# Long Curtain and Southsea Castle Portsea Island, Hampshire

Additional GI Works Archaeological Watching Brief

Ref:
118662.03
March 2020

wessexarchaeology



Portway House
Old Sarum Park
Salisbury
Wiltshire
SP4 6EB

www.wessexarch.co.uk

Wessex Archaeology Ltd is a Registered Charity no. 287786 (England & Wales) and SC042630 (Scotland)

## Document Information

| | |
|---|---|
| Document title | Long Curtain and Southsea Castle, Portsea Island, Hampshire |
| Document subtitle | Additional GI Works Archaeological Watching Brief |
| Document reference | 118662.03 |
| Client name | Eastern Solent Coastal Partnership |
| Address | Havant Borough Council, Southmoor Depot & Offices<br>2 Penner Road<br>Havant<br>Hampshire<br>PO9 1QH |
| National grid reference (NGR) | 463312, 99103 and 464312, 98076 |
| Statutory designations | Scheduled Monument (list entry 1008754 and 1001869) |
| Planning authority | Portsmouth City Council |
| Planning reference | 19/01097/FUL |
| WA project name | Southsea Coastal Defence Scheme TO15 Additional GI Watching Brief |
| WA project code | 118662 |
| Dates of fieldwork | 16/09/19-24/10/19 |
| Fieldwork directed by | Rachel Williams, Jamie Porter, Peter Capps, Alistair Zochowski, Matt Kendall |
| Project management by | Alex Godden |
| Document compiled by | Naomi Brennan |
| Contributions from | Lorraine Mepham (finds) |
| Graphics by | Naomi Brennan and Kitty Foster |

**Quality Assurance**

| Issue number & date | Status | Author | Approved by |
|---|---|---|---|
| 1 | Draft submitted to client | N Brennan | |

## Contents



### List of Figures



### List of Plates

**List of Tables**

**Summary**

Wessex Archaeology was commissioned by Eastern Solent Coastal Partnership to carry out archaeological and geoarchaeological monitoring of Geotechnical Investigation (GI) works as part of design work for the Southsea Coastal Defence Scheme. The scheme, for flood and coastal defences along a 4.5 km frontage, was granted permission in December 2019 (19/01097/FUL). These GI works are in addition to a wider series of GI works undertaken in 2018 and are located within or adjacent to the Scheduled Monument Boundary of two Scheduled Monuments; Long Curtain, King's Bastion and Spur Redoubt (list entry 1008754) and Southsea Castle (list entry 1001869), centred on National Grid Reference (NGR) 463312, 99103 and NGR 464312, 98076. Scheduled Monument Consent was obtained for the initial investigations (ref. S00182998 and S00182987) and extended to include the current works.

Within the area of Long Curtain, King's Bastion and Spur Redoubt, three boreholes and three trial pits were monitored. Adjacent to Southsea Castle, six boreholes were monitored. The investigations were undertaken in September and October 2019.

Within the area of Long Curtain Moat boreholes within the seaward moat wall and at the edge of the current sea defences located compact clay and gravel deposits beneath the modern construction deposits. While there is the potential that these could relate to the former defences, concrete was also located within the deposit in one of the boreholes suggesting a more modern date for these deposits, potentially relating to the construction of the sea wall.

A single borehole and test pit were located within the former moat extent. A brick deposit was encountered within the borehole, which may indicate a brick lining for the moat. The moat was backfilled sometime around 1870 and modern backfill contexts were observed in both trenches. A possible alluvial deposit was also observed within the borehole.

Two of the test pit trenches were situated adjacent to the current extent of the King’s Bastion. These located gravel rich deposits beneath modern made ground and topsoil. These gravel rich deposits are believed to represent material from the earthworks of the bastion.

All the boreholes and test pits in the area of Long Curtain moat located storm beach deposits and the bedrock geology of the Wittering Formation below the identified made ground and topsoil contexts. The watching brief indicates limited evidence for surviving buried archaeological remains from the 17th century fortifications.

Boreholes excavated seaward of Southsea Castle located only modern made ground associated with the current sea defences and seafront promenade situated directly onto storm beach deposits. To the rear of the castle there was evidence of landscaping and truncation within the former parade ground. In general, this suggests a low potential for surviving archaeological remains within these areas.

**Acknowledgements**

Wessex Archaeology would like to thank the Eastern Solent Coastal Partnership for commissioning the archaeological watching brief, in particular Gavin Holder and Nicola Reid. Wessex Archaeology is also grateful for the advice of Ian Bright, Inspector of Ancient Monuments (Historic England) and Dave Hopkins, County Archaeologist (Hampshire County Council), who monitored the project, and to Geotechnics Ltd for their cooperation and help on site.

The fieldwork was directed by Rachel Williams, Jamie Porter, Peter Capps, Alistair Zochowski, Matt Kendall. This report was written by Naomi Brennan with illustrations by Naomi Brennan and Kitty Foster. The project was managed by Alex Godden on behalf of Wessex Archaeology.

# Long Curtain and Southsea Castle, Portsea Island, Hampshire

## Additional GI Works Archaeological Watching Brief

### 1 INTRODUCTION

#### 1.1 Project and planning background

1.1.1 Wessex Archaeology (WA) was commissioned by the Eastern Solent Coastal Partnership to carry out archaeological and geoarchaeological monitoring of Geotechnical Investigation (GI) works as part of design work for the Southsea Coastal Defence Scheme. The scheme, for flood and coastal defences along a 4.5 km frontage, was granted full planning permission in December 2019 (19/01097/FUL).

1.1.2 These GI works are in addition to a wider series of GI works undertaken in 2018. Supplementary ground investigation and surveys are required to enhance the existing ground model and knowledge of existing structures and services, to support the detailed design assumptions, calculations and drawings.

1.1.3 These additional GI works are within or adjacent to the Scheduled Monument Boundary of two Scheduled Monuments; Long Curtain, King's Bastion and Spur Redoubt (list entry 1008754) and Southsea Castle (list entry 1001869). These lie within Frontages 1 and 4 of the scheme respectively centred on National Grid Reference (NGR) 463312, 99103 and NGR 464312, 98076 (**Figure 1**).

1.1.4 The Written Scheme of Investigation (WSI) produced in relation to these works (Wessex Archaeology 2019) was an addendum to the *Statement of Significance and Written Scheme of Investigation for Geotechnical Site Investigations* (Wessex Archaeology 2018a) produced for the previous investigations.

1.1.5 Scheduled Monument Consent was obtained for the initial investigations (ref. S00182998 and S00182987) and extended to include the current works with the permission of Iain Bright, Inspector of Ancient Monuments, Historic England.

1.1.6 The works were undertaken in September and October 2019.

#### 1.2 Scope of the report

1.2.1 The purpose of this report is to provide the results of the watching brief, to interpret the results within their local context and in the light of the previous investigations, and to assess their potential to address the aims outlined in the WSI, thereby making available information about the archaeological resource (a preservation by record).

#### 1.3 Location, topography and geology

1.3.1 The two monuments are both situated on the coastline of Portsea Island in Hampshire. Long Curtain, King's Bastion and Spur Redoubt, National Grid Reference (NGR) 463312, 99103, lies on the south-western edge of Old Portsmouth and to the south of the naval base and harbour. Southsea Castle, NGR 464312, 98076, lies further eastwards along the coastline and on the southern edge of modern Portsmouth.

1.3.2 Both sites are within the low-lying coastal zone at a height of between 0-3 m above Ordnance Datum.

1.3.3 The underlying bedrock geology at Long Curtain, King's Bastion and Spur Redoubt is mapped as the Wittering Formation and as Earnley Sand Formation and Marsh Farm Formation (undifferentiated) at Southsea Castle both of which form the Bracklesham Group and Barton Group (British Geological Survey). Superficial deposits of storm beach gravels are mapped in both locations. Previous GI investigations undertaken as part of this scheme encountered made ground overlying storm beach deposits and bedrock (Wessex Archaeology 2018b).

# 2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

## 2.1 Introduction

2.1.1 The following background is derived from the Baseline Heritage Assessment prepared to support the scheme (Wessex Archaeology 2018b). This was based on a wide range of sources including the National Heritage List for England, historic environment record entries (Hampshire Archaeology and Historic Building Record (HAHBR), Portsmouth City Historic Environment Record (PCHER) and the South East Rapid Coastal Zone Assessment Survey (SERCZA survey; Wessex Archaeology 2011; 2012).

## 2.2 Previous investigations related to the development

2.2.1 Ground investigation work originally undertaken to inform the emerging design, recorded deposits typical of an active beach environment (Wessex Archaeology 2018c). These comprised bedrock overlain by storm beach deposits that formed a shingle barrier along the 4.5 km stretch of Southsea seafront. This created a sheltered wetland environment conducive of peat formation, with numerous small channel/ palaeochannel systems meeting the coast. Made ground was also encountered, with the thickest deposits located within the areas of the historic fortifications of Long Curtain, King's Bastion and Spur Redoubt and Southsea Castle.

2.2.2 Alluvial deposits and peats were noted within three purposive geoarchaeological boreholes adjacent to the present extent of Long Curtain Moat and within or adjacent to the former moat channels. It is unclear if these organic deposits represent moat fills or are contemporaneous with the peat deposits found elsewhere in the scheme that reflect the former marshland that existed across the south of Portsea Island.

## 2.3 Archaeological and historical context

*Prehistoric and Romano-British (970,000 BC–AD 43)*

2.3.1 During the last Glacial Maximum at around 18,000BP, the mean sea level is thought to have been located approximately 110 m below Ordnance Datum. As a result, during the recolonisation of Britain by modern humans in the Upper Palaeolithic (40,000-10,000 BC), the south coast was still connected to Europe and would have been characterised by open lowland plain with cliffs, bluffs, downcutting river valleys and extensive sand blows.

2.3.2 The Mesolithic (8500-400 BC) is characterised by rapid post-glacial rising of sea levels and gradual coastal retreat. At this time the present harbour areas would have comprised an inland plain dissected by rivers.

2.3.3 During the Neolithic (400-2400 BC) and Bronze Age (2400-700 BC) the sea levels were approaching the current position, which was probably reached by the Saxon period. Throughout the Neolithic, the low-lying inland basins were drained by fresh water rivers with

fen carr forming in fresh water pools. The rising of the sea levels caused an increased sedimentation in the rivers and peat would have formed on the river edges. As the sea levels rose, the harbour areas experienced increased marine influence resulting in the creation of salt marsh in localised areas in the middle to late Bronze Age.

2.3.4 At the beginning of the Iron Age (700 BC-AD 43), proto-harbours existed, with salt marsh and brackish lagoons, which then developed into larger harbours, eventually reaching their current extent.

2.3.5 Little direct archaeological evidence of prehistoric activity has been recorded in the immediate area of the proposed scheme. However, there are some isolated finds of prehistoric flint, including a handaxes found on the beach south-east of Clarence Pier (PHER MPM1023) and east of South Parade Pier (PHER MPM48). Both these findspots were discovered in secondary contexts and may have been relocated some distance from the original site of their deposition. These finds indicate at some potential for further traces of prehistoric activity to be encountered in this area, though further finds may also be residual.

2.3.6 Relatively large quantities of Mesolithic worked flint, including cores, blades, scrapers and a micro-burin, have been recovered from a probable former land surface within the harbour (HAHBR 19290 and 24666). These assemblages may have been associated with seasonal camps used by hunting parties exploiting the low-lying inland plain crossed by rivers.

2.3.7 Neolithic and Bronze Age cultural material has been found in many locations on Portsea Island and on the islands and mud flats in Portsmouth Harbour (Hopkins 2004). This suggests activity in the area at this time, however there is currently few known areas of settlement or permeant activity.

2.3.8 Iron Age coins have been found on Portsea Island, although their provenance is not precisely known. It is possible that some of the coins came from a hoard. Alternatively, they may represent evidence of trading and indicate the potential for evidence of Iron Age settlement in this area (Hopkins 2004).

2.3.9 The principle focus of Roman (AD 43-410) activity in the Portsmouth Harbour area was the fort at Portchester Castle, possibly the *Portus Adurni* recorded in the fifth century *Notitia Dignitatum*. The ‘Saxon Shore fort’ at Portchester, one of the best preserved Roman fortifications in Europe, is one of a series of Roman forts, constructed predominantly between AD 225 and AD 285, in order to protect the coast against sea raids.

2.3.10 Little substantial evidence of contemporary occupation has been identified on Portsea Island, although a number of Roman coins recovered from the historic core of the town suggest that there was some degree of activity at the south-western extremity of the peninsula during this period.

2.3.11 Although there is a paucity of evidence for settlement, it is likely that the coastline and the low lying marshy land of Portsea Island were also exploited for other forms of activity, such as fishing and resource procurement. Evidence from numerous coastal sites indicates that salt production was practised in this area during the Romano-British period, particularly around Langstone Harbour. The industry may have originated during later prehistoric periods and continued, albeit using different methods, into the post medieval period.

*Saxon and medieval (AD 410-1500)*

2.3.12 The Roman fortifications of Portchester Castle were re-occupied during the Saxon period from the 6th century AD (Rigold 1965). As with earlier periods, the coastline remained vulnerable to sea raids and piracy, and in AD 904 King Alfred developed Portchester as a fortified burh. Portsmouth is generally understood to have developed as a settlement in the 12th century (Lloyd 1987, 34; Quail 2000, 2-3), although the discovery at least two Saxon cemetery sites and sporadic finds of artefactual material indicate some degree of earlier activity (Wessex Archaeology 2004, 13).

2.3.13 Portsmouth was not documented as a settlement by the Domesday survey of 1086, although Portchester, and a number of other estates on Portsea Island were recorded, including Buckland, Copnor, and Fratton. The survey suggests that Portsea Island was comparatively sparsely populated in the late 11th century, although the coastline was presumably used for a variety of activities such as fishing and salt production.

2.3.14 Until the creation of the borough of Portsmouth in around1180 the name Portsmouth was used to refer to the whole of the estuary at the mouth of the Wallington River – the area now called Portsmouth Harbour. The large natural harbour, providing a safe anchorage, was often used as a landing place and muster point for armies, using Portchester as the point of landing or embarkation.

2.3.15 By the late 12th century, the manor of Buckland was in the hands of John de Gisors. Documents recording grants by de Gisors of land and property, in the area that was to become Portsmouth, to Southwick Priory make it clear that there was a settlement at the south-western corner of the island. This was sufficiently large to warrant the construction of a chapel, which was extant by 1186. The land was forfeited to the crown and in 1194, the same year the town was used as a mustering point for an expedition to recapture Normandy, King Richard I granted the town its borough charter (Quail 2000, 3-4).

2.3.16 Portsmouth Dockyard was the earliest royal dockyard in England, constructed in 1194 on the orders of Richard I. The site of the dockyard is thought to have been in the area of Gun Wharf. Following the abandonment of the dockyard due to its exposed location, another was not built until around1495-6 when Henry VII had a dry dock constructed within what is now known as the historic dockyard.

2.3.17 The town's wealth grew primarily from its function as a port, for both military and commercial shipping. Its emerging role as a port may have been enhanced by the gradual silting up of Portsmouth Harbour, making it difficult for larger ships to reach Portchester, which had previously functioned as a port during the Roman period.

2.3.18 During the late 13th and 14th centuries the town suffered from at least five attacks, mainly by the French, one of which was said to have resulted in leaving only the chapel of St. Thomas and the Domus Dei hospital standing (Patterson 1987, 1). The town was surveyed for defences in 1386, and it is generally understood that earthen and timber fortifications were subsequently constructed to protect the town *(ibid,* 4).

2.3.19 Although Portsmouth has several significant advantages due to its location, giving it both strategic military and commercial importance, rivalry with the port of Southampton hindered the medieval town's fortunes.

*Post-medieval (AD 1500–1800)*

2.3.20 Henry VII ordered the construction of a dry dock at Portsmouth, probably on the harbour shore to the north of the town. The construction of the dry dock, a unique structure in

England at that date, became the nucleus for the development of the major dockyard complex, which was subject to large-scale investment during the reign of Henry VIII. It was the development of the new dock at Portsmouth in the later 15th century that was to eventually lead to a period of unprecedented growth for the town. Due to the strategic importance and vulnerability of the town from coastal attack, Portsmouth was provided with encircling defences in the late 14th and early 15th century. From the early 15th century a tower was also constructed which formed a pair with another at Gosport to guard a chain boom strung across the harbour month (Moore 2013, 3).

2.3.21 In the 1530s, Henry VIII's separation of the Church of England from the papal authority of Rome, led to rising tensions and threats from other continental powers. To counter this from 1539, an ambitious construction scheme of coastal defence around the south and east coasts of Britain, known as the 'Device', was initiated (Cocroft 2011, 3). The defences were situated to defend naval dockyards and protect sections of coastlines that might provide a beachhead for an invasion. The protection of Portsmouth Harbour and the dockyard were key priorities for the ambitious project, leading to the rebuilding and enhancement of the town's medieval defences and the construction of Southsea Castle.

2.3.22 The development of gunpowder artillery and small arms by the late 14th century led to the evolution, particularly from the 15th century onwards, of new forms of military architecture designed to resist cannon fire and to incorporate static artillery emplacements (Hogg 1975, 27-30). The Henrician fortifications were primarily designed to defend from naval attack and were based on northern European principles, with concentric plans, low thick walls and D-shaped bastions, and with ordnance mounted at various levels (*ibid*). These fortifications were the first to fully integrate the various functions of artillery including fortified gun emplacements (casemates) and gun ports allowing a wide arc of fire (Hogg 1975, 31-34). However, they were also designed not just to provide superior firepower against attacks from the sea but also defence against any landward assault (*ibid*).

2.3.23 Continued tensions with European powers, particularly Spain, during the reign of Elizabeth I (1558-1603) prompted further upgrading of Portsmouth's fortifications, implemented according to the designs of William Pearse and Richard Popinjay.

2.3.24 During the English Civil War (1642-1651), the Governor of Portsmouth, Colonel George Goring, initially supported Parliament and was granted funds to repair the defences and strengthen the garrison. However, at the same time he was in negotiations with Charles I and the town declared for the King in August 1642. The town and Southsea Castle then came under siege by Parliamentary forces with Portsmouth forced to surrender by early September.

2.3.25 The reign of Charles II (1660-1685) saw additional expansion of permanent coastal fortifications, partly due to naval and trade competition with the Dutch (English Heritage 2013). In 1665 Sir Bernard de Gomme produced designs for improvements to Portsmouth's defences as part of a larger programme of defence construction that included Gosport on the opposite side of the mouth of the harbour, and Southsea. The elaborate fortifications included ramparts, bastions, moats and outworks; while common on the continent, Italianate-style fortifications are relatively rare in the UK (Lloyd 1987, 57).

2.3.26 The defence of Portsmouth, and the wider south coast continued to be of vital importance to national defence policy throughout the later post-medieval period through to the Second World War. Its static defences underwent numerous phases of modification to ensure that they kept pace with changes in military technology.

*19th century and modern (AD 1800-present day)*

2.3.27 New theories of fortification emerged by the middle of the 19th century, with an emphasis on artillery firepower leading to construction of tiered and casemated gun positions (Corcroft 2011, 4). At that time, due to a perceived threat from France, the government built a series of forts and other works, sometimes known as Palmerston's Follies (*ibid*). The 19th century and modern periods were a time of rapid evolution in military technology, including rifled artillery and high explosives as well as the development of concrete construction, electricity, the telegraph and telephone which led to profound effects military architecture and warfare (*ibid*).

2.3.28 A series of new forts at Portsdown and Spithead as well as changes in technology and warfare made the Old Portsmouth defences redundant and all but the seaward facing sections were removed in the 1870s (Lloyd 1987, 97).

2.3.29 Prior to 1800, Southsea was open ground, deliberately retained as such for defensive reasons. The area was very marshy extending some way inland. Adjacent to the Portsmouth defensives was a body of water known as the Little Morass while a much larger area lay to the north-east of Southsea Castle known as the Great Morass (Quail 2000, 14). The initial development of Southsea was immediately east of Old Portsmouth within an area known as Croxton Town before early expansion focused on an area around Kings Road, Landport Terrace and King's Terrace (Riley 1972, 3-4; Lloyd 1987, 89-90; Quail 2000, 14-15). It became an area popular with the wealthier classes and nobility (Riley 1972, 4).

2.3.30 During the 19th century, Southsea started to develop as a holiday and bathing resort. The marshy ground of Southsea Common was enclosed, drained and laid out as a pleasure ground from the early 19th century with the seafront promenade constructed in the mid-19th century (Riley 1972, 12; Quail 2000, 32-33). By 1911, Southsea was one of the ten largest seaside resorts in England (Portsmouth City Council 2011).

2.3.31 Portsmouth and Southsea were once again of national military importance during the conflicts of the First and Second World Wars. In 1940 the whole seafront area was closed and declared a Defence Area, though due to local opposition some limited access to the beach between Southsea Castle and Clarence Pier was later re-established (Quail 2000, 113). Several additional defensive structures are known from the seafront area including barrage balloon sites near Long Curtain Battery and Southsea Castle (SERCZA MWX494, MWX511) and an anti-aircraft battery on Southsea Common (SERCZA MWX497).

2.3.32 Its proximity to the dockyard made Portsea vulnerable to bombing raids during the Second World War (WWII); Portsmouth was subjected to 67 air raids between July 1940 and May 1944, with three of these categorised as major attacks. It has been estimated that almost 10 per cent of the city's homes were destroyed. During the raids Southsea Castle was hit by a number of incendiary bombs (Quail 2000, 113-6).

2.3.33 The city also was at the heart of the preparations for the invasion of Normandy in 1944 (Lloyd 1987, 86). The preparations for Operation Overlord led to Southsea seafront becoming a restricted zone with troops and ships marshalling at a number of locations including South Parade Pier and Portsmouth Dockyard (Quail 2000, 116-7).

# 3 AIMS AND OBJECTIVES

## 3.1 Aims

3.1.1 The aims of the watching brief, as stated in the WSI (Wessex Archaeology 2018a; 2019) and as defined in the CIfA's *Standard and guidance for an archaeological watching brief* (CIfA 2014a), were:

- To allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of the development or other works;
- To provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard; and
- To guide, not replace, any requirement for contingent excavation or preservation of possible deposits.

## 3.2 Objectives

3.2.1 In order to achieve the above aims, the objectives of the watching brief, also defined in the WSI (Wessex Archaeology 2019), were:

- To determine the presence or absence of archaeological features, deposits, structures, artefacts or ecofacts within the specified works area;
- To record and establish, within the constraints of the works, the extent, character, date, condition and quality of any surviving archaeological remains (a preservation by record);
- To place any identified archaeological remains within a wider historical and archaeological context in order to assess their significance; and
- To make available information about the archaeological resource on the site by preparing a report on the results of the watching brief.

# 4 METHODS

## 4.1 Introduction

4.1.1 All works were undertaken in accordance with the detailed methodology set out within the WSI (Wessex Archaeology 2019) and in general compliance with the standards outlined in CIfA guidance (CIfA 2014a). The methods employed are summarised below.

## 4.2 Fieldwork methods

*General*

4.2.1 Within Frontage 1, Long Curtain, King's Bastion and Spur Redoubt, three boreholes were monitored (BHRH01, BHRH02, BHRH04), which corresponded to Trenches 2, 3 and 1 respectively. BHRH03 was not monitored as this was within the modern sea defences.

4.2.2 Within Frontage 4, Southsea Castle, six boreholes were monitored (BHRH05 to BHRH10), which corresponded to Trenches 4, 10, 6, 11, 12 and 5 respectively.

4.2.3 All boreholes were sunk by Cable Percussion Tool techniques, commencing with 200 mm tools and casing and reducing down to 150 mm diameter with depth.

4.2.4 Three trial pits (prefixed variously HPRH or TRPH in the GI report; HPRH05, HPRH06, HPRH07), which corresponded Trenches 8, 9 and 7 respectively.

4.2.5 Trial pits HPRH08-HPRH12 were not excavated as access could not be obtained to this area. The trial pits were excavated using a tracked mini-digger.

4.2.6 Some variation in the position of the boreholes and trial pits from the proposed locations occurred due to on site conditions. The majority of the shifts in location were minor. The exception was BHRH09 (Trench 12) within Frontage 4 which was relocated from in front of the Eastern Battery to the rear of the castle.

4.2.7 =An archaeologist monitored all mechanical excavations within the specified area.

4.2.8 Spoil was visually scanned for the purposes of finds retrieval. Where found, artefacts were collected and bagged by context. All artefacts from excavated contexts were retained, although those from features of modern date (19th century or later) were recorded and not retained (see Section 6).

4.2.9 The results below represent a focus on recording deposit with archaeological potential, for full details on the geological horizons refer to the technical GI report (Geotechnics Ltd 2019).

*Recording*

4.2.10 All exposed archaeological deposits and features were recorded using Wessex Archaeology's *pro forma* recording system. A complete drawn record of excavated features and deposits was made including both plans and sections drawn to appropriate scales (generally 1:20 or 1:50 for plans and 1:10 for sections), and tied to the Ordnance Survey (OS) National Grid. The Ordnance Datum (OD: Newlyn) heights of all principal features were calculated, and levels added to plans and section drawings.

4.2.11 A full photographic record was made using digital cameras equipped with an image sensor of not less than 10 megapixels. Digital images have been subject to managed quality control and curation processes, which has embedded appropriate metadata within the image and will ensure long term accessibility of the image set.

### 4.3 Artefactual and environmental strategies

4.3.1 Appropriate strategies for the recovery, processing and assessment of artefacts and environmental samples were in line with those detailed in the WSI (Wessex Archaeology 2019). The treatment of artefacts and environmental remains was in general accordance with: *Guidance for the collection, documentation, conservation and research of archaeological materials* (CIfA 2014b) and *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation* (English Heritage 2011).

### 4.4 Monitoring

4.4.1 David Hopkins, County Archaeologist, on behalf of the Portsmouth Local Planning Authority (LPA), and Iain Bright, Inspector of Ancient Monuments at Historic England (South

monitored the watching brief. Any variations to the WSI, if required to better address the project aims, were agreed in advance with both the client, Portsmouth City Council and Historic England.

# 5 ARCHAEOLOGICAL RESULTS

## 5.1 Introduction

5.1.1 The full stratigraphic matrix including depths of the deposits, are located in Appendix 2.

## 5.2 Frontage 1: Long Curtain, King's Bastion and Spur Redoubt (Figure 2)

5.2.1 Trench 3 (BHRH02) was situated within the seaward wall of Long Curtain Moat, in a similar location to BH01 and BH02 which were undertaken as part of the 2018 investigations (**Plate 1**). In common with the previous results of BH02 Trench 3 encountered a modern made ground (301, 302; 0.50 m deep) comprising the concrete and bedding material associated with the Millennium Walkway. Beneath this was a compact made ground deposit within which concrete was encountered (303; at 1.30 m bgl) which extended to a depth of 3.50 m bgl. This may relate to former post-medieval defences, though the presence of concrete suggests a more modern date. Below this layer was encountered the storm beach deposits (304) and bedrock geology (305) of the Wittering Formation.

5.2.2 The location of Trench 2 (BHRH01) was shifted slightly from its proposed location to the apron of stone, setts and concrete which comprises the current sea defences (**Plate 2**). Multiple layers of construction material were encountered to a depth of 1.28 m (**Plate 3**), with plywood and polystyrene at the base of these deposit confirming a modern date. A very dense gravel deposit lay beneath (1.28-2.00 m bgl), this was not considered to be natural and may therefore relate to the construction of the defence outworks in this area. Beneath this was storm beach deposits and the sands and silty clays of the Wittering Formation. Remnant plant material was noted at 19.00 m bgl suggesting a possible peat deposit, likely to relate to when the sea levels were much lower in early prehistory.

5.2.3 Trench 1 (BHRH04) along with the three trial pits (Trenches 7, 8 and 9/ TPRH05-07) lay to the north-east of the current limit of Long Curtain moat but within is former extent (**front cover**). The Portsmouth defences, with the exception of the stretch from King's Bastion to the Round Tower, were demolished and infilled around 1870.

5.2.4 Within Trench 1 beneath the modern topsoil (101), deposits 102 to 104 were identified as made ground and included fragments of ceramic building material (CBM), glass, slate and modern pottery. A silty clay layer beneath this may represent an alluvial deposit. A possible moat base was noted at 3.50 m bgl (106), however a further made ground deposit (107) beneath this contained modern drainpipe, though this could be intrusive. Previous reports have suggested a brick lining to the moat as this was a common feature of similar structures by the 17th century engineer Sir Bernard de Gomme (Portsmouth City Council 2016, 3). The test pit (Trench 7) did extend deep enough to confirm whether this structure was present elsewhere. Below context 107 sandy clays of the Wittering Formation were identified (108 and 109) (**Plate 4**).

5.2.5 Trench 7 (TPRH07), just to the south of Trench 1, was also within the central area of the former moat and against the brick retaining wall for the current moat (704). This recorded a single deposit, with some variation as you move down the profile, comprising the modern backfill of the former moat (702; 0.60-2.45 m+ bgl) (**Plate 5**). Brick, tile, glass and slate was noted in this context but not retained.

5.2.6 During the 2018 investigations works a borehole (CPTP04) and two geoarchaeological boreholes (WS120 and WSI121) were situated within the former moat extent just to the north of the current GI locations (Wessex Archaeology 2018). These encountered considerable depth of made ground and alluvium as well as peat deposits above the Wittering Formation bedrock. It was unclear whether the peats encountered formed within the moat or are contemporary with coastal peats recorded in boreholes in Frontages 3 and 5.

5.2.7 Trenches 8 and 9 (TPRH05-6) were situated slightly to the north-west of Trenches 1 and 7 (**Plate 6**). Accurate transcription of features from the 17th and 18th century maps of the defences is difficult but the location of these test pits is either within the north-eastern flank of the Kings Bastion defences or within the moat immediately adjacent to this. Major remodelling of the Portsmouth defences was undertaken in the 17th century, designed by the Dutch military engineer Sir Bernard de Gomme. De Gomme's works resulted in the establishment of the Long Curtain, its moat, and the King's Bastion in something approaching their current form, although later maps suggest a number of minor later alterations. Made ground similar to that observed as backfilling the moat was located in Trench 9 (903), beneath more recent made ground (902) and topsoil (901) (**Plate 7**).

5.2.8 Beneath this gravel rich deposits were located (904 and 905) at 0.96-2.50 m+ bgl, which corresponds to that present immediately below the modern topsoil (801) in Trench 8 (802; 0.45-1.20 m+ bgl) (**Plate 8**). Given the location of the trenches and the differences between this and the backfilled material and alluvium within the moat noted elsewhere it seems likely that these deposits represent material from the earthworks of the bastion. The trenches lie beside the currently extant earthworks and so these contexts may represent eroded material from the adjacent defences. However, 17th and 18th century maps do suggest that the earthwork previous extended further to the north-east and so these deposits may relate to *in situ* construction material for an earlier form of the earthwork.

### 5.3 Frontage 4: Southsea Castle (Figure 3)

5.3.1 Trench 4 (BHRH05) was situated immediately in front of the Western Battery in a grassed recreational area and within the location of the West Auxiliary Battery marked on an 1856 Ordnance Survey map. This earlier battery is no longer visible by later 19th century mapping with the earthworks relating to it presumably levelled. A distinctive made ground deposit (402) beneath the topsoil (401) is likely to relative to landscaping in this area and contained fragments of post-medieval brick (**Plate 9**). The exact date of this deposit is unclear it may relate to the mid-19th-century auxiliary battery, its removal or later landscaping in this area. BH11, exacted as part of the 2018 investigations just to the north-east, did not note this made ground deposits suggesting its extent may be quite localised. Beneath the made ground deposits (0.00-0.36 m bgl) was layers of storm beach deposits (403), clays (404), further storm beach deposits (405, 406) and clays of the bedrock (Earnley Sand Formation and Marsh Farm Formation) (407, 408).

5.3.2 Further to the south-east, Trench 6 (BHRH07), was also situated in the recreational area in front of the Western Battery but within the mapped former extant of the earlier 17th-century star fort defences of Southsea Castle. This encountered several layers of modern made ground (603, 604, 605; 0.27-1.90 m bgl) beneath the current topsoil (601) (**Plate 10**). Concrete, brick fragments and sandstone rubble suggests that this is modern reinforcing behind the sea wall in this area. These overlay storm beach deposits (606) and the sands and clays of the bedrock geology (607-613).

5.3.3 Trench 11 (BHRH08) was situated to the east of Southsea castle but also within the mapped former extant of the 17th-century star fort. Beneath the concreate and bedding layer for the

seafront promenade (1101, 1102) a made ground deposit was encountered (1103, 0.25-1.00 m bgl). No artefacts were recovered from this deposit and its date is uncertain, however given the location just behind the sea defences and with substantial landscaping known to have occurred in relation to this a modern date is most likely. This is supported by the results from the previous investigations where BH15 just to the east encountered remains from the previous sea defences and promenade between 0.49-0.65 m bgl (Wessex Archaeology 2018). The made ground overlay storm beach deposits (1104-1108) and the sands and clays of the underlying bedrock (1109-1113).

5.3.4 To the rear of the castle and within the mapped former extant of the 17th-century star fort was Trench 12 (BHRH09). This location is currently a grassed recreational area. Beneath a thin topsoil (1201) was a relatively deep subsoil (1202; 0.12-0.50 m bgl) (**Plate 11**). The depth of this deposit may have been increased by landscaping works in this area relating both to the remodelling of the castle defences and the creation of Southsea Common in the 19th century. Beneath 1202 lay storm beach deposits (1203-1206; 0.50-10.50 m bgl) and the clay bedrock (1207).

5.3.5 Situated just to the east of the Eastern Battery but within the seafront promenade was Trench 5 (BHRH10). In common with the results from Trench 11 a substantial depth of made ground (504, 1.10-2.50 bgl) underlay the current seafront promenade (501, 502) and an earlier tarmac surface (503) (**Plate 12**). Beneath this was a considerable depth of storm beach deposits (505, 506) and the sands and clays of the underlaying bedrock (507-509). This made ground is of likely modern date. Comparison with the previous investigations (BH16a) suggests localised variation in the depth of made ground present as here only 1.00 m of modern made ground was encountered, including the construction materials of the current promenade (Wessex Archaeology 2018). Remnant plant material was noted within the clays between 16.50 m and 28.00 m bgl suggestive of ground stabilisation and vegetation colonisation events. Given the depth at which this material was encountered it is likely to represent a time when sea levels were much lower than their present extent.

5.3.6 Trench 10 (BHRH06) was located just to the rear of the Western Battery within the former parade ground. This indicated that the current car park surface (1001-1003) was constructed directly on storm beach deposits and the sands and clays of the bedrock. This in term suggests that work to construct the car park has removed any remains associated with the surface of the parade ground.

## 6 ARTEFACTUAL EVIDENCE

6.1.1 A small quantity of finds was recovered, deriving from six contexts (102, 106, 107, 402, 601, 605). The whole assemblage is of post-medieval/modern date, with a focus in the 19th/20th century. A detailed list of finds recovered by context is given in **Table 1**.

6.1.2 None of these finds have been retained.

**Table 1** All finds by context

| Context | Material Type | No. | Wt. (g) | Description |
|---|---|---|---|---|
| 102 | Ceramic Building Material | 2 | 266 | post-med brick fragments |
| 102 | Glass | 7 | 300 | C19/C20: 6 bottle jar (1 rectangular green, 1 soda with lettering ...BAGGS.../…AN |

| | | | | |
|---|---|---|---|---|
| | | | | A...); 1 tumbler base |
| 102 | Pottery | 2 | 50 | C19/C20: 1 refined whiteware; 1 redware flowerpot |
| 102 | Stone | 1 | 22 | post-med/modern roofing slate |
| 106 | Ceramic Building Material | 3 | 1317 | post-med brick fragments, 1 with rudimentary frog |
| 106 | Ceramic Building Material | 9 | 330 | post-med roof tile |
| 106 | Glass | 2 | 26 | C19/C20 bottle/jar |
| 106 | Pottery | 3 | 143 | C19/C20: 1 Bristol-glazed stoneware flagon handle; 2 transfer-printed whiteware plate |
| 107 | Ceramic Building Material | 1 | 51 | C19/C20 drainpipe (internally white-glazed) |
| 402 | Ceramic Building Material | 3 | 184 | post-med brick fragments |
| 601 | Ceramic Building Material | 2 | 1134 | post-med brick fragments |
| 601 | Pottery | 1 | 5 | Modern redware flowerpot |
| 605 | Ceramic Building Material | 3 | 35 | post-med brick fragments |

## 7 CONCLUSIONS

7.1.1 Within the area of Long Curtain Moat, boreholes located within the seaward moat wall and at the edge of the current sea defences, identified compact clay and gravel deposits beneath the construction deposits of the Millennium Walkway and modern sea defences. There is the potential that these could relate to the former defences as 17th-century mapping suggests ramped, probably earthen, defences along the Long Curtain frontage at this time rather than a simple wall. However historic mapping also suggests some erosion along this part of the coastline with around 25 m of difference shown between the high-water line between now and the early 18th century. Modern concrete was also located within the deposit in one of the boreholes suggesting a more modern date for these deposits, potentially relating to the construction of the sea wall.

7.1.2 A single borehole and test pit were located within the former moat extent. A brick deposit encountered within the borehole (-0.55-0.85 m OD), which may indicate a brick lining for the moat, as this has been seen in similar structures designed by Sir Bernard de Gomme. A modern drainpipe was located within a made ground deposit beneath this, though this could be intrusive. The moat was backfilled in around1870 and modern backfill contexts were observed in both trenches containing brick, slate, glass and pottery. A possible alluvial deposit was also observed within the borehole.

7.1.3 Two of the test pit trenches were situated adjacent to the current extent of the King's Bastion. These located gravel rich deposits beneath modern made ground and topsoil. These gravel rich deposits are believed to represent material from the earthworks of the bastion. 17th and 18th century maps do suggest that the earthwork previous extended further to the north-east and so these deposits may relate to *in situ* construction material for an earlier form of the earthwork or alternatively eroded material from the adjacent bank.

7.1.4 All of the boreholes and test pits in the area of Long Curtain moat located storm beach deposits and the bedrock geology of the Wittering Formation below the identified made ground and topsoil contexts. The dynamic nature of the coastal environment, along with the disturbance from several centuries of remodelling of the fortifications means that the potential for surviving pre-17th century archaeological remains is low. The watching brief has located limited evidence for buried archaeological remains from the 17th century fortifications.

7.1.5 The area adjacent to Southsea Castle is known from historical cartographic sources to have retreated inland, with around 35-40 m of erosion indicated between 1600 and the late 18th century. Boreholes excavated seaward of the castle located only modern made ground associated with the current sea defences and seafront promenade situated directly onto storm beach deposits. To the rear of the castle there was evidence of landscaping and truncation within the former parade ground. In general this suggests a low potential for surviving archaeological remains within these areas.

## 8 ARCHIVE

### 8.1 Archive

8.1.1 The archive resulting from the watching brief is currently held at the offices of Wessex Archaeology in Salisbury. It comprises a single file of paper records, and digital data (survey data, photographs, reports). None of the artefacts recovered (see above) have been retained.

8.1.2 The site falls within the collecting area of Portsmouth Museum. However, the physical remains resulting from the watching brief are not considered to warrant full deposition with the Museum, as they are not considered archaeologically significant. The condition of archive deposition will therefore be satisfied by submission of an OASIS report for the Site (see below).

8.1.3 A security copy of the written records will be prepared, in the form of a digital PDF/A file, and retained by Wessex Archaeology.

### 8.2 OASIS

8.2.1 An OASIS online record (http://oasis.ac.uk/pages/wiki/Main) has been initiated, with key fields and a .pdf version of the final report submitted. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service ArchSearch catalogue.

## 9 COPYRIGHT

### 9.1 Archive and report copyright

9.1.1 The full copyright of the written/illustrative/digital archive relating to the project will be retained by Wessex Archaeology under the *Copyright, Designs and Patents Act* 1988 with

all rights reserved. The client will be licenced to use each report for the purposes that it was produced in relation to the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the *Copyright and Related Rights Regulations* 2003. In some instances, certain regional museums may require absolute transfer of copyright, rather than a licence; this should be dealt with on a case-by-case basis.

9.1.2 Information relating to the project will be deposited with the Historic Environment Record (HER) where it can be freely copied without reference to Wessex Archaeology for the purposes of archaeological research or development control within the planning process.

## 9.2 Third party data copyright

9.2.1 This document and the project archive may contain material that is non-Wessex Archaeology copyright (eg, Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the *Copyright, Designs and Patents Act* 1988 with regard to multiple copying and electronic dissemination of such material.

## REFERENCES

ADS 2013 *Caring for Digital Data in Archaeology: a guide to good practice*. Archaeology Data Service and Digital Antiquity Guides to Good Practice

British Geological Survey online viewer http://mapapps.bgs.ac.uk/geologyofbritain/home.html (accessed January 2020)

Brown, D H 2011 *Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (revised edition). Archaeological Archives Forum

CIfA 2014a *Standard and Guidance for an Archaeological Watching Brief*. Reading, Chartered Institute for Archaeologists

CIfA 2014b *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials*. Reading, Chartered Institute for Archaeologists

CIfA 2014c *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*. Reading, Chartered Institute for Archaeologists

Cocroft, W 2011 *Introduction to Heritage Assets: Artillery Defences*. English Heritage

English Heritage 2011 *Environmental Archaeology: a guide to theory and practice of methods, from sampling and recovery to post-excavation*. Swindon, Centre for Archaeology Guidelines

English Heritage 2013 *Designation Scheduling Selection Guide. Military Sites- Post 1500*

Geotechnics Ltd 2019 *Ground Investigation: Southsea Frontages 1 & 4*. Unpublished client report, ref PE191588

Hogg, I V 1975 *Fortress: A History of Military Defence*. New York: St Martin's Press

Hopkins, D 2004 *Archaeological Assessment Document – Portsmouth*. Extensive Urban Survey - Hampshire and the Isle of Wight. Hampshire County Council

Lloyd, D W 1974 *Buildings of Portsmouth and its Environs*. Portsmouth: City of Portsmouth

Moore, D 2013 *Solent Papers no. 12: Portsmouth Lines and Southsea Defences*. Gosport: David Moore

Patterson, B H 1987 *A Military Heritage: A History of Portsmouth & Portsea Town Fortifications (2nd edition)*. Portsmouth: Fort Cumberland & Portsmouth Militaria Society

Portsmouth City Council 2016 *Kings Bastion & Long Curtain Fortifications Visual Inspection Survey & Condition Report*

Quail, S 2000 *Southsea Past*. Chichester: Phillimore

Rigold, S 1965 *Portchester Castle, Hampshire*. Department of the Environment

Riley, R C 1972 *Portsmouth Paper 16: The Growth of Southsea as a Naval Satellite and Victorian Resort*. Portsmouth: Portsmouth City Council

SMA 1993 *Selection, Retention and Dispersal of Archaeological Collections*. Society of Museum Archaeologists

SMA 1995 *Towards an Accessible Archaeological Archive*. Society of Museum Archaeologists

Wessex Archaeology 2004 *Historic Dockyard, Portsmouth, Hampshire – Conservation Statement, Volume 1: Report*. Salisbury, unpublished client report

Wessex Archaeology 2011. *South East Rapid Coastal Zone Assessment Survey (SE RCZAS) Phase 1: National Mapping Programme Report*. Report ref. 71330.01

Wessex Archaeology 2012 *Southsea And North Portsea Island, Hampshire - Report 1: Archaeological Desk-Based Assessment*. Unpublished client report, ref. 84710.01

Wessex Archaeology 2018a *Long Curtain and Southsea Castle, Portsea Island, Hampshire: Statement of Significance and Written Scheme of Investigation for Geotechnical Site Investigations*. Unpublished client report, ref. 118660.01

Wessex Archaeology 2018b *Southsea Coastal Defence Scheme: Baseline Heritage Assessment*. Unpublished report, ref. 118660.04

Wessex Archaeology 2018c *Southsea Coastal Defence Scheme: GI watching brief, borehole survey and deposit modelling report*. Unpublished client report, ref. 118660.05

Wessex Archaeology 2019 *Long Curtain and Southsea Castle, Portsea Island, Hampshire: Written Scheme of Investigation for Geotechnical Site Investigations, Addendum for additional works*. Unpublished client report, ref. 118662.01

# APPENDICES

## Appendix 1: Stratigraphic Summary

| **Trench No 1** | **Length 0.25 m** | **Width 0.25 m** | **Depth 5.50 m** |
|---|---|---|---|
| **Corresponds to: BHRH04** | | | |
| **Easting 463435.695** | **Northing 99098.949** | **3.05 m OD** | |

| **Context Number** | **Fill Of/Filled With** | **Interpretative Category** | **Description** | **Depth (m) BGL** |
|---|---|---|---|---|
| 101 | | Topsoil | Dark grey silty clay with rare sub-angular and sub-rounded medium gravels. Turf covered, fine rooting. Loose with a diffuse horizon with (102). | 0.00 - 0.12 |
| 102 | | Made ground | Dark grey silty clay with sparse sub-angular and sub-rounded gravel cobble. Rare CBM, glass, slate, particularly between 0.60 - 0.90 m. Overlies 103. | 0.12 - 1.20 |
| 103 | | Made ground | Light brown silty clay with sparse sub-angular and sub-rounded gravels, rare CBM. Very loose. Overlies 104. | 1.20 - 2.50 |
| 104 | | Made ground | Mid brown silty clay with rare gravels, rare CBM. Water logged. Overlies 105. | 2.50 - 3.00 |
| 105 | | Made ground/ Alluvium | Mid greyish silty clay. Overlies 106 | 3.00 - 3.50 |
| 106 | | Structure | Brick structure, possible moat base. Overlies 107. | 3.50 - 3.90 |
| 107 | | Made ground | Mid greyish clay with rare non-metal stone inclusions. Overlies 108. | 3.90 - 4.10 |
| 108 | | Natural | Mid greyish sandy silty clay with rare gravels. Overlies 109. | 4.10 - 4.50 |
| 109 | | Natural | Light yellowish brown sandy silty clay with very rare sub-angular gravels. | 4.50 - 4.95+ |

| **Trench No 2** | **Length 0.25 m** | **Width 0.25 m** | **Depth 7.95 m** |
|---|---|---|---|
| **Corresponds to: BHRH01** | | | |
| **Easting 463214.844** | **Northing 99119.638** | **4.20 m OD** | |

| **Context Number** | **Fill Of/Filled With** | **Interpretative Category** | **Description** | **Depth (m) BGL** |
|---|---|---|---|---|
| 201 | | Structure | Multiple layers of concrete. Within apron of sea defences. Plywood and polystyrene noted a base of deposit. Overlies 202. | 0.00-1.28 |
| 202 | | Made ground | Mid yellowish brown poorly sorted gravels and coarse sand. Overlies 203. | 1.28-2.00 |

| | | | | |
|---|---|---|---|---|
| 203 | | Beach gravels | Mid orange red clay and poorly sorted gravels. Deposited by tidal surges. Overlies 204. | 2.00-5.10 |
| 204 | | Natural mud/clay beds | Mid orange and grey clayey sands. Sticky, waterlogged deposit. Tidal mudflats. For details see borehole logs. | 5.10+ |

| **Trench No 3** | **Length 0.25 m** | **Width 0.25 m** | **Depth 4.50 m** |
|---|---|---|---|
| **Corresponds to: BHRH02** | | | |
| **Easting 463239.993** | **Northing 99106.595** | **4.24 m OD** | |

| **Context Number** | **Fill Of/Filled With** | **Interpretative Category** | **Description** | **Depth (m) BGL** |
|---|---|---|---|---|
| 301 | | Structure | Paving slab. Overlies 302. | 0.00-0.08 |
| 302 | | Structure | Bedding material for paving. Overlies 303. | 0.08-0.50 |
| 303 | | Made ground | Modern made ground and concrete. Overlies 304. | 0.50-3.50 |
| 304 | | Beach gravels | Predominantly coarse flint gravels, with coarse-grained mid yellowish brown clayey sand matrix. Overlies 305. | 3.50-5.10 |
| 305 | | Natural mud/clay beds | Mid orange and grey clayey sands. Sticky, waterlogged deposit. Tidal mudflats. For details see borehole logs. | 5.10+ |

| **Trench No 4** | **Length 0.25 m** | **Width 0.25 m** | **Depth 24.95 m** |
|---|---|---|---|
| **Corresponds to: BHRH05** | | | |
| **Easting 464123.107** | **Northing 98123.745** | **3.04 m OD** | |

| **Context Number** | **Fill Of/Filled With** | **Interpretative Category** | **Description** | **Depth (m) BGL** |
|---|---|---|---|---|
| 401 | | Topsoil | Mid greyish brown sandy loam. Very sparse SA-SR gravel inclusions ≤30mm. Loose, granular composition. Overlies 402. | 0.00-0.20 |
| 402 | | Made ground | Mid brownish grey silty sand with occasional SA-SR gravel inclusions ≤40mm. Clear interface with (403). Presumed landscaped area behind sea wall - functioning as a sub-grade overlying true beach gravels. Overlies 403. | 0.00-0.36 |
| 403 | | Beach gravel | Light to mid greyish / yellowish coarse sands and gravel. Trending towards finer material towards depth of deposit but accurate delineations unrecorded due to nature of excavation. Overlies 404. | 0.36-8.20 |

| | | | | |
|---|---|---|---|---|
| 404 | | Natural clays/muds | Mid blueish grey silty clay. Sparse gravel inclusions towards upper extent of deposit, sterile beyond interface. Fairly soft, plastic compaction. Overlies 405. | 8.20-13.80 |
| 405 | | Beach gravels | Mid yellowish brown sandy clay with very common SA-SR gravel. Overlies 406. | 13.00-14.40 |
| 406 | | Beach gravels | Mid yellowish brown coarse sand with abundant SA-SR gravels. Band of clay at 17-17.5m. Overlies 407. | 14.40-19.30 |
| 407 | | Natural clay | Mid blueish grey silty clay. No identifiable inclusions. Very soft and plastic. Overlies 408. | 19.30-24.80 |
| 408 | | Natural clay | Mid greenish brown sandy clay with occasional shell fragments throughout. Firm compaction. | 24.80+ |

| **Trench No 5** | **Length 0.25 m** | **Width 0.25 m** | **Depth 30.50 m** |
|---|---|---|---|
| **Corresponds to: BHRH10** | | | |
| **Easting 464588.495** | **Northing 98022.974** | **4.22 m OD** | |

| **Context Number** | **Fill Of/Filled With** | **Interpretative Category** | **Description** | **Depth (m) BGL** |
|---|---|---|---|---|
| 501 | | Tarmac | Tarmac. Overlies 502. | 0.00-0.11 |
| 502 | | Made ground | Mid brownish grey sandy clay. Comprised of crushed CBM frags, chalk, concrete and gravels. Overlies 503. | 0.11-0.35 |
| 503 | | Made ground | Tarmac, overlying dark grey sandy clay, poorly sorted gravels and large concrete fragments. Overlies 504. | 0.35-1.10 |
| 504 | | Made ground | Orange brown sandy clay with gravel. Overlies 505. | 1.10-2.50 |
| 505 | | Natural | Natural gravels. Mid greyish / yellowish brown gravel deposit with a coarse greyish brown sandy matrix. Beach gravels deposited at high tides and during storm events. Overlies 506. | 2.50-8.50 |
| 506 | | Natural | Natural gravels. Dark blueish grey coarse sand and gravel deposits. Typical beach gravels same as (505), though originating from different parent geology. Overlies 507. | 8.50-10.60 |

| | | | | |
|---|---|---|---|---|
| 507 | | Natural clay | Mid brownish grey silty clay. Soft, plastic compaction with no visible inclusions. Gradual change to dark blueish grey silty clay at 20m+. No distinct boundary recognised. Remnant plant material. Overlies 508. | 10.60-28.00 |
| 508 | | Natural | Natural gravels. Dark bluish grey coarse gravel deposits. Same as (505) but different parent geology. Overlies 509. | 28.00-30.50 |
| 509 | | Natural | Grey green clay sandy silt. Soft with occasional gravel inclusions. | 30.50-31.95 |

| **Trench No 6** | **Length 0.25 m** | **Width 0.25 m** | **Depth 28.50 m** |
|---|---|---|---|
| **Corresponds to: BHRH07** | | | |
| **Easting 464245.217** | **Northing 98038.616** | **3.62 m OD** | |

| **Context Number** | **Fill Of/Filled With** | **Interpretative Category** | **Description** | **Depth (m) BGL** |
|---|---|---|---|---|
| 601 | | Topsoil | Mid greyish brown sandy loam. Occasional sub-angular gravel ≤40mm, poorly sorted. Sparse CBM fragments. Clear interface with (602). | 0.00-0.18 |
| 602 | | Made ground | Mid greyish brown silty sand. Abundant sub-angular gravels ≤40mm. Thin layer of gravel substrate likely used to grade open green space. Sharp interface with (603). | 0.18-0.27 |
| 603 | | Made ground | Light yellowish brown sandy silt. Common sub-angular gravels ≤40mm, poorly sorted. Probable levelling deposit laid behind sea wall. | 0.27-0.43 |
| 604 | | Made ground | Light brownish grey sandy silt. common sub-angular gravels ≤40mm, poorly sorted. Probable levelling deposit same as (603). | 0.43-0.72 |
| 605 | | Made ground | Predominant concrete and sandstone rubble deposit, sub-angular fragments ≤200mm. Silty sand matrix, with common sub-angular gravels throughout. Rubble layer reinforcing / levelling behind sea wall. Overlies 606. | 0.72-1.90 |
| 606 | | Beach gravels | Irregularly banded mid brownish grey and mid yellowish brown coarse sands and SA-SR gravels ≤60mm. Deposited during storm events and general tidal activity. Overlies 607. | 1.90-10.30 |

| | | | | |
|---|---|---|---|---|
| 607 | | Natural clays/muds | Mid blueish grey silty clay. Sparse gravel inclusions towards upper extent of deposit, sterile beyond interface. Fairly soft, plastic compaction. Overlies 608. | 10.30-19.30 |
| 608 | | Natural sands and gravels | Grey green silty sand with occasional gravels ≤40mm.. Soft compaction. Overlies 609. | 19.30-20.30 |
| 609 | | Natural sands | Fine grey green sands, soft compaction. Overlies 610. | 20.30-22.20 |
| 610 | | Natural sands | Fine brown green sand. Soft compaction. Overlies 611. | 22.20-25.80 |
| 611 | | Natural sands | Mid grey sand with fragments of shell. Overlies 612. | 25.80-26.50 |
| 612 | | Natural clay | Mid grey very sandy clay. Soft compaction. Overlies 613. | 26.50-27.50 |
| 613 | | Natural sand | Mid grey sand with shell fragments. Soft compaction. | 27.50-28.95 |

| **Trench No 7** | **Length 1.50 m** | **Width 0.45 m** | **Depth 2.45 m** |
|---|---|---|---|
| **Corresponds to: HPRH07/ TPRH07** | | | |
| **Easting 463437.350** | **Northing 99093.725** | **3.02 m OD** | |

| **Context Number** | **Fill Of/Filled With** | **Interpretative Category** | **Description** | **Depth (m) BGL** |
|---|---|---|---|---|
| 701 | | Modern imported topsoil | Mid to dark brown sandy clay loam with frequent sub-angular stones ≤30mm. Thin turf above, fine rooting in upper 0.3m. Glass and ceramic finds photographed but not retained. | 0.00-0.60 |
| 702 | 703 | Backfill of moat from infilling in 1870 | Yellowish mid to light brown sand with abundant sub-angular stones ≤30mm. Frequent brick fragments and other building debris such as tile, glass, slate and other various CBM (not retained). Becomes much wetter towards base of excavation towards water table and more clayey though no clear horizon is visible. Probably debris from dismantled / demolished fort its self dumped into moat. | 0.60-2.45+ |
| 703 | 702 | Uncategorised context | Cut of moat, not visible in trial pit but number allocated as cut for fill 702 | - |
| 704 | | Retaining wall presumably built as part of backfilling in 1870 | Comprises of large block work bonded with mortar, presumably stretcher bond but only 0.45m strip seen in section. | |

| **Trench No 8** | **Length 1 m** | **Width 0.45 m** | **Depth 1.20 m** |
|---|---|---|---|
| **Corresponds to: HPRH05/ TPRH05** | | | |
| **Easting 463421.314** | **Northing 99106.093** | **3.39 m OD** | |

| **Context Number** | **Fill Of/Filled With** | **Interpretative Category** | **Description** | **Depth (m) BGL** |
|---|---|---|---|---|
| 801 | | Modern topsoil | Imported topsoil, mid to dark brown clay loam with common sub-angular to sub rounded stones ≤30mm. Turfed with fine rooting in top 0.2m. Overlies 802. | 0.00-0.45 |
| 802 | | Made ground | Yellowish light brown, sub rounded to sub-angular poorly sorted gravels ≤40mm with coarse sand. Flecks of CBM. Uncertain if backfill of moat or slumped material from earthwork. | 0.45-1.2+ |

| **Trench No 9** | **Length 1 m** | **Width 0.45 m** | **Depth 2 m** |
|---|---|---|---|
| **Corresponds to: HPRH06/ TPRH06** | | | |
| **Easting 463420.401** | **Northing 99102.330** | **3.77 m OD** | |

| **Context Number** | **Fill Of/Filled With** | **Interpretative Category** | **Description** | **Depth (m) BGL** |
|---|---|---|---|---|
| 901 | | Topsoil | Thin turf / topsoil. Mid to dark brown sandy clay loam. Fine rooting throughout. Overlies 902. | 0.00-0.20 |
| 902 | | Made ground | Yellowish light grey sandy clay. Occasional small sub rounded to sub-angular stones ≤40mm. Overlies 903. | 0.20-0.36 |
| 903 | | Made ground | Backfill. Mid brown sandy loam with frequent sub rounded stones ≤40mm. Large amount of glass, brick, ceramics, metal etc all of late 19th to mid 20th century. Probably material derived from within the fort and dumped in the uppermost part of moat backfill. Overlies 904. | 0.36- 0.96 |
| 904 | | Made ground | Yellowish light brown sands and poorly sorted sub rounded to sub angular gravels ≤40mm. Occasional CBM frags. Probably redeposited natural used to build up ramparts which has slumped. Diffuse horizon with undisturbed natural. Overlies 905. | 0.96-1.55 |
| 905 | | Made ground | Gravels. Yellowish light brown sands and poorly sorted sub rounded to sub-angular gravels ≤40mm. | 1.55-2.50+ |

| Trench No 10 | Length 0.25 m | Width 0.25 m | Depth 24 m |
|---|---|---|---|
| Corresponds to: BHRH06 | | | |
| Easting 464218.577 | Northing 98169.754 | 3.13 m OD | |

| Context Number | Fill Of/Filled With | Interpretative Category | Description | Depth (m) BGL |
|---|---|---|---|---|
| 1001 | | Tarmac | Tarmac. Overlies 1002. | 0.00-0.05 |
| 1002 | | Made ground | Yellowish light brown coarse sands and sub-angular to sub rounded gravels ≤30mm.midern imported as makeup for carpark. Overlies 1003. | 0.05-0.25 |
| 1003 | | Made ground | Made ground. Concrete rubble ≤200mm mixed with coarse sand. Mixed with clay within lower extremity of context. Build up for carpark. Overlies 1004. | 0.25-0.40 |
| 1004 | | Beach gravels | Irregularly banded mid brownish grey and mid yellowish brown coarse sands and SA-SR gravels ≤60mm. Deposited during storm events and general tidal activity. Overlies 1005. | 0.40-6.30 |
| 1005 | | Natural sands and gravels | Mid grey sand and moderately well sorted gravels ≤20mm. Soft compaction. Overlies 1006. | 6.30-6.80 |
| 1006 | | Natural clay | Mid Grey sandy clay with shell fragments. Soft compaction. Overlies 1007. | 6.80-9.50 |
| 1007 | | Natural sand | Mid grey fine soft sand. Overlies 1008. | 9.50-10.10 |
| 1008 | | Natural clay | Dark brown sandy clay. Soft to firm varied compaction. Overlies 1009. | 10.10-10.50 |
| 1009 | | Natural | Natural gravel. Poorly sorted gravels ≤40mm with coarse sands. Overlies 1010. | 10.50-12.40 |
| 1010 | | Natural clay | Orange brown sandy stiff clay with mid to light grey mottling with larger bits of grit and shell frags ≤2mm and sub-angular to sub-rounded gravels ≤30mm. Overlies 1011. | 12.40-14.30 |
| 1011 | | Natural clay | Silty sandy grey flat. Firm compaction. Overlies 1012. | 14.30- 17.00 |
| 1012 | | Natural clay | Sandy stiff grey clay. Overlies 1013. | 17.00- 21.50 |
| 1013 | | Natural clay | Very sandy green grey silty clay and shells. | 21.50- 24.00 |

| Trench No 11 | Length 0.50 m | Width 0.50 m | Depth 25.95 m |
|---|---|---|---|
| Corresponds to: BHRH08 | | | |
| Easting 464418.453 | Northing 97983.185 | 4.53 m OD | |

| Context Number | Fill Of/Filled With | Interpretative Category | Description | Depth (m) BGL |
|---|---|---|---|---|
| 1101 | | Modern tarmac | Modern tarmac. Overlies 1102. | 0 - 0.10 |

| | | | | |
|---|---|---|---|---|
| 1102 | | Concrete bedding layer | Concrete bedding layer. Overlies 1103. | 0.10 - 0.25 |
| 1103 | | Made ground | Orange brown in colour, sub rounded cobbles. Overlies 1104. | 0.25 - 1.00 |
| 1104 | | Natural gravel | Mixed orange and brown gravels. Finer in consistency and smaller in nature. Overlies 1105. | 1.00 - 2.00 |
| 1105 | | Natural gravel | Beach gravel with occasional flint. Overlies 1106. | 2.00 - 3.50 |
| 1106 | | Natural gravel | Smaller stones and slightly sandier than 1105. Overlies 1107. | 3.50 - 4.50 |
| 1107 | | Natural sand/ gravel | Gravel and silty sand. Overlies 1108. | 4.50 - 8.50 |
| 1108 | | Natural sand/ gravel | Gravel and occasional large flint cobbles. Overlies 1109. | 8.50 - 10.70 |
| 1109 | | Natural clay | Mid grey silty clay with small gravels as inclusions and shelly material. Overlies 1110. | 10.70 - 15.50 |
| 1110 | | Natural clay | Mid to dark grey clay. Overlies 1111. | 15.50 - 21.50 |
| 1111 | | Natural sand/ gravel | Orange yellow sand/ gravel layer. Overlies 1112. | 21.50 - 23.50 |
| 1112 | | Natural sand | Granular sand. Overlies 1113. | 23.50 - 24.50 |
| 1113 | | Natural sand | Blue green sand. | 24.50 - 25.95+ |

| **Trench No 12** | **Length 0.40 m** | **Width 0.40 m** | **Depth 25.45 m** |
|---|---|---|---|
| **Corresponds to: BHRH09** | | | |
| **Easting 464378.9** | **Northing 98056.4** | **3.83 m OD** | |

| **Context Number** | **Fill Of/Filled With** | **Interpretative Category** | **Description** | **Depth (m) BGL** |
|---|---|---|---|---|
| 1201 | | Topsoil | Mid greyish brown silty sandy clay with occasional rooting. Overlies 1202. | 0 - 0.12 |
| 1202 | | Subsoil/ made ground | Mid greyish brown silty clay with occasional sub-rounded to sub-angular flint gravel (<0.06 m). Overlies 1203. | 0.12 - 0.50 |
| 1203 | | Natural | Beach gravels. Pale yellowish grey silty sand with abundant to near complete rounded to sub-angular flint gravels (<0.12 m). Overlies 1204. | 0.50 - 3.00 |
| 1204 | | Natural | Beach gravels. Pale yellowish grey fine sand with abundant to near complete rounded to sub-angular flint gravels (<0.06 m). Overlies 1205. | 3.00 – 5.00 |
| 1205 | | Natural | Beach gravels. Pale yellowish grey sand with abundant to near complete rounded to sub-angular flint gravels (<0.12 m). Overlies 1206. | 5.00 - 7.00 |

| | | | | |
|---|---|---|---|---|
| 1206 | | Natural | Natural gravels. Fine pale grey sand with abundant rounded to sub-angular flint gravels (<0.1 m). Overlies 1207. | 7.00 - 10.50 |
| 1207 | | Natural clay | Mid grey clay silt (firm) with sparse sub-rounded to rounded gravels (<0.03 m) and shell fragments. | 10.50 – 23.45+ |

## Appendix 2: OASIS form

OASIS ID: wessexar1-384305

**Project details**

| | |
|---|---|
| Project name | Long Curtain and Southsea Castle, Portsea Island, Hampshire |
| Short description of the project | Wessex Archaeology carried out archaeological and geoarchaeological monitoring of Geotechnical Investigation works for the Southsea Coastal Defence Scheme. These GI works were located within or adjacent to the Scheduled Monument Boundary of Long Curtain, King's Bastion and Spur Redoubt (list entry 1008754) and Southsea Castle (list entry 1001869), NGR 463312, 99103 and NGR 464312, 98076. The investigations were undertaken in September and October 2019. Within the area of Long Curtain Moat boreholes located compact clay and gravel deposits beneath the modern construction deposits. While these could relate to the former defences, concrete was also located suggesting a more modern date, potentially relating to the construction of the sea wall. A borehole and test pit were located within the former moat. A brick deposit encountered within the borehole may indicate a brick lining for the moat. The moat was backfilled c.1870 and backfill contexts were observed in both trenches. Two of the test pit trenches were situated adjacent to King's Bastion. These located gravel rich deposits beneath modern made ground. These gravel rich deposits are believed to represent material from the earthworks of the bastion. The watching brief indicates limited evidence for surviving buried archaeological remains from the earlier fortifications at Long Curtain Moat. Boreholes excavated seaward of Southsea Castle located only modern made ground situated directly onto storm beach deposits. To the rear of the castle there was evidence of landscaping and truncation. This suggests a low potential for surviving archaeological remains within these areas. |
| Project dates | Start: 16-09-2019 End: 24-10-2019 |
| Previous/future work | Yes / Not known |
| Any associated project reference codes | 118662 - Contracting Unit No. |
| Any associated project reference codes | 1008754 - NHLE No. |
| Any associated project reference codes | 1001869 - NHLE No. |
| Type of project | Recording project |
| Site status | Scheduled Monument (SM) |
| Current Land use | Other 14 - Recreational usage |
| Monument type | NONE None |
| Significant Finds | CERAMIC Post Medieval |
| Investigation type | '"Watching Brief"' |
| Prompt | Scheduled Monument Consent |

**Project location**

| | |
|---|---|
| Country | England |
| Site location | HAMPSHIRE PORTSMOUTH PORTSMOUTH Long Curtain and Southsea Castle |
| Postcode | PO1 2NJ |
| Study area | 0 Hectares |
| Site coordinates | SZ 6331 9103 50.714873248024 -1.103149159513 50 42 53 N 001 06 11 W Point |
| Site coordinates | SZ 6431 9807 50.77807077633 -1.087755540103 50 46 41 N 001 05 15 W Point |
| Height OD / Depth | Min: -1.45m Max: 3.53m |

**Project creators**

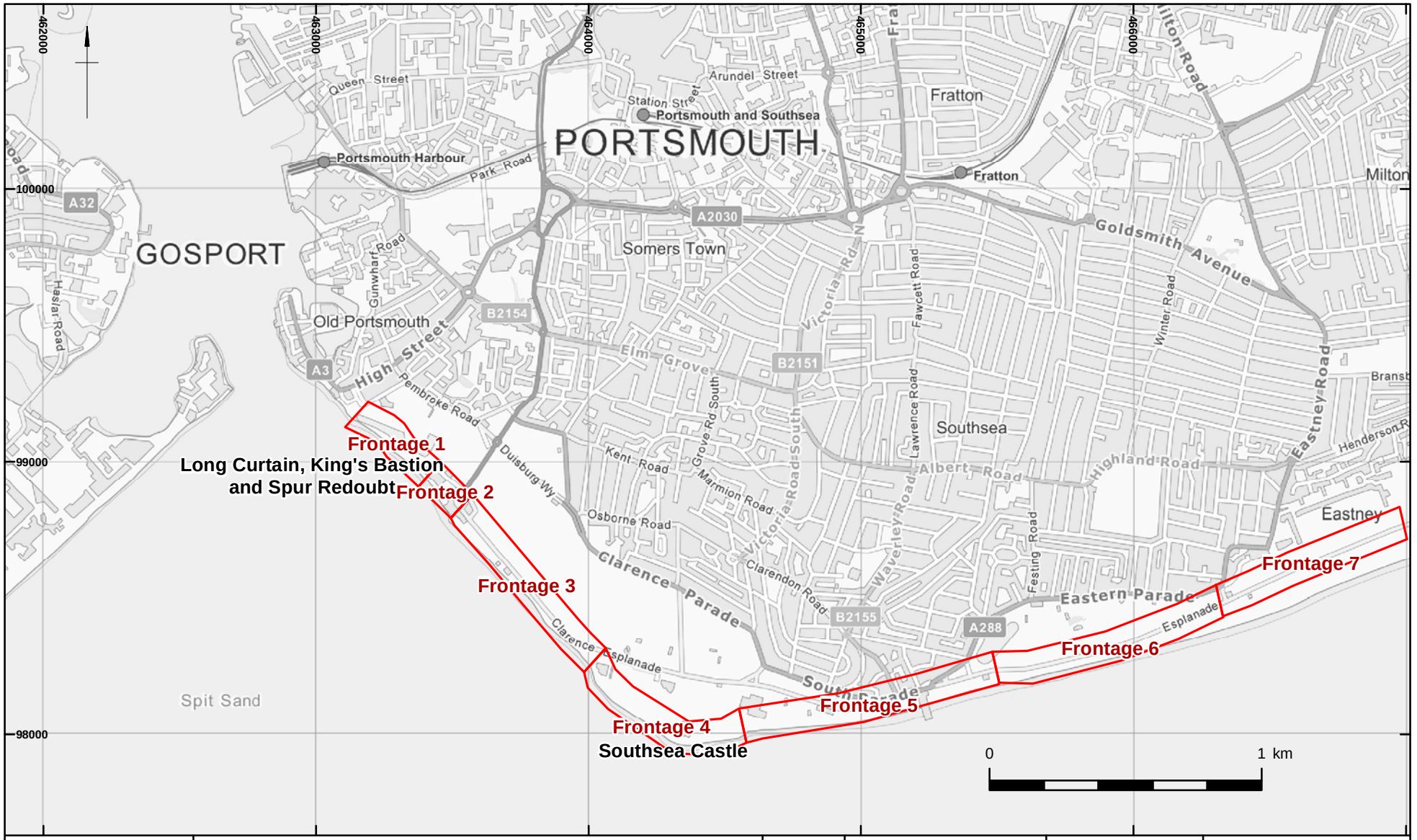
| | |
|---|---|
| Name of Organisation | Wessex Archaeology |
| Project brief originator | Historic England |
| Project design originator | Wessex archaeology |
| Project director/manager | Alex Godden |
| Project supervisor | Rachel Williams |
| Project supervisor | Jamie Porter |
| Project supervisor | Peter Capps |
| Project supervisor | Al Zochowski |
| Project supervisor | Matt Kendall |
| Type of sponsor/funding body | Developer |

**Project archives**

| | |
|---|---|
| Physical Archive Exists? | No |
| Digital Archive recipient | ADS |
| Digital Archive ID | 118662 |
| Digital Media available | "Images raster / digital photography","Text" |
| Paper Archive recipient | no museum deposit |
| Paper Media available | "Context sheet","Diary" |
| Paper Archive notes | Recording undertaken digitally |

**Project bibliography 1**

| | |
|---|---|
| Publication type | Grey literature (unpublished document/manuscript) |
| Title | Long Curtain and Southsea castle, Portsea Island, Hampshire: Additional GI Works Archaeological Watching Brief |
| Author(s)/Editor(s) | Brennan, N. |
| Other bibliographic details | report number 118662.03 |
| Date | 2020 |
| Issuer or publisher | Wessex Archaeology |
| Place of issue or publication | Wessex Archaeology - Salisbury |
| Description | A4 bound client report |




Approximate site area



| | | | |
|---|---|---|---|
| Date: | 11/02/20 | Revision Number: | 0 |
| Scale: | 1:20,000 at A4 | Illustrator: | NB |
| Path: | X:\PROJECTS\118662\GIS\FigsMXD\First issue_R_200211 | | |

Location of the site and monuments

Figure 1

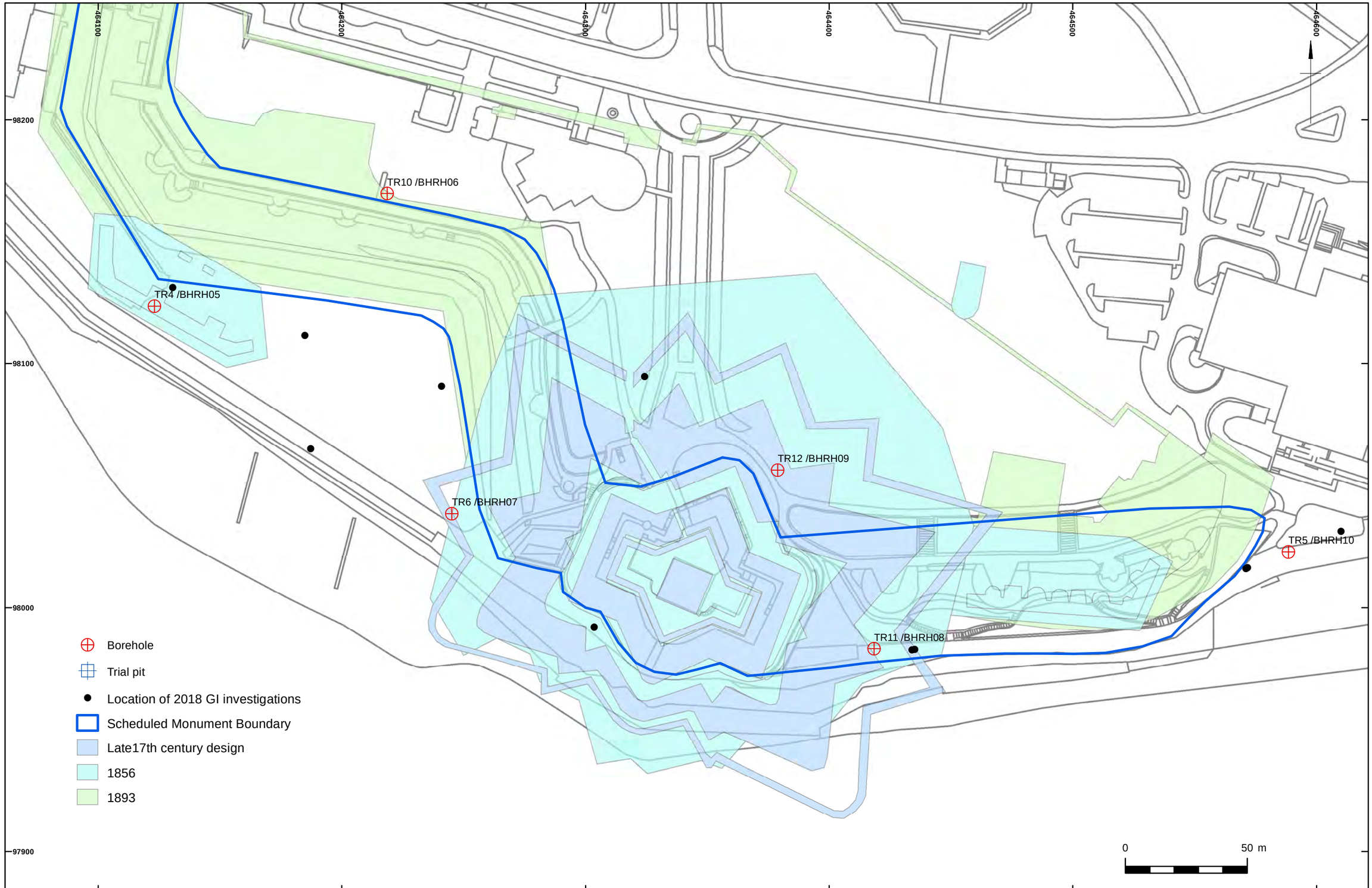
463200
463300
463400
99200
99100
99000
TR2 /BHRH01
TR3 /BHRH02
/BHRH03
TR8 /TPRH05
TR9 /TPRH06
TR1 /BHRH04
TR7 /TPRH07
Borehole
Trial pit
Location of 2018 GI investigations
Scheduled Monument Boundary
Extant fortifications
Fortifications demolished c.1870 (indicative extent)
Extant moat
Moat infilled c.1870 (indicative extent)
0
50 m



| | | | |
|---|---|---|---|
| Date: | 11/02/20 | Revision Number: | 0 |
| Scale: | 1:1,000 at A3 | Illustrator: | NB |
| Path: | X:\PROJECTS\118662\GIS\FigsMXD\First issue_R_200211 | | |

GI locations - Long Curtain, King's Bastion and Spur Redoubt

Figure 2




Base map supplied by client.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

| | | | |
|---|---|---|---|
| Date: | 11/02/20 | Revision Number: | 0 |
| Scale: | 1:1,500 at A3 | Illustrator: | NB |
| Path: | X:\PROJECTS\118662\GIS\FigsMXD\First issue_R_200211 | | |

GI locations - Southsea Castle

Figure 3

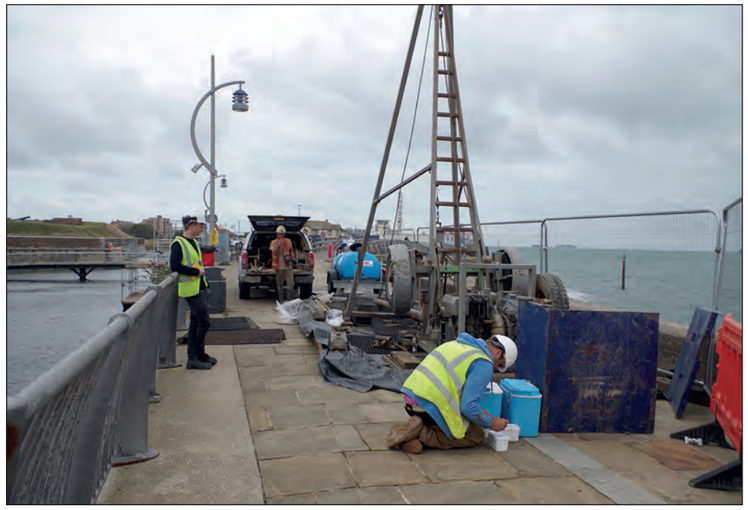


Plate 1: Location of Trench 3, view from the north-west

Plate 2: Location of Trench 2, View from the south-east


Plate 3: Concrete core from Trench 2

Plate 4: Contexts 108 and 109, Trench 1

Plate 5: North-west facing section Trench 5

Plate 6: Location of Trench 9, view from the north-west



| | | | |
|---|---|---|---|
| Date: | 14/02/2020 | Revision Number: | 0 |
| Scale: | Not to scale | Illustrator: | KJF |
| Path: | X:\PROJECTS\118662\Graphics_Office\Rep figs\WB\2020_02_14 | | |

Plate 7: North-east facing section, Trench 9

Plate 8: North-east facing section, Trench 8

Plate 9: Trench 4, view from the south

Plate 10: Trench 6, view from the north

Plate 11: Trench 12, view from the north-west

Plate 12:Trench 5, view from the east



| | | | |
|---|---|---|---|
| Date: | 14/02/2020 | Revision Number: | 0 |
| Scale: | Not to scale | Illustrator: | KJF |
| Path: | X:\PROJECTS\118662\Graphics_Office\Rep figs\WB\2020_02_14 | | |

Wessex Archaeology Ltd registered office Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB
Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk www. wessexarch.co.uk

FS 606559