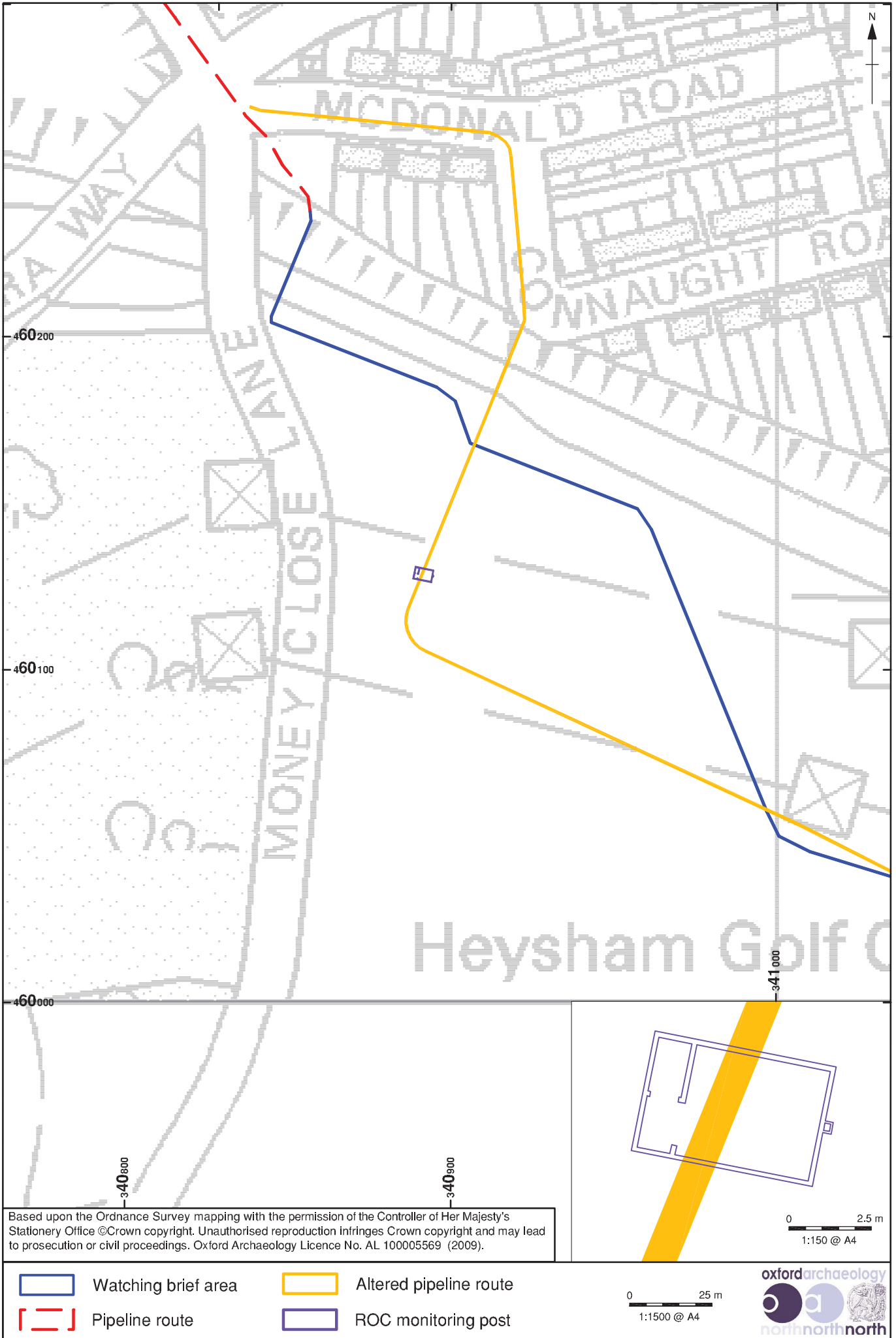


Figure 4 : Location plan of ROC nuclear monitoring post 11



Plate 1: Footing, *1*, looking south-west, surrounded by the hardcore of Middleton Road



Plate 2: Foundation 2, looking south-west



Plate 3: Area of topsoil strip adjacent to Old Smithy Lane, looking north-west



Plate 4: Area of topsoil strip perpendicular to sea wall, looking north-east



Plate 5: Pit for drilling rig, looking north



Plate 6: Extension to pit for drilling rig, looking north-west



Plate 7: Excavation of trench for cable duct in land adjacent to Old Smithy Lane, looking north-west



Plate 8: Exposed surface of Heysham ROC Monitoring Post, looking north-east (© Duncan Davis)



Plate 9: Detail of the exposed metal hatch covering access to the ventilation shaft (© Duncan Davis)



Plate 10: Exposed surface of Heysham ROC Monitoring Post, looking north-west (© Duncan Davis)



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Plate 12: State of preservation upon archaeological investigation after further reduction of walls, looking south



Plate 13: ?Mid-1980s image of Heysham Royal Observer Corps Nuclear Monitoring Post (© Terry Tracey)

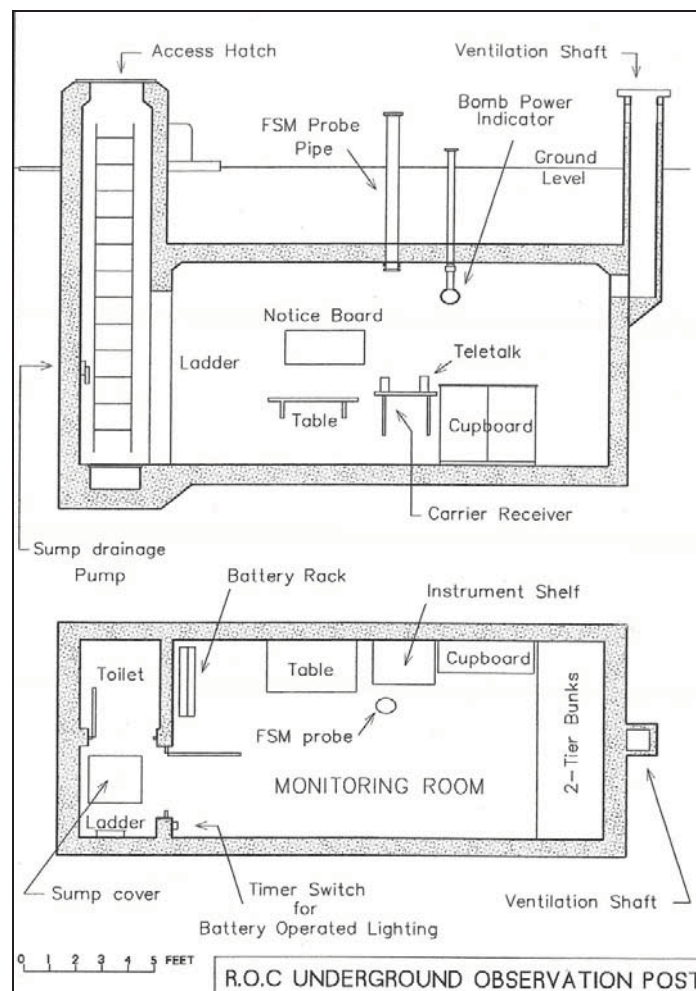


Plate 14: Building drawing plan and elevation of a 1960s Royal Observer Corps Nuclear Monitoring Post (McCamley 2007)

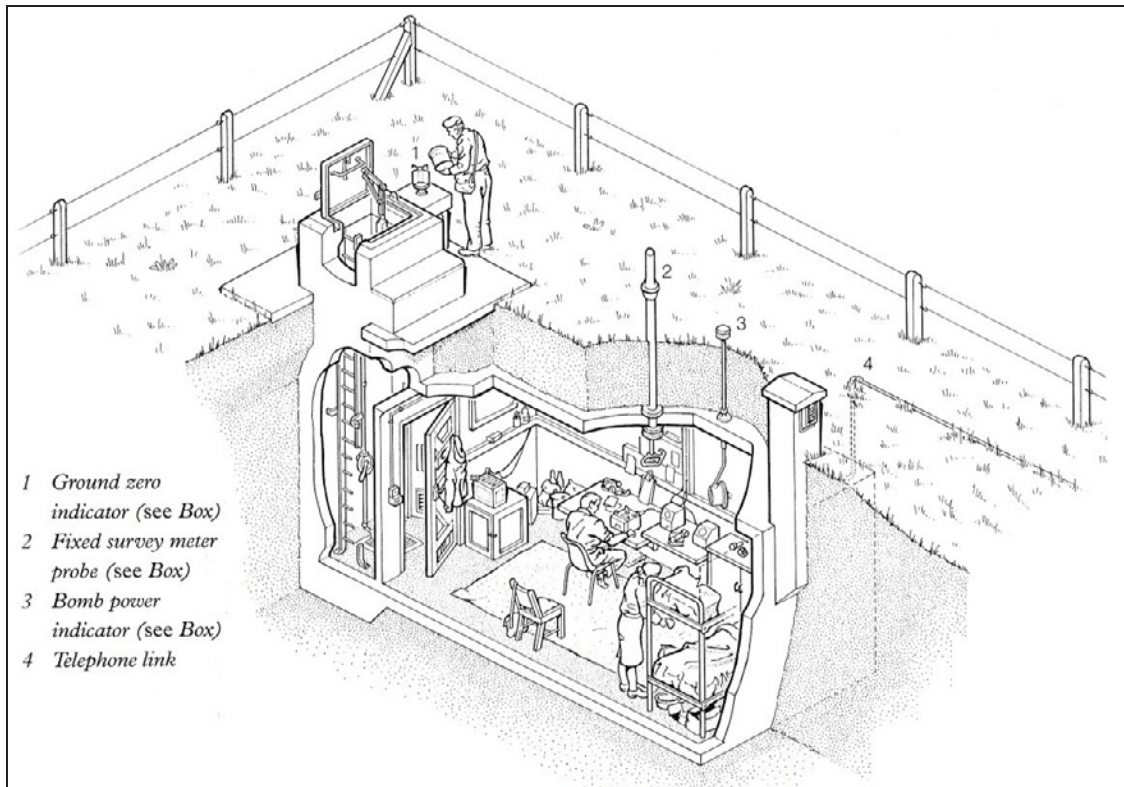


Plate 15: Cutaway view of a 1960s Royal Observer Corps Nuclear Monitoring Post (Cocroft and Thomas 2004)

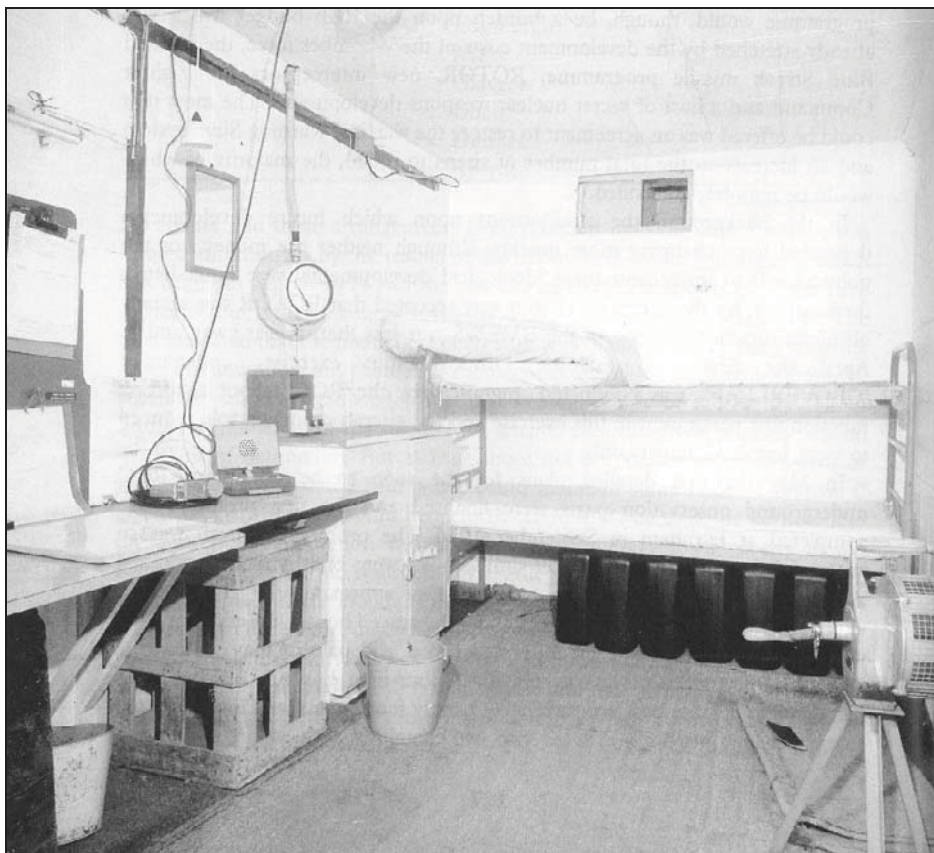


Plate 16: Internal view of a typical fully-fitted Royal Observer Corps Nuclear Monitoring Post (McCamley 2007)

APPENDIX 1: PROJECT DESIGN

**ORMONDE,
HEYSHAM,
LANCASHIRE**

**ARCHAEOLOGICAL
WATCHING BRIEF:
PROJECT DESIGN**



Oxford Archaeology North

November 2009

RPS Planning & Development

OA North Job No: L10208

NGR: SD 415 597

1. INTRODUCTION

1.1 PROJECT BACKGROUND

- 1.1.1 As part of works connected with the Ormonde Offshore Windfarm, Heysham, Lancashire (Figure 1) a Watching Brief on elements of the construction of the onshore cable has been proposed in a Written Scheme of Investigation prepared by RPS Planning & Development (RPS 2009a). The Written Scheme of Investigation was prepared in conjunction with a supplementary desk-based assessment of the known and potential historic environment resources with regard to the onshore section of a proposed cable, also prepared by RPS Planning & Development (RPS 2009b).
- 1.1.2 The supplementary desk-based assessment identified that while there are no designated historic environment sites or features that would be affected by the construction of the proposed pipeline, there are three areas (Figure 1) where the potential for buried archaeological cannot be discounted (RPS 2009a).
- 1.1.3 The following project design has been compiled to meet the standard requirements of the Specialist Advisor (Archaeology) at Lancashire County Council for such works and, following submission of costs, Oxford Archaeology North were commissioned by RPS Planning & Development to undertake this work in November 2009.

1.2 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND (RSP 2009B)

- 1.2.1 While there are no designated sites or features affected by the proposed cable construction. The route passes close to the site of a former farmstead (Broadgate Foot) adjacent to Middleton Lane (SD 4150 5970). Although much of the farmstead lies under an area of grass or used as a car park, it is possible that the previous realignment of Middleton Lane may have covered a corner of the northern range of the farmstead and that it may be preserved under the current carriageway.
- 1.2.2 The majority of the balance of the cable route runs within the existing highway, with only two significant exceptions:
- Immediately east of the sea wall after landfall, where the route passes through an area of scrubby grassland for a distance of approximately 90m before reaching Smithy Lane; and
 - South of the railway, where the route passes through another area of scrubby grassland and then crosses the golf course. The total distance here is approximately 700m.
- 1.2.3 No historic environment sites or features are known to be present within the two sections of the route described above. The land behind the seawall appears to have never been developed and is recorded on the 1838 tithe apportionment as Marrow Lanes. Although at the date it was recorded as being a meadow, the name suggests that it may formerly have been used for cultivation. There is no any evidence for the presence of significant archaeological remains here, but the possible presence of buried remains cannot be discounted.

- 1.2.4 The golf course occupies an area of higher ground that would have been more suitable for arable usage. On the 1838 tithe apportionment, the fields that occupy this higher ground include Mill Ridge, Little Mill Ridge and Clifton Money Close – all recorded as being arable land. It is possible that the place names indicate the former location of a windmill, but nothing is known from documentary or cartographic sources. Twentieth century development in this area includes the construction of the railway, the installation of pylons that carry overhead electricity cables and the golf course itself with its extensive drainage network and excavation for bunkers. None of this development is known to have produced any evidence for the presence of archaeological remains, but the possible presence of buried remains cannot be discounted.
- 1.2.5 As noted above, much of the cable will be placed within the existing highway. Even where this can be shown to be a long-established transit route (e.g. Middleton Lane), the risk of encountering significant buried remains is very low.

1.3 OXFORD ARCHAEOLOGY NORTH

- 1.3.1 Oxford Archaeology North (OA North) has considerable experience of undertaking watching briefs of all periods, having conducted a great number of small and large scale projects during the past 25 years. Fieldwork has taken place within the planning process and construction programmes, to fulfil the requirements of clients and planning authorities, to very rigorous timetables.
- 1.3.2 OA North is an Institute for Archaeologists (**IFA**) registered organisation, registration number 17, and all its members of staff operate subject to the IFA Code of Conduct.

2. OBJECTIVES

- 2.1 The following programme has been designed in accordance with the Lancashire County Archaeology Service (LCAS) document entitled General Conditions for Appropriate Archaeological Contractors in Lancashire and the Institute for Archaeologists' *Standard and Guidance for an Archaeological Watching Brief*.
- 2.2 **Watching Brief:** in order to determine the presence, date, quality and state of preservation of archaeological features on the site, an archaeological watching brief will be maintained during groundworks associated with the three locations identified where the potential for archaeological remains exists within the proposed development (Figure 1).
- 2.3 **Report and Archive:** a report will be produced for the Client within three weeks of completion of the fieldwork. The report will aim to summarise the results of the watching brief within the context of existing knowledge about the site and its surroundings. These results will provide the basis for any recommendations for further work, should this prove appropriate. A site archive will be produced to English Heritage guidelines (MAP 2) and in accordance with the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990).

3. WORK PROGRAMME

- 3.1 In line with the objectives and stages of the archaeological works stated above, the following work programme is submitted:
- 3.2 **Watching Brief:** to be maintained during any ground disturbing activities at the three locations identified where the potential for archaeological remains exists within the proposed development (Figure 1).
- 3.3 **Report and Archive:** production of a suitably illustrated report and properly ordered archive.

4. METHODOLOGY

4.1 WATCHING BRIEF

- 4.1.1 A programme of field observation will accurately and systematically examine and record the location, extent, and character of any surviving archaeological features, horizons and/or deposits revealed during the course of ground disturbance, along with any artefacts, identified during observation.
- 4.1.2 During this phase of work, recording will comprise a full description and preliminary classification of features or materials revealed, and their accurate location (either on plan and/or section, and as grid co-ordinates where appropriate). Features will be planned accurately at appropriate scales and annotated on to a large-scale plan. A photographic record of archaeological features and general working shots, utilising monochrome print and colour slide will be undertaken simultaneously.
- 4.1.3 A plan will be produced of the areas of groundworks showing the location and extent of the ground disturbance and one or more measured sections will be produced, regardless of the presence of archaeology.
- 4.1.4 Putative archaeological features and/or deposits identified during groundworks, together with the immediate vicinity of any such features, will be cleaned by hand, using either hoes, shovel scraping, and/or trowels, depending on the subsoil conditions and, where appropriate, sections will be studied and drawn. Any such features will be sample excavated (ie. selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal).
- 4.1.5 It is assumed that OA North will have the authority to stop the works for a sufficient time period to enable the recording of important deposits. It may also be necessary to call in additional archaeological support if a find of particular importance is identified or a high density of archaeology is discovered, but this would only be called into effect in agreement with the Client and LCAS and will require a variation to costing.
- 4.1.6 **Human Remains:** any human remains uncovered will be left *in situ*, covered and protected. No further investigation will continue beyond that required to establish

the date and character of the burial. LCAS and the local Coroner will be informed immediately. If removal is essential, the exhumation of any funerary remains will require the provision of a Department of Constitutional Affairs (DCA) license, under section 25 of the Burial Act of 1857. An application will be made by OA North for the study area on discovery of any such remains and the removal will be carried out with due care and sensitivity under the environmental health regulations, and if appropriate, in compliance with the Disused Burial Grounds (Amendment) Act, 1981.

- 4.1.7 **Recording:** all information identified in the course of the watching brief works will be recorded stratigraphically, with sufficient pictorial record (plans, sections and both black and white and colour photographs or contact prints) to identify and illustrate individual features as well as the nature of the demolition work. Primary records will be available for inspection at all times.
- 4.1.8 Results of the field investigation will be recorded using a paper system, adapted from that used by the English Heritage Centre for Archaeology. The archive will include both a photographic record and accurate large-scale plans and sections at an appropriate scale (1:50, 1:20, and 1:10). Levels will be tied into the Ordnance Datum. All artefacts and ecofacts will be recorded using the same system, and will be handled and stored according to standard practice (following current Institute for Archaeologists guidelines) in order to minimise deterioration.
- 4.1.9 **Treatment of finds:** excavated soil will be searched as practicable for finds. The presence and nature of finds definitely dating to the nineteenth and twentieth centuries will be noted but they will not otherwise be retained. All other finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed, as appropriate, in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds*, 1998 (new edition) and the recipient museum's guidelines. Except where noted above, all identified finds and artefacts will be retained, although certain classes of building material can sometimes be discarded after recording if an appropriate sample is retained on advice from the recipient museum's archive curator.
- 4.1.10 **Treasure:** any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996. Where removal cannot take place on the same working day as discovery, suitable security will be employed to protect the finds from theft.
- 4.1.11 **Contingency plan:** in the event of significant archaeological features or human remains being encountered during the watching brief, discussions will take place with the Planning Archaeologist, as to the extent of further works to be carried out, and in agreement with the Client. All further works would be subject to a variation to this project design.

5. REPORT

- 5.1 The results of the data gathered in *Section 4.1* above, will be collated and submitted in report format, illustrated with the relevant photographs and drawings.

Where appropriate, the report will attempt to relate any findings to the known history and archaeology of the site, and to its local setting.

- 5.2 One bound and one unbound copy of the report will be submitted to the Client, and one bound copy and another in digital format will be submitted to LCAS and to the Lancashire Sites and Monuments Record together with an archive CD-ROM. Any subsequent work arising from this survey will be subject to separate consideration in liaison with LCAS and the Client.
- 5.3 The final report will include a copy of this project design and indications of any agreed departure from that design. It will present, summarise, and interpret the results of the programme detailed above, and will include details of the final deposition of the project archive. Illustrations will include a location map, trench location plan and plans and sections of trenches drawn at an appropriate scale.
- 5.4 If considered appropriate, a short report on the results of the programme of archaeological observation and recording will be prepared for publication in an appropriate national journal or in 'Contrebis' - the journal produced by the Lancaster History and Archaeology Society.
- 5.5 Details of the archaeological work will be submitted online by the specialist contractor to the OASIS (Online Access to the Index of Archaeological Investigations) database.

6. ARCHIVE

- 6.1 The results of the watching brief will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The fully indexed project archive represents the collation and indexing of all the data and material gathered during the course of the project. It will include all the original records and drawings along with fully labelled and indexed slides and contact prints. It will include summary processing and analysis of any features and finds recovered during fieldwork, in accordance with UKIC guidelines. The deposition of a properly ordered and indexed project archive in an appropriate repository, is considered an essential and integral element of all archaeological projects by the IFA, and arrangement to this effect will be made with the museum curator prior to the commencement of the project.
- 6.2 All finds will be treated in accordance with OA North standard practice, which follows current IFA guidelines and will be deposited, along with a copy of the report and of the original site records, with Lancaster City Museum.

7. HEALTH AND SAFETY

- 7.1 OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997). A written risk assessment will be

undertaken in advance of project commencement and copies will be made available on request to all interested parties.

- 7.2 The client would be asked to determine the nature of any utility services to the properties and site prior to any fieldwork being carried out.
- 7.3 OA North has professional indemnity to a value of £2,000,000, employer's liability cover to a value of £10,000,000 and public liability to a value of £15,000,000. Written details of insurance cover can be provided if required.

8. CONFIDENTIALITY

- 8.1 The final report is designed as a document for the specific use of the Client, and should be treated as such; it is not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.
- 8.2 Any proposed variations to the project design will be agreed with LCAS in co-ordination with the Client. OA North will arrange a preliminary meeting, if required, and LCAS will be informed of the commencement of the project in writing.

9. WORK PROGRAMME

- 9.1 The following programme is proposed:
- 9.2 **Watching Brief:** the duration of the watching brief will be dependent upon the progress of the contractor.
- 9.3 **Archive/Report:** the report and archive will be produced following the completion of all the fieldwork. The final report will be submitted within about eight weeks of completion of the fieldwork and the archive deposited within six months. If desired, an interim statement could be produced within ten days of completion of the fieldwork.

10. STAFFING

- 10.1 The project will be managed by Murray Cook (OA North Project Manager) to whom all correspondence should be addressed.
- 10.2 The watching brief will be undertaken by an OA North Supervisor, suitably experienced in fieldwork techniques. Present timetabling constraints preclude detailing at this stage exactly who will be undertaking this element of the project.
- 10.3 The archaeological work will be monitored by RPS Planning & Development and LCAS, which will be arranged accordingly.

11. REFERENCES

- English Heritage, 1991 *Management of Archaeological Projects*, second edition, London
- RPS Planning & Development November 2009a Ormonde Offshore Wind Farm, East Irish Sea Onshore Cable Connection Route – Written Scheme of Investigation for an Archaeological Watching Brief during Construction
- RPS Planning & Development November 2009b Ormonde Offshore Wind Farm, East Irish Sea Onshore Cable Connection Route – Supplementary Historic Environment Desk-Based Assessment
- SCAUM (Standing Conference of Archaeological Unit Managers), 1997 *Health and Safety Manual*, Poole
- UKIC, 1990 *Guidelines for the Preparation of Archives for Long-Term Storage*, London
- UKIC, 1998 *First Aid for Finds*, London

APPENDIX 2: CONTEXT LIST

Watching Brief Area		Middleton Road
Context	Description	Depth
<i>1</i>	Red brick footing. Comprised a single skin of red brick, measuring 230mm by 110mm by 85mm in size. The bricks were frogged and stamped with the lettering 'Claughton Manor Brick C ^a Caton'. The bricks were laid in a stretcher bonding pattern, and bonded by a light grey cement. A 18.0m length of this brick footing was recorded within the excavated conduit trench.	0.2m
<i>2</i>	Masonry foundation within construction cut <i>6</i> . Comprised roughly hewn sandstone measuring a maximum of 0.22m by 0.14m by 0.12m in size. Three layers of coursed masonry were present, bonded by a loose mid-orange, medium, sand. The foundation was trench built.	0.35m
<i>3</i>	Tarmac of former road surface.	0.1m
<i>4</i>	Cobbled surface. Comprised <i>c</i> 95% sub-rounded stone a maximum of 0.15m by 0.14m by 0.08m in size, within a dark grey clay matrix.	0.08m
<i>5</i>	Layer. Comprised a dark brown grey, firm, fine sand silty clay. The interface between glacial till, <i>8</i> , and former soil horizon.	0.12m
<i>6</i>	Construction cut for foundation <i>2</i> . A linear feature of unknown width, at least 25.1m in length, with straight sides and a flat base.	0.35m
<i>7</i>	Fill of construction cut <i>6</i> . A dark brown grey, fine sand silty clay. Deposit <i>5</i> , backfilled into construction cut <i>6</i> .	0.08m
<i>8</i>	Glacial till. Comprised a mid-grey orange, firm, clay.	Unknown

Watching Brief Area		Half Moon Bay
Context	Description	Depth
<i>9</i>	Sand (dune material)	0.8m
<i>10</i>	Buried Turf Layer	0.1m

Watching Brief Area		Heysham Golf Course
Context	Description	Depth
<i>11</i>	Reinforced concrete structured ROC Monitoring Post. Surviving south wall elevation 5.6m long, west 0.2m long and east 1m long, all 0.3m thick. Approximately bottom 1m-1.2m of structure survives intact.	1m-1.2m
<i>12</i>	Construction Cut for Structure <i>10</i>	Unknown
<i>13</i>	Fill of construction cut <i>11</i> mixed disturbed glacial till and general rubble.	Unknown
<i>14</i>	Glacial till. Comprised a mid-grey orange, firm, clay.	Unknown



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