SPECIFICATIONS FOR A PROGRAMME OF WATCHING BRIEF INVESTIGATION

The Edge,

Whitehaven,

Cumbria

By

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GERRY MARTIN ASSOCIATES LTD

Specifications for presentation to the Curatorial Authority

8th June 2021

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1.0 INTRODUCTION

1.1 The contractor

Gerry Martin is an independent free-lance archaeological contractor with over 35 years experience of commercial archaeology in Britain, Norway and Germany. Gerry Martin Associates Ltd specialises in the expedition of fieldwork projects. These include the field management and direction of large capital projects to execution of smaller watching briefs and evaluations.

All projects are carried out in accordance with the NPPF framework (2019) and the guidelines and recommendations issued by the Institute of Field Archaeologists and Historic England.

Gerry Martin has achieved the accreditation level of MCIfA (Member) with the Chartered Institute for Archaeologists (CIfA).

1.2 The Commission

Gerry Martin has been commissioned by Ms Hannah Dockerty, (the client) to prepare a Specification of Works for a Programme of Archaeological Watching Brief relating to demolition of any extant buildings and clearance of ground at The Edge, Whitehaven.

The Watching Brief has been issued by Cumbria County Council Historic Environment Service (CCCHES) as potential and significant archaeological remains may be encountered.

The study area lies in an area believed to have been founded in the 17th century as part of the enlarged harbour, associated maritime trades and the growing importance of the port of Whitehaven supplying coal to Dublin.

Gerry Martin Associates Ltd is seeking approval to investigate this area from Cumbria County Council Historic Environment Service in order to test this assertion.

1.3 In connection with the commission

Because of the archaeological significance of this location (figure 1), the curatorial planning authority has stated that planning permission is subject to the “developer” securing the implementation of a formal programme of archaeological observation and investigation during the forthcoming development.

The development scheme envisages a programme of ground clearance that impacts upon a Scheduled Ancient Monument (SAM 34982, HA 1020460) as well as other no-designated heritage assets that may have a past cultural significance.

Figure 1. Site location (OS Copyright, Licence no. 100044205)

This written scheme of investigation (WSI) has been produced by the archaeological contractor and details the methods and procedures to be employed during the watching brief action. It is submitted to the curatorial authority (Cumbria County Council) for their approval.

1.4 Historical background

The study area (NX 96840 18300) lies to the west of Whitehaven town centre close to the Old Quay, part of the harbour complex.

The exploitation from the late 17th century onwards by the Lowther family of the West Cumberland coalfields necessitated the construction and development of a reliable port that by the mid-18th century was the third largest trading port in Britain http://whitehavenmarina.co.uk/about/history.html.

Whitehaven was originally a small fishing village on land in the possession of St Bees Priory. By the 12th century, Whitehaven was a township that lay on the eastern side of Pow Beck.

On the western side of Pow Beck, in the manor of Arrowthwaite, from the early years of the 13th century, coal mining and quarrying were taking place.

A charter of July 1324 records that Roger de Sutton "let for rent to Simon Crump, of Ireland, one vault in Whitehaven with free entrance and exit to the same to obtain coal and stone within the solitary part of Arrowthwaite next to the seashore" (English Heritage 2001, 5).

In 1600 the Whitehaven estate was acquired by the Lowther family and in 1630 it was conveyed to Sir John Lowther of Lowther, Westmorland, who purchased the title to salt pans and coal rights in 1634 and 1635 (Scott-Hindson 1994, 1).

Initial improvements were conducted by John Lowthers son, Sir Christopher who sought to exploit the coal market with Dublin, then the second largest town in the United Kingdom.

His first venture was the export of salt and he built a small pier in the harbour as a loading facility in 1633, improved and lengthened in 1665 and repeated in 1687 (Hay 1987, 74). This became known as the Old Quay and was constructed onto large plates of protruding rock. During the 1670s and 1680s as the Old Quay was extended (figure 2), rock was extracted from within the South Harbour which became a large quarry, measuring 80 square yards (73 square m). The rock was reduced to a depth of ten feet (3.04m), thereby deepening the harbour and allowing deeper draught vessels to use the facility (Routledge 2012, 7).

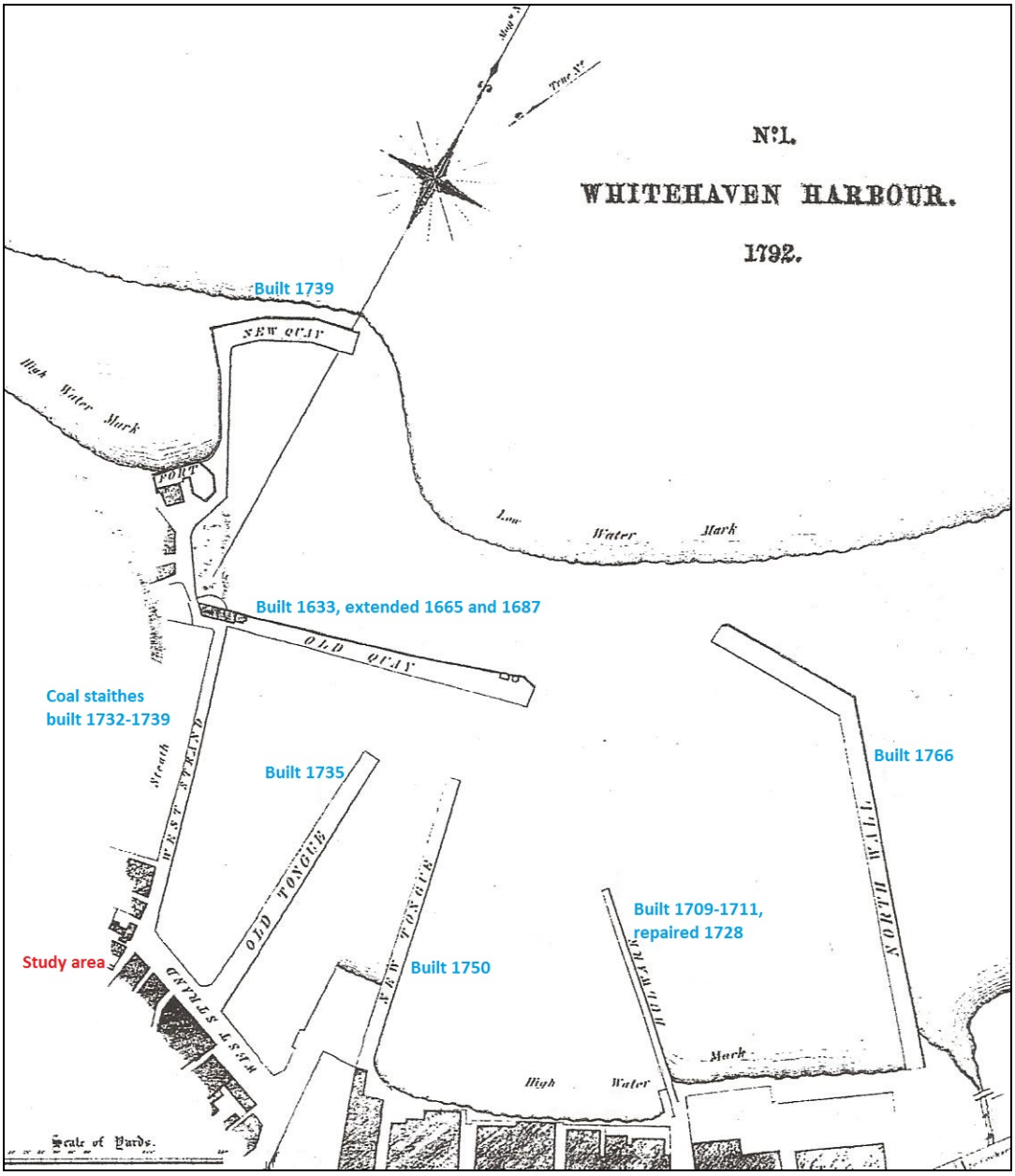

Figure 2. Development of Whitehaven harbour in the 17th and 18th centuries

Two paintings by Jan Van Wyke (1652-1702 also known as Jan Wyck or Wick) executed in 1686 depicts the old shore-line prior to major re-development in the 18th century.

Figure 3 illustrates ships being beached at low tide with one ship being broken up in Bardywell Lane (Ibid, 6).

Figure 4 depicts the Old Quay and a considerable foreshore around the waterfront of Whitehaven (Collier 1991, 32).

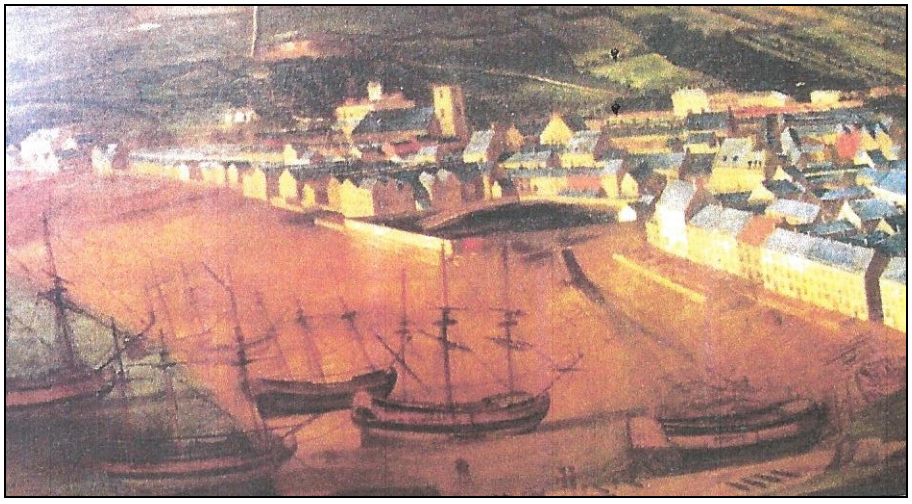

Figure 3. Painting by Van Wyke of Whitehaven harbour, 1686

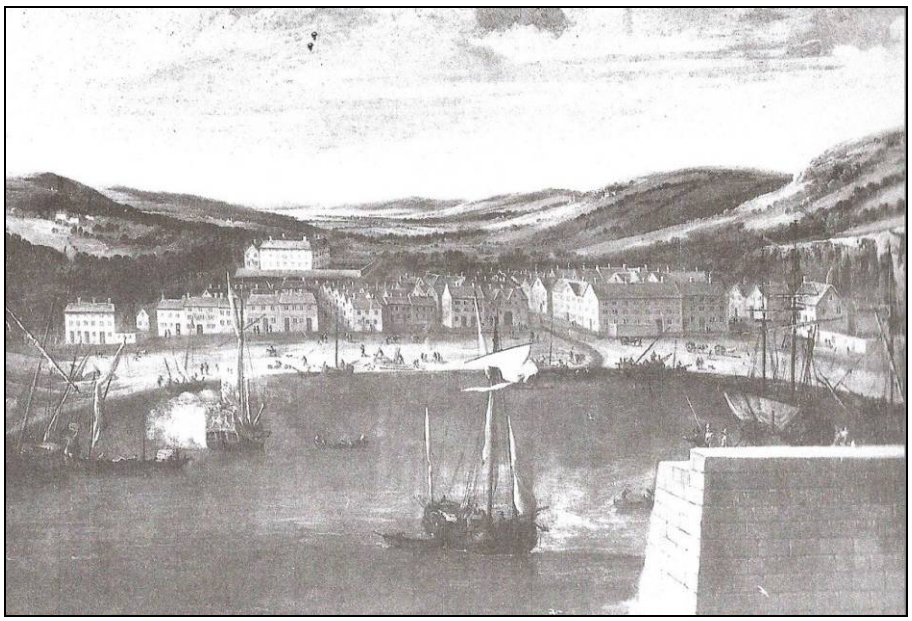

Figure 4. Prospect of Whitehaven from the sea by Van Wyke, 1686 (Cavendish Collection, Holker Hall)

The lower ground to the east of Pow Beck was during the 17th century a considerable distance from the established waterfront from the 18th century (figure 8) and was known as “waste” or “sandhills” until the 1680s or 1690s (Collier 1991, 8).

From the early 18th century the port became increasingly sophisticated with the addition of numerous quays (figure 2).

The primary trade conducted from Whitehaven was the coal trade with Dublin of which Sir James Lowther sought to achieve a monopoly. In 1708 he created a Board of Trustees for future development of Whitehaven harbour by Act of Parliament (Scott-Hindson 1994, 11).

To be paid out of the harbour duties set at 1/2d per ton of coal, the primary actions were:

- Construction of a counter mole (built in 1709) and head
- Consolidation of the north-east side of the harbour
- Repair the pier

The port flourished and it was agreed in 1732 by the Trustees to build a new mole or wharf known as the Tongue or Merchant's Quay completed in 1735 (Ibid, 19).

Lowther's coal trade was lucrative and considerable investment was employed. Coal was delivered by a waggonway to the western side of the harbour and work began in 1732 on a coal staithe. It is noted in the Trustees minutes that there were exchanges of several parcels of land along west wharf (Ibid, 39). The coal staithes also known as the "hurries" are clearly visible in the right-hand corner of an engraving by Mathias Read in 1738 (figure 5).

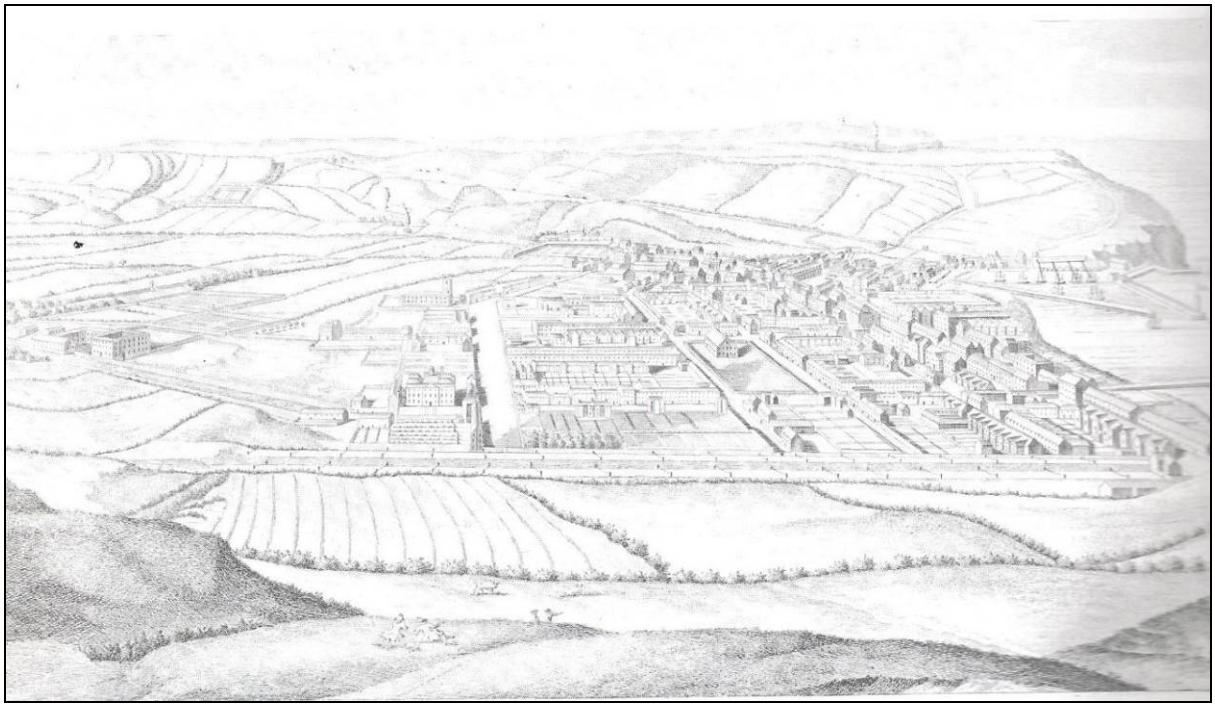

Figure 5. Mathias Read view of Whitehaven, 1738

The ports success was reflected in a population rise from 2,222 in 1693 to 9,063 in 1762 (Ibid, 25).

In 1762, an Act of Parliament enlarged the harbour still further, the work began in 1764. Another Act in 1782 enlarged the harbour once more (Ibid 27-29).

The success of the port created rivalry between Lowther's domestic trade and speculative long distance trade with North America. Long distance trade required a deeper draught harbour for sea-going vessels whereas colliers of between 150-250 tons did not. Over 1,000 ships were built in Whitehaven yards, mostly colliers (Ibid, 11).

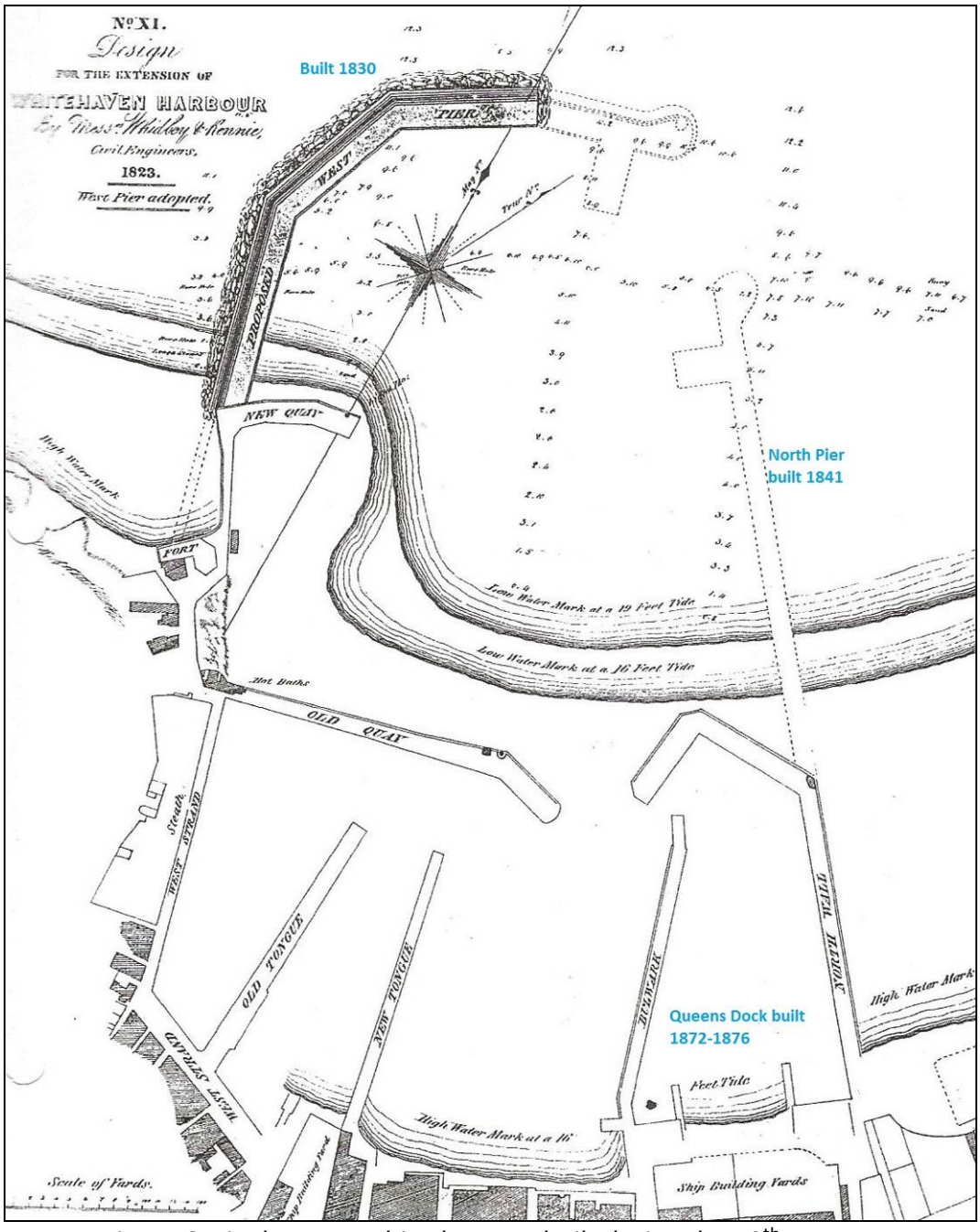

Figure 6. Final topographic elements built during the 19th century

By the beginning of the 18th century trade had developed with the American colonies of Maryland and Virginia for tobacco and with the slave plantations of the West

Indies for sugar and spirits. This trade was lost by 1783 following the outcome of the American War of Independence (Ibid, 3).

The 19th century witnessed continued success for the port of Whitehaven although its market share began to decline as international trade expanded elsewhere in the UK. The harbour was enlarged with the construction of a West Pier and a North pier to provide deeper water for larger ships (figure 6).

Work on the West Pier designed by John Rennie began in 1823 and was completed by 1830 whilst the North Pier was built in 1841 (Hay 1987, 75-76).

The final spatial element was the construction of the Queen's Dock between 1872 and 1876 (Ibid, 76).

1.5 Historic designation: Whitehaven Old Fort (SAM 34982, HA 1020460)

Historic England provided the follow citation regarding this mandated and statutory protected heritage asset:

The monument includes the upstanding and buried remains of Whitehaven Old Fort, an 18th and 19th century coastal battery which defended the entrance to Whitehaven harbour, together with upstanding remains of a 19th century lime kiln built into the fort's north west corner. It is located 80m west of the southern end of Old Quay and is situated north of, south of and beneath a modern road leading to South Beach Recreation Area.

During the 18th century Whitehaven developed into one of Britain's premier ports. It enjoyed a thriving trade with America and Ireland and by 1790 the harbour was dealing with a greater overall tonnage per annum than any other port except London. Construction of the fort began in 1741 and when completed it comprised a gun platform surrounded by a perimeter wall with a guardroom and powder magazine. Ten 18-pound guns stood in a line within the fort and projected over a low wall from where they commanded a clear view out to sea. Sods were placed along the top of the wall leaving embrasures for the guns. The ordnance at the Old Fort changed frequently, the original guns being removed to Carlisle in 1745 to assist against the Jacobite Rebellion with replacements being sent to Whitehaven the following year. Recommendations by the Board of Ordnance for improvements to Whitehaven's defences during the 1760s were only partially carried out and this failure to provide adequate protection resulted in an attack on the town and harbour by the American vessel `Ranger', commanded by John Paul Jones, in April 1778 during the American War of Independence. Immediate improvements were then undertaken and by June of the same year repairs and new construction meant that Whitehaven was now defended by six strong batteries. Throughout the Napoleonic War documentary sources record activity on the harbour defences including the carrying out of repairs, remounting of guns and inspection of stores. Although never permanently manned the Old Fort was the headquarters of the local and county militia, while militia regiments from other areas were periodically garrisoned there.

In 1819 the Old Fort is recorded as containing eight guns mounted on iron carriages. These were last fired in 1824 during celebrations to mark the laying of foundation stones for the West Pier. In the same year a lime kiln was constructed in the fort's north-west corner using much of the fort's original stonework. Gunpowder continued to be stored at the Old Fort at least until 1840. During the 1870s many of the guns were removed and those that remained were probably buried by a landslip which covered the site in 1872. The guardhouse survived as a standing structure at least until 1880. Whitehaven Old Fort was subjected to limited excavation in the late 1970s; that part of the fort located to the north of the modern road has been consolidated as a harbour-side feature whilst that part of the fort to the south of the road has been reburied. A plan of the Old Fort produced by John Spedding in about 1756 shows a proposed extension to be constructed on the eastern side. Features in this extension included another powder magazine, a two-storey building being a storeroom on the lower floor and a guardroom on the upper floor, a guardroom for officers and a small backyard. The area of this proposed extension was not excavated thus it is not presently known if it was ever constructed.

The northern part of the Old Fort includes a sandstone perimeter wall up to 1.3m high. At intervals the walls are cut by semi-circular drains at ground level which appear externally above a prominent sandstone cordon. Also visible are the remains of iron `handles' leading into the internal face of the fort's western wall which are interpreted as the remains of the recoil-check system for the guns. There is a doorway in the fort's north wall and immediately adjacent there are the substantial remains of a lime kiln which slightly overlaps the fort's door. The lime kiln is about 2.8m high with the stoke-hole facing the harbour.

Limited excavation of the northern part of the Old Fort found that it was originally floored with rectangular sandstone blocks identical to those which formed the fort's walls. Other features revealed during the excavation of the northern part of the fort include a rough trackway considered to be contemporary with the lime kiln, which led from the fort's doorway to a small pit, and the remains of a sandstone wall butting onto the internal face of the fort's east wall which is the remains of a blacksmith's shop shown by harbour plans to have been built between 1827-33. Limited excavation of the southern part of the Old Fort revealed that the walls of the guardhouse and powder magazine (figure 7), although razed to ground level, are an integral part of the fort, being bonded into the southern and eastern walls. The guardhouse measures about 6m by 4m internally and is floored with rectangular slabs of siltstone while the powder magazine measures about 4m by 2m internally. Outside these buildings the floor of the fort was virtually identical to that found in the northern part. At various places drainage channels had been cut into the floor after laying and a large semi-circular drain in the south west corner cutting almost vertically down through the wall is interpreted as a urinal leading directly to the sea. The southern part of the fort was drastically affected by the development of Wellington coal pit which was sunk in 1840 and operated for almost a century. Considerable demolition and disturbance took place within the Old Fort including use of the powder magazine as a pit `cabin'. The southern part of the fort was eventually buried in 1972 during the Wellington Pit Reclamation Scheme. Whitehaven Old Fort is

a Listed Building Grade II. A number of features are excluded from the scheduling; these include a modern roadside wall, a modern wall butting the lime kiln and a stone plinth in front of the lime kiln; the surface of the modern road, the modern paved and brick flooring together with an anchor and the display plinth on which it stands in the northern part of the fort, all steps and an iron handrail, the surface of an access track on the north west side of the fort, the paved surface on the north side of the fort, gateposts and a fence on the north east side of the fort, and a modern wall on the south east side of the fort together with a winding wheel from Wellington Pit and the plinth upon which it stands. However, the ground beneath all these features is included.

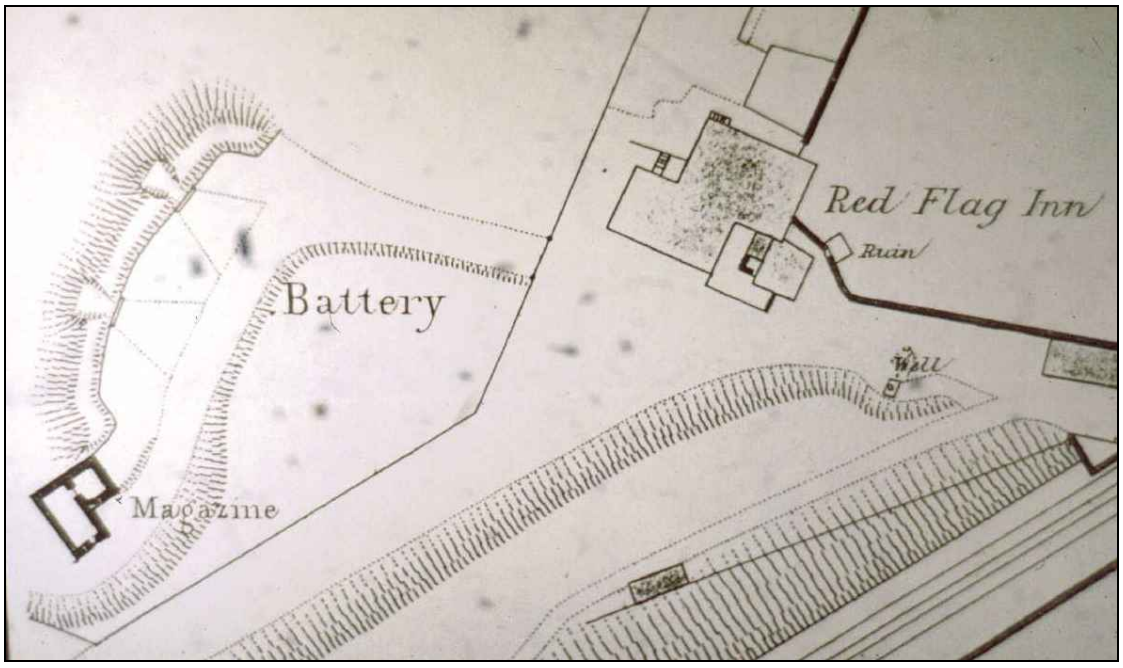

Figure 7. Plan of the magazine and battery (undated)

1.6 Site specific archaeological impact

The development (blue line, figure 8) within the scheduled area (red line, figure 8) is limited to an area now occupied by an existing road (E4, Strand Road) and probably an industrial facility (E5, colliery wheel).

Towering above the harbour, Wellington Pit was by far the most spectacular of Whitehaven's coal mines. It was built in the form of a castle, with a great keep, turrets and enormous crenellated walls (figure 9). Its twin shafts were sunk between 1840 and 1845.

Dating from 1840, the architect of the surface buildings was Sydney Smirke. The design of the 'candlestick chimney' is reputed to be based on a candlestick in the Castle. Wellington Pit was the site of Whitehaven's largest mining disaster in 1910, in which 136 miners lost their lives.

The only remaining buildings are the candlestick chimney (ventilation for the

workings), the Wellington Lodge which is now used as a base for the Coastguard, and some of the retaining walls.

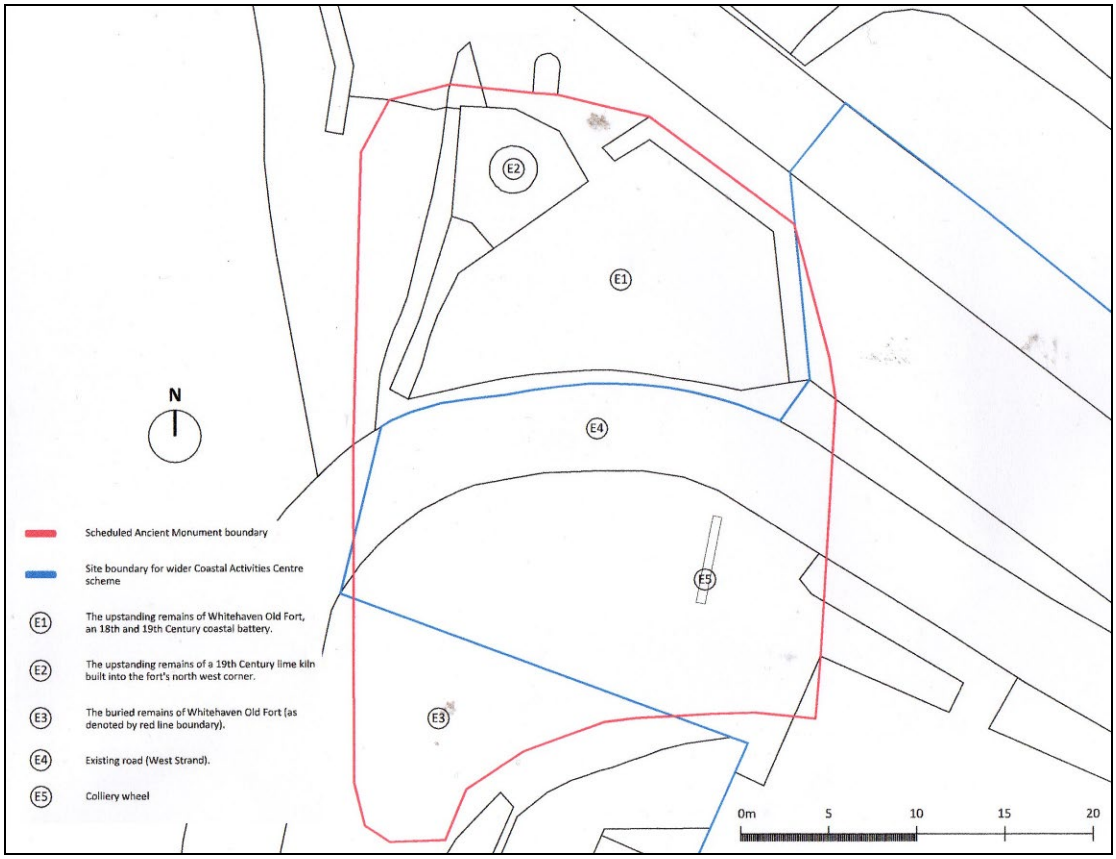

Figure 8. Scheduled area superimposed on the development footprint

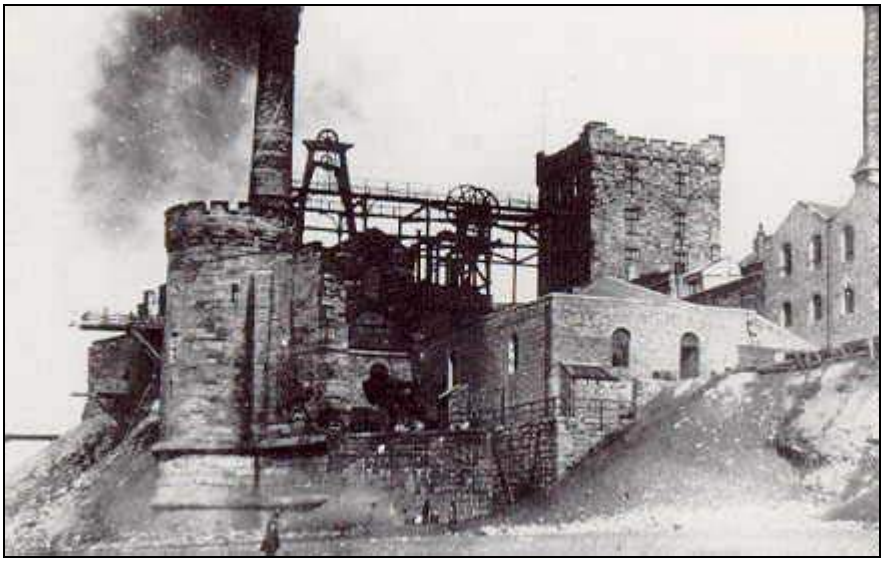
Figure 9. Wellington Pit

Wellington Pit lies just to the south of the study area (figure 10). The fort buildings partly extant in 1863 as illustrated on the first edition Ordnance Survey map. The 1863 map appears to illustrate an inlet with watch tower that forms a salient with the Old Quay.

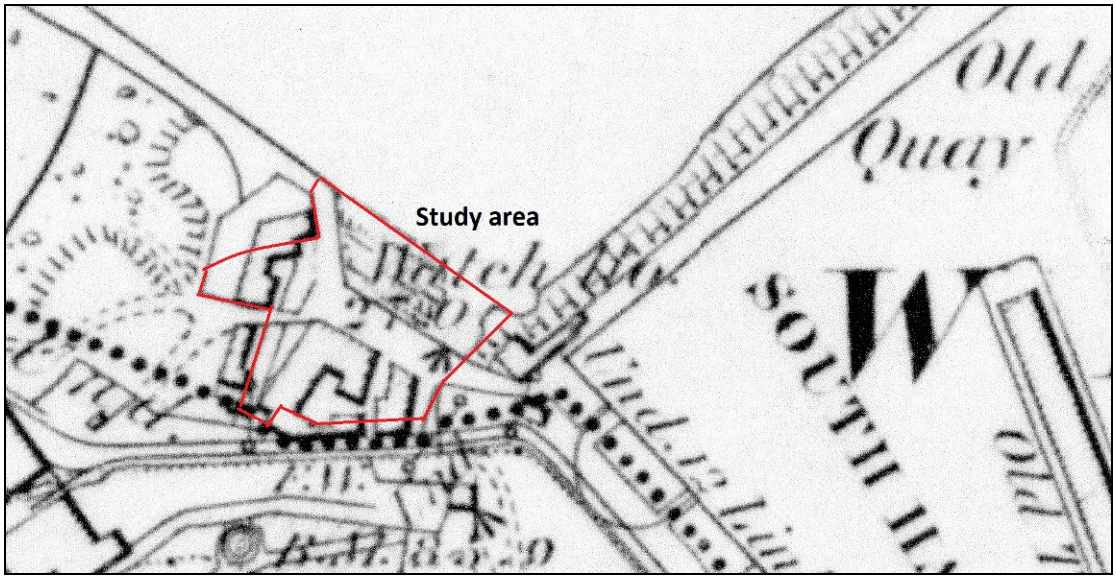

Figure 10. First edition Ordnance Survey map of 1863

A castellated building appears to have been built on the sub-structure of the fort that guards the foreshore as depicted on a contemporary postcard (figure 11).

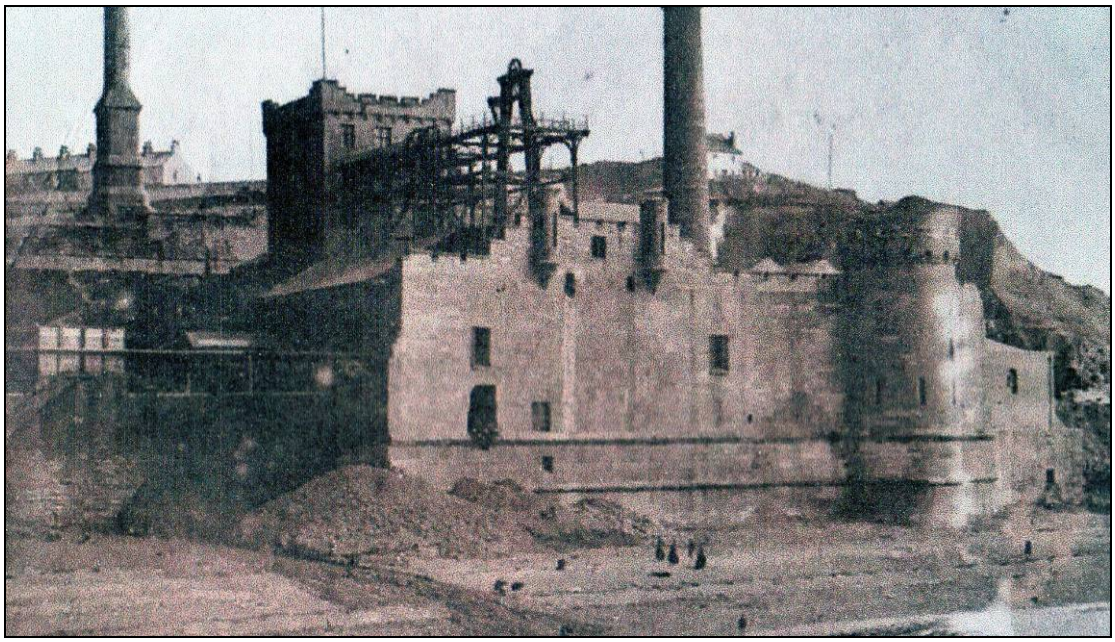
Figure 11. Castellated colliery buildings superimposed on the fort

In 1872 a landslip occurred that buried many of the then extant fort buildings leading to a major spatial reconfiguration of the locality.

The Old Fort is still acknowledged but railway sidings and colliery buildings are prevalent with only the curtain wall range present on both maps (figures 10 and 12), the super-structure still extant (figure 11).

By 1923 the 19th century colliery buildings were probably removed and a curving railway that now appears to represent a road was established (figure 8) a configuration that existed on the 1947 Ordnance Survey map.

Restoration of the area occurred in the late 20th century that has levelled colliery buildings and removed industrial buildings and railways that were considered a visual blight.

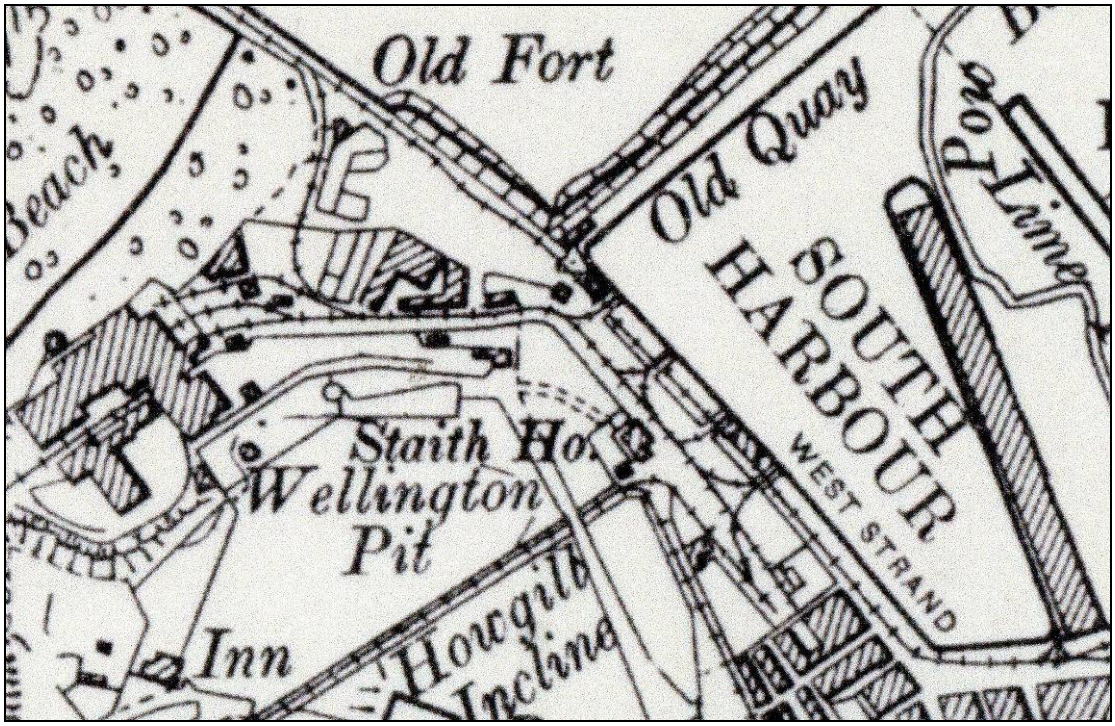

Figure 12. Second edition Ordnance Survey map of 1898

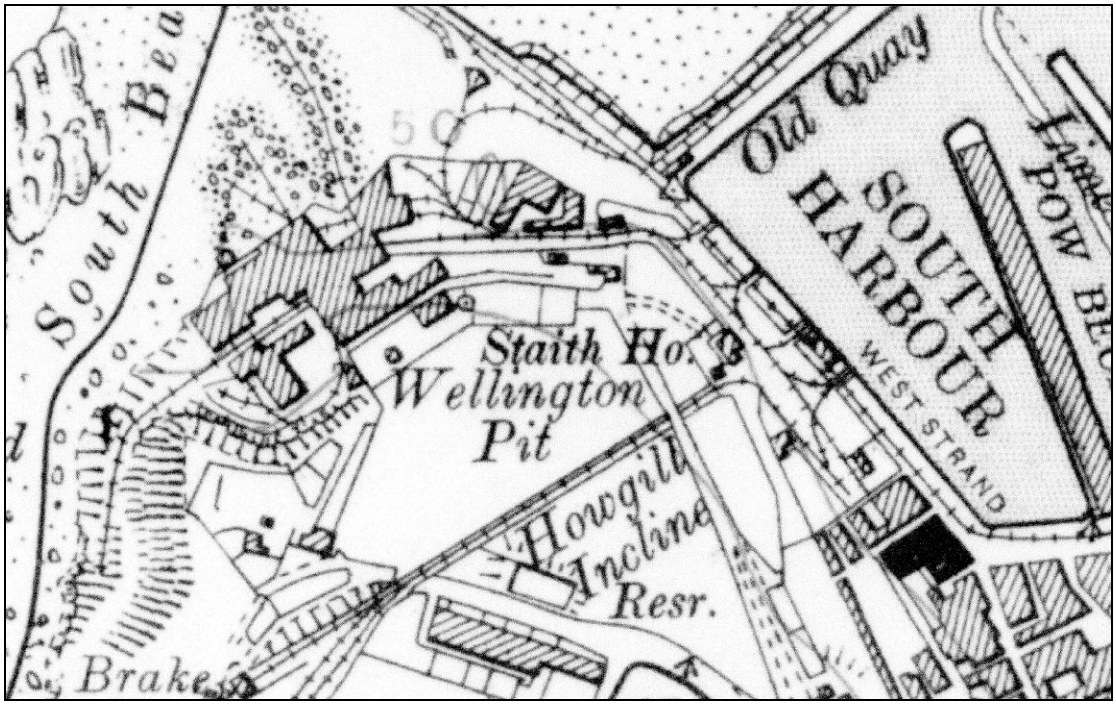

Figure 13. Third edition Ordnance Survey map of 1923

1.7 Development proposals

The proposals that are envisaged are largely landscaping and the establishment of car parking facilities in the form of bays (figure 14). The invert level for this action is likely to be minimal approximately 0.30m in depth. The visitor centre is likely to provide deeper strip foundations probably between 0.60m and 0.90m in depth. Services are likely to be shallower.

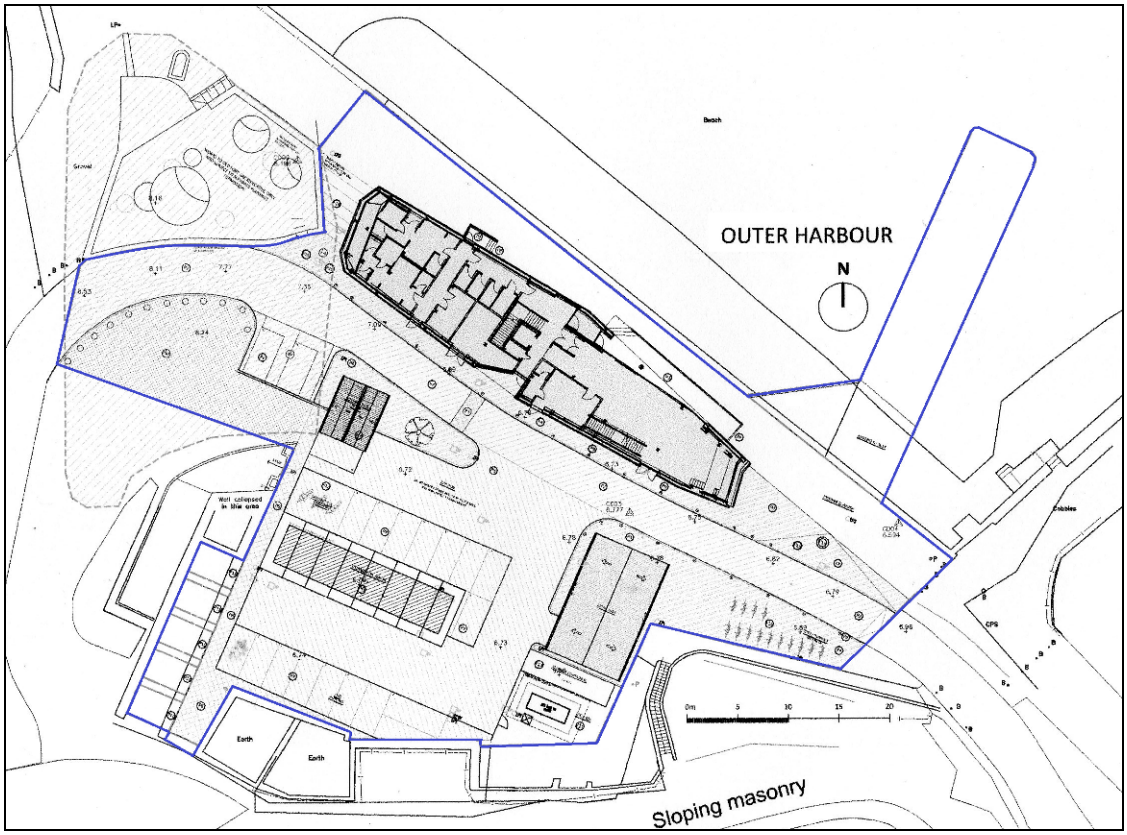

Figure 14. Development curtilage (blue outline)

2.0 ARCHAEOLOGICAL WATCHING BRIEF

2.1 Objectives

The objective of the watching brief investigation is to carry out a formal programme of archaeological observations and investigations during the process of demolition that will destroy archaeological or architecturally informative deposits or remains. The specific aims of the work are to:

- Provide a record of those works affected by the demolition
- Provide a record of any significant archaeological or architectural features encountered during demolition activities

In particular, this watching brief is seeking to understand the spatial relationship between the former waterfront, the fort and any later encroachment. This may be inhibited by the quantity of overburden which is likely to maintain the present

topography. It is quite probable that the interface between the natural coastline and 17th century development is at a depth that may not be observed.

2.2 Methodology

In order to achieve these objectives, a record of all archaeological informative deposits encountered during the demolition shall be made consisting of detailed context records on individual pro-forma sheets, according to the protocols set out in the GMA manual.

Subject to local conditions during the demolition, each stratigraphic element will be individually numbered and described in terms of fabric detail, stratigraphic position, dimensions and interpretation. The context system will be cross-referenced to other records. Registers will be maintained for all photographs, levels, plans, section, finds and samples taken, made or gathered in the field.

Any plans drawn will be at scale and related to a base plan to the OS grid. All levels will be calculated to Ordnance Datum. Digital photographs will be numbered and labelled with subjects, orientation and scale and cross-referenced to film and digital numbers. General shots of the site will also be taken.

All finds from stratified deposits (with the exception of recent ceramic building material) will be collected, processed and recorded as expressed in the GMA Manual, forming an individual section within the final report.

If suitable, sealed and anaerobic deposits will be environmentally sampled as appropriate and according to the GMA manual, in order to examine past environmental conditions. This element will form an individual section within the final report.

The watching brief will aim to provide an opportunity, if needed, to recover any exceptional archaeological find that has not been adequately resourced. Any "unexpected" discoveries will be made known to the Historic Environment Officer, Cumbria County Council.

Great care must be exercised during the watching brief as the colliery and its demolished contents are likely to be in a poor state of repair and are liable to collapse.

Intervention will only take place when the site has been made as feasibly safe as possible. This may necessitate the loss of some architecturally interesting parts of the building fabric in order to maintain a safe working environment.

2.3 Rapid desk-based assessment

As part of the client report, a summary of previous interventions and research at The Edge, Whitehaven will be undertaken. This will include published excavation reports

and relevant articles from relevant journals and books and reference to the Historic Environment Record.

2.4 Finds and environmental samples

All finds (other than modern material) will be recovered from the watching brief action and form a section within the main text of the client report.

As the watching brief programme is unlikely to disturb sealed deposits, it is probable that no environmental material of merit will be encountered. However, if this presumption is incorrect, environmental samples will be taken and processed by Wardell Armstrong Archaeology.

3.0 PUBLICATION AND ARCHIVE

3.1 The report

A copy of the report will be presented to the client and copies submitted to the County Historic Environment Service, Cumbria County Council. An additional copy will reside with the archive. The report will be presented within two months of leaving the field.

The watching brief report will be a stand-alone report in the GMA series with the purpose of informing the curatorial authority of the archaeological remains encountered during intrusive works. The main body of the report would be preceded by a non-technical summary containing the essential elements of the survey's results.

The report will be divided into the following sections:

1. Introduction
2. Methodology to include development proposals
3. Background
4. Historical context to include assessment of previous work
5. Results to include a discussion of the results
6. Acknowledgments
7. Bibliography

Copies of the report will be presented to Historic England and the County Historic Environment Service, Cumbria County Council. An additional copy will reside with the archive. The report will be presented within two months of leaving the field.

A short note will be provided for Cumberland & Westmorland Archaeological transaction for fieldwork conducted in Cumbria during 2021.

3.2 The archive

The report would state the location of the archive and acknowledge the role played by the curatorial authority and information derived from the County's Sites and Monuments Record. The finished archive will deposited with Tullie House Museum, Carlisle. The report will be deposited on *Oasis*, an online repository of archaeological grey literature

4.0 TIMETABLE AND RESOURCES

4.1 Timetable

The commission to undertake this project anticipates a single archaeologist will be on site during all phases of demolition and ground disturbance. If considered necessary, provision has been made for further personnel to aid with the archaeological recording.

The archaeological strategy to be implemented represents a recording mitigation scheme. It is anticipated that the site works will impact upon some past cultural deposits requiring archaeological analysis.

The fieldwork is likely to be intermittent, the report stage being an accumulation of watching brief observations will be combined to produce a synthetic analysis of the study area.

A start in early July 2021 is the desired date for beginning the works.

4.2 Resources and monitoring

The project would be under the direction of Gerry Martin BA, MA, MCIFA and the fieldwork and report will be undertaken by him or a delegated colleague.

Cumbria County Council will monitor progress and standards throughout the project.

4.3 Staffing

The following personnel are allocated on this project.

- Gerry Martin, fieldwork and report, Project Manager
- Rea Carlin fieldwork
- Frank Giecco, coins
- Megan Stoakley, illustrations and small finds
- Paul Preston, lithics
- Louise Collier, Roman ceramics
- Megan Stoakley, Medieval and Post-Medieval ceramics, Wardell Armstrong Archaeology Ltd
- Lynne Gardiner, Wardell Armstrong Archaeology Ltd, environmental samples
- Andy Towle, Roman glass

- Rea Carlin, human and animal remains

4.4 Safety aspects

The safety of the archaeologists working on site is of the utmost importance and the requirements of the current Health and Safety legislation must be strictly adhered to.

All work will adhere to the archaeological contractors Health and Safety Manual and will be carried out according to the relevant Health and Safety legislation. This includes in particular, the following regulations

- Health and Safety at Work 1974
- Construction (Design and Management) Regulations 1994
- The Management of Health and Safety at work Regulations 1992
- Personal Protective Equipment at Work Regulations 1992
- Manual Handling Operations Regulations 1992
- Workplace (Health, Safety and Welfare) Regulations 1992

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