



Brownsea Island Poole Harbour

Offshore Archaeological Desk-based Study

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Contents

Summary	ii
Acknowledgements.....	iii
1 INTRODUCTION	1
1.1 Project Background	1
1.3 Geology	2
2.1 Study Area.....	2
2.2 Aims and scope	2
2.3 Objectives.....	2
2.4 Sources	3
2.5 Best practice.....	3
2.6 Assumptions and limitations.....	3
2.7 Copyright	4
2.8 OASIS	4
3 PLANNING BACKGROUND	4
3.1 Legislation	4
3.2 Ecological and other constraints	5
4 BASELINE RESOURCE	6
4.1 Introduction.....	6
4.2 Previous Studies.....	6
4.3 Statutory and local heritage designations.....	6
5 KNOWN HERITAGE ASSETS WITHIN THE SITE	6
5.1 Designated heritage assets	6
5.2 Known and potential buried archaeological remains	7
6 ASSESSMENT OF IMPACT.....	10
6.1 Direct Impact	10
6.2 Indirect Impact	10
6.3 Mitigation	10
7 CONCLUSIONS	11
BIBLIOGRAPHY	11
APPENDICES	13
Appendix 1.....	13
Appendix 8: OASIS record form	15

List of Figures

- Figure 1** Study Area
Figure 2 Known and Potential Archaeology



Summary

Wessex Archaeology was commissioned by Lymington Technical Services Ltd to prepare an offshore archaeological desk-based study and impact assessment to support proposed works to construct a new pontoon for access to Brownsea Island castle.

Visitor access to the castle is by private launch which berths at the jetty. The existing passenger launch has reached the end of its service life and is to be replaced. The boarding arrangements are currently via steps on the jetty. In order to improve the landing facilities in line with the new vessel it is proposed to install a floating pontoon as the vessel berth with a brow from the pontoon up to the existing jetty. This will provide easier access for passengers and enable supplies to be delivered more efficiently. In order to install the pontoon, the existing rock armour that limits erosion will need to be removed and four piles will need to be put in place, utilising a spud-legged crane barge. The rock armour will then be re-instated and inspected by divers to ensure adequate replacement

The Search Area comprises a 1 km buffer around the Brownsea Island proposed pontoon location (or Site) while the Study Area comprises a 50 m buffer around the site.

Within the Search Area there are the following features:

- 13 Grade II Listed Buildings;
- 7 recorded wrecks in the HER and NRHE records;
- An anchorage;
- One submerged findspot and one terrestrial findspot; and
- In addition, there is potential for buried remains of seabed prehistory dating from the Palaeolithic to the Mesolithic and shipwrecks dating from the Neolithic to modern period.

The results of this desk-based assessment have shown that, although there is potential for archaeological deposits to be located within the Site, current design proposals indicate that the limited scale of development will have minimal impact.



Acknowledgements

Data was supplied by the United Kingdom Hydrographic Office (UKHO), Dorset Historic Environment Record (EHER) and the National Record of the Historic Environment (NRHE).

This report was compiled by Lowri Roberts. Illustrations were prepared by Kitty Forster. The project was managed for Wessex Archaeology by Danielle Wilkinson.



Brownsea Island, Poole Harbour

Offshore Archaeological Desk-based Study

1 INTRODUCTION

1.1 Project Background

- 1.1.1 Wessex Archaeology was commissioned by Lymington Technical Services Ltd to prepare an offshore archaeological desk-based study to support proposed works to construct a new pontoon for access to Brownsea Island castle.
- 1.1.2 Visitor access to the castle is by private launch which berths at the jetty. The existing passenger launch has reached the end of its service life and is to be replaced. The boarding arrangements are currently via steps on the jetty. In order to improve the landing facilities in line with the new vessel it is proposed to install a floating pontoon as the vessel berth with a brow from the pontoon up to the existing jetty. This will provide easier access for passengers and enable supplies to be delivered more efficiently.
- 1.1.3 The proposal is for construction of a new pontoon measuring 12 m by 4 m and constructed of a metal frame with timber or grip decking supported by fibre-concreted cased floats. Detail regarding the proposal was provided in a single technical drawing and report (Lymington Technical Services Ltd 2019), which specifies the use of four 508 mm diameter tubular steel piles to support the new pontoon. The piles will be positioned using land survey techniques and driven into the seabed with a vibro-hammer. The marine installation will be undertaken from a spud-legged crane barge. The piling works will require the removal of existing rock armour which presently limits erosion. The rock armour will be temporarily placed on the barge. Once the works are complete, the rock armour will be replaced and inspected by divers to ensure adequate replacement. The pontoon will then be floated into position and connected to the piles. At present there is no information on existing ground conditions and depositional sequence here, or how deep the piles will need to be.
- 1.1.4 As the piles are only likely to impact offshore and intertidal archaeology, this assessment focusses on known and potential features in these areas.

1.2 The Site

- 1.2.1 Brownsea Island is the largest of the islands in Poole Harbour in the county of Dorset, England looking toward the Purbeck Hill, see Figure 1.
- 1.2.2 The island is a wildlife sanctuary and has a variety of natural habitats, including woodland, heathland and a lagoon, that have created havens for wildlife such as the red squirrel and a huge variety of birds, including the sandwich tern.
- 1.2.3 Brownsea Castle is situated on Brownsea Island and is a Grade II listed building. The building is a 25-bedroom hotel and owned by the National Trust but has been leased to and operated by the John Lewis Partnership since 1963. The property includes 17 acres of ground and what is known as the Family Pier from which operates *Castello*, the launch that serves the castle. With the exception of water and electricity, all goods and supplies required



to run to the island have to be transported by boat. After 55 years of service, *Castello* is to be replaced and it has been agreed that a pontoon and associated brow is the way forward.

1.3 Geology

1.3.1 The underlying geology of Brownsea Island is Bracklesham Group and Barton Group (Undifferentiated), a sedimentary bedrock comprising sand, silt and clay. Along the shore there are tidal flat deposits and Parkstone clay member (British Geological Survey). According to the British Geological Survey data, there are no offshore boreholes in the vicinity of the proposed works. Of the boreholes taken on and around Brownsea Island, there is one for a well in the centre of the island and one borehole with confidential data to the West of the Island (British Geological Survey).

2 METHODOLOGY

2.1 Study Area

2.1.1 The Search Area comprises a 1 km buffer of the Brownsea Island proposed pontoon location (or Site) while the Study Area comprises a 50 m buffer around the site (Figure 1). The buffer allows for archaeological trends within the area of the licence to be adequately understood and for the area affected by the proposals to be represented in its archaeological context. This ensures that the assessment can fully assess any potential effects of de-silting works upon heritage assets.

2.2 Aims and scope

2.2.1 The objective of the offshore archaeological assessment is to provide a characterisation of the known and potential historic environment resource that exists within and surrounding Brownsea Island that may be impacted by the piling works and changes to the rock armour.

2.2.2 The aim of the archaeological assessment is to inform the licence proposal for the works through:

- A review of the existing heritage assessments for this project and comments from archaeological curators;
- A review of relevant previous archaeological work undertaken in the region and relevant datasets and secondary sources; and
- An assessment of significant effects.

2.3 Objectives

2.3.1 The objectives of the baseline characterisation are:

- To set out the statutory, planning and policy context relating to the historic environment within the Study Area;
- To provide a desk-based overview of the development of the historic environment in the Study Area, based on existing archaeological records, secondary sources and available geophysical and geotechnical data;
- To highlight known prehistoric, maritime and aviation sites present within the Study Area;



- To summarise the potential for the presence of previously unknown prehistoric, maritime and aviation sites that may be present within the Study Area;
- To summarise the Historic Landscape Character and Historic Seascape Character of the Study Area; and
- To comment on the importance of known and potential sites in accordance with established frameworks for assessing archaeological value.

2.4 Sources

2.4.1 A number of publicly accessible sources of primary and synthesised information were consulted. Sources consulted comprise the following.

Historic Environment Record

2.4.2 Dorset Historic Environment Record (DHER) was consulted for information pertaining to the historic environment resource within the Study Area. The DHER is a database of all recorded archaeological sites, findspots, archaeological events and historic landscape character areas within the county and was consulted for this study in March 2020. Information from the DHER, along with that from the additional sources, has been reviewed and synthesised for the purposes of this report. The DHER data is summarised in the gazetteer in Appendix 1.

United Kingdom Hydrographic Office

2.4.3 The United Kingdom Hydrographic Office (UKHO) was consulted for information pertaining to known shipwrecks and obstructions within the Study Area. The UKHO holds a database of all recorded shipwrecks and obstructions around the UK and was consulted for this study in March 2020. Information from the UKHO has been reviewed and synthesised for the purposes of this report. Although three UKHO sites were located within the Search area, none were present within the Study Area and have therefore not been included in the gazetteer.

National Record of the Historic Environment

2.4.4 The National Record of the Historic Environment (NRHE) was consulted for information pertaining to known monuments and archaeological activities in the area and was consulted for this study in March 2020. The NRHE data is summarised in the gazetteer in Appendix 1.

2.5 Best practice

2.5.1 This assessment has been carried out in accordance with the Chartered Institute for Archaeologists' *Standard and guidance for historic environment desk-based assessment* (CIfA 2014).

2.6 Assumptions and limitations

2.6.1 Data used to compile this report consists of secondary information derived from a variety of sources, only some of which have been directly examined for the purposes of this assessment. The assumption is made that this data, as well as that derived from other secondary sources, is reasonably accurate.



- 2.6.2 There are also limitations regarding the recorded maritime archaeological resource, in that not all surviving elements of the resource have been recorded. The information held by the UKHO is generally biased towards 19th and 20th century shipwrecks made of iron and steel, as these tend to be the wrecks most likely to represent modern navigational hazards and are the most likely to be discovered using geophysical survey equipment. No UKHO data was present in the Study Area, however, there is still potential for subsequent discoveries that are at present unknown.

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2.8 OASIS

- 2.8.1 An OASIS online record (<http://oasis.ac.uk/pages/wiki/Main>) will be created, with key fields completed, and a .pdf version of relevant reports submitted, within six months of each report being approved by the Client. Copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service ArchSearch catalogue. However, projects subject to any contractual requirements on confidentiality, or with the discovery of vulnerable sites, will only be uploaded to OASIS following confirmation from the Client and/or Archaeological Curator.

3 PLANNING BACKGROUND

3.1 Legislation

- 3.1.1 In England, the development of ports and harbours is governed by specific legislation through the *Harbours Act 1964* and through general planning law, namely the *Town and Country Planning Act 1990*, the *Planning Act 2008* and the *Marine and Coastal Access Act 2009*. In addition to the planning framework, there are statutory controls on archaeological material based on the following:
- *Ancient Monuments and Archaeological Areas Act 1979*;
 - *Protection of Wrecks Act 1973*;
 - *Merchant Shipping Act 1995*;
 - *Protection of Military Remains Act 1986*;
 - *The Planning (Listed Buildings and Conservation Areas) Act 1990*; and
 - *Treasure Act 1995*.
- 3.1.2 In 2010, the Marine Management Organisation (MMO) was established and given powers under the *Marine and Coastal Access Act 2009*, including responsibility from the Department for transport for certain functions under the *Harbours Act 1964*. Therefore, the

MMO is the first point of contact for all port and harbour projects that take place below high water. Historic England acts as advisor to the MMO for the historic environment.

3.1.3 General planning regulations also apply to ports, harbours, marinas and smaller installations that are not governed by 'harbour orders'.

3.1.4 Guidance has been developed specifically for port and harbour development, including:

- The Assessment and Management of Marine Archaeology in Port and Harbour Development (Wessex Archaeology 2015); and
- Dredging and Port Construction: Interactions with Features of Archaeological or Heritage Interest: The World Association for Waterborne Transport Infrastructure (PIANC 2014).

3.2 Ecological and other constraints

3.2.1 The Supporting Statement written by Lymington Technical Services Ltd (2019) has provided a thorough assessment of the protected sites around the development and the following has been derived from it.

3.2.2 South Marine Plan (inshore) – This application is for improvements to the operation of an existing facility and therefore compliant with the plan (Policies S-TR-1, S-TR-2). This is also compliant with the Marine Policy Statement (Ridge and Partners LLP, 2019).

3.2.3 The site is not within an MCZ nor cMCZ.

3.2.4 Ramsar – Poole Harbour (UK11054). The proposed works are in an existing area of high activity so, once constructed, are not considered likely to have any impact. The construction is very short in time and the only potential impact will be during the piling.

3.2.5 SSSI – Poole Harbour (1001200). 85% of the Harbour wide SSSI is favourable or unfavourable recovering. This includes all the site interest units in the area of the works. The seabed on the site is covered by rock armour. The installation of 4 tubular steel piles into the seabed results in no effective loss of subtidal habitat.

3.2.6 SAC – Dorset Heaths (UK0019857). This is on the south side of Brownsea Island and whilst within 1 km there is no physical possibility of impact from the proposed works.

3.2.7 SPA – Poole Harbour (UK9010111). This overlays the Ramsar site and the same negligible impacts apply.

3.2.8 Nitrate Vulnerable Zones – Poole Harbour, eutrophic water. The nature of the works is such that they can have no impact on the level of nitrates.

3.2.9 Coastal Sensitive Area – Poole Harbour and Holes Bay (UKENCA117), nitrates. The nature of the works is such that they can have no impact on the level of nitrates.

3.2.10 Shellfish Waters – Poole Harbour North (52). There is no evidence of small-scale piling having a negative impact on these shellfish waters. The works will therefore have no negative impact on the shellfish waters.

3.2.11 WFD Habitats – higher sensitivity –



- Saltmarsh to the north of the site, bounded by a beach and physically disconnected from the works which can therefore have no negative impact.
- Subtidal Chalk Reef – over 100 m seawards and within the main navigation channel. The works can have no physical impact.

3.2.12 WFD Habitats – lower sensitivity –

- Intertidal soft sediment. This is indicated on the edge of the island. The works are well seawards this in deep water so there can be no impact.
- Subtidal Soft Sediment. MAGIC shows this as a rather pixelated area (so questionable accuracy as some of this is over land). However, the works are inshore of this and can have no permanent negative impact.

4 BASELINE RESOURCE

4.1 Introduction

4.1.1 The following section provides a brief summary of the archaeological and historical development of the Study Area, compiled from the sources listed above. The aim is to establish the known and potential resource that could be affected by the development.

4.1.2 All heritage assets identified within the Study Area are listed in Appendix 1. The DHER and NRHE entries have been amalgamated removing duplicates and given unique numbers in a chronological sequence starting from 1001. These entries are included within the text with a WA prefix for ease of reference. The marine records have been generated from the United Kingdom Hydrographic Office (UKHO). Although three UKHO sites were located within the Search area, none were present within the Study Area and have therefore not been included in the gazetteer.

4.1.3 An overall illustration of the identified heritage assets is presented in Figure 2.

4.2 Previous Studies

4.2.1 Only a small number of archaeological investigations have previously been carried out within the Study Area. Excavations have previously taken place on Brownsea Island in 1974 and 1979, with evaluations taking place in 1964, 1996 and 1997. Wessex Archaeology have previously been involved with work on Brownsea Island in the form of a palaeoenvironmental assessment of 16th to 17th century kilns in 2007, and more generally in Poole Harbour in 2004 whilst undertaking a Rapid Coastal Zone Assessment Survey.

4.3 Statutory and local heritage designations

4.3.1 In 1962, the National Trust took ownership of Brownsea Island and leased the northern part to Dorset Wildlife Trust. The castle itself is a Grade II listed building.

5 KNOWN HERITAGE ASSETS WITHIN THE SITE

5.1 Designated heritage assets

5.1.1 There are no Scheduled Monuments or protected wrecks located within the Site.

5.1.2 There are 13 Grade II Listed Buildings in the terrestrial zone, located within 150 metres of the site: WA1001 refers to Brownsea Castle, now a country house, that was rebuilt on the

site of a small Henrician coastal artillery fort or blockhouse built between 1545-47 by Henry VIII. In the immediate vicinity of the proposed works is the family pier (WA 1013). Close to the proposed works, there are walls and terrace walls to a walled garden immediately north-east of Brownsea Castle, including gazebo in south corners (WA2019), and terrace walls and steps immediately south-east of Brownsea Castle (WA1024). All the listed buildings can be found in the Gazetteer in Appendix 1. The known archaeology in the wider Study Area can provide an indication of the potential to discover previously unknown archaeological material within the Site.

5.1.3 The archaeological records located within the Study Area are illustrated in Figure 2.

5.2 Known and potential buried archaeological remains

5.2.1 There are no known features within the Study Area below Mean High Water.

5.2.2 The potential for the likelihood of as yet unrecorded archaeological remains within the Site is informed by the consideration of the known heritage assets recorded within the 1 km buffer surrounding the Site, in conjunction with the geology and topography of the area.

Submerged Prehistory

5.2.3 By looking at Ordnance Survey data, it is evident to see that the shoreline of Brownsea Island has changed significantly since prehistory due to both sedimentary erosion and deposition as well as sea level rise.

5.2.4 Prehistoric features are likely to be found in either primary or secondary deposits. Primary contexts are not necessarily where the item was originally deposited but its movement has been restricted to a local level. In secondary contexts the receptor has been moved from their original positions by either natural or cultural means i.e. glacial movement or dredging.

5.2.5 Historic England have noted that the area around Brownsea Island has significant potential for palaeo-environmental and archaeological deposits. Peat has been observed exposed on the beach of the south shore, but whether this represents the presence of substantial deposits is unclear. There is some potential for Quaternary deposits on the island and in what is now the intertidal zone, at which time the sea level was 140 m lower than present and Brownsea Island was a hill situated in the dry land of Poole Harbour (pers comms February 2020).

5.2.6 Historic England also noted that there is potential for archaeological remains associated with Pleistocene river gravels which may be directly impacted by piling, and also more recent prehistoric remains associated with wetland exploitation during the Stone Age, or remains of maritime activity after inundation by the sea, for instance in the Iron Age or Roman period, or in the later historic period (pers comms February 2020).

Maritime Archaeological Features

Prehistoric (Palaeolithic to Iron Age)

5.2.7 Any archaeological evidence for maritime activities from the Neolithic (c. 4,000 to 2,350 BC) and Bronze Age (c. 2,350 to 700 BC) is considered very rare and archaeologically highly significant. Some of the earliest examples of Bronze Age watercraft in Northern Europe have been found on the east coast of Britain. Although there is no evidence within the Search Area itself, a complete Late Bronze Age winged axe was found in Poole Harbour in 2005, emphasising that trade networks were in place (Knight 2018).

- 5.2.8 By the Iron Age (c.700 BC to AD 43) a comprehensive trading network existed between Britain and continental Europe (James *et al.* 2010). This phase is associated with evidence of significant advances in technology and vessel size. Logboats and hide boats remained in use alongside new vessel types such as the Bronze Age flat-bottomed sewn plank boats suited to a wider variety of uses in a wider range of environments (McGrail 2004). The Poole logboat was dredged from Poole Harbour, east of Brownsea Island, in 1964. Two large fragments of the boat were discovered and it was reconstructed to provide a vessel of just over 10 m in length and 1.52 m in width. The wood has been radiocarbon dated to circa 300 cal BC, giving it a firm Iron Age date. It is believed that the boat is associated with two nearby Iron Age jetties, nationally significant and thought to relate to cross-continental trading which took place on Green Island in Poole Harbour. Seeing as the Poole Iron Age logboat was discovered within the search area, there is potential for others to be in the vicinity.

Romano-British

- 5.2.9 During the Romano-British period a number of important coastal settlements, villas and trading ports developed and expanded along the Dorset coastline, most notably Hengistbury Head. Evidence for submerged Roman settlements has been found to the east of Brownsea Island and the presence of various other find spots within the harbour suggests that the Roman foreshore is now submerged (Wessex Archaeology 2004). Romano British pottery of 3rd to 4th century date, worked wood and animal bone were recovered from a ditch on the north-east coast of the island and the site it is believed to have come from is badly eroded by the sea. As Brownsea Island is known to have had a Romano British settlement, further Romano British material in the form of maritime craft could be within the area.

Anglo-Saxon

- 5.2.10 There is no archaeological evidence of Anglo-Saxon occupation on Brownsea Island.

Medieval

- 5.2.11 A medieval inhumation cemetery was excavated at Farm Cottage, Brownsea Island, in 1974 and 1979. The excavations located a total of seven inhumations, five of which were fully excavated. The inhumations were supine and extended, none were accompanied by grave goods. One of the inhumations was radiocarbon dated to the 11th-14th century. This indicates that there would have been regular sea-borne traffic during the medieval period, and therefore that there could be evidence for this period within the Site, either in the form of shipwrecks or material lost or dropped overboard.

Post-medieval

- 5.2.12 Brownsea Castle, now a country house, was rebuilt on the site of a small Henrician coastal artillery fort or blockhouse built between 1545-47 by Henry VIII as part of his network of coastal defences to protect against French and Spanish invasion. Any remains of the original castle are now in the basement of the house, though sections of the later house reflect its original structure. Building materials could have come from a variety of places and were most likely transported to the island by ship, therefore there could be evidence for this period within the Site, either in the form of shipwrecks or material lost from the dock during the building process.

19th Century

- 5.2.13 In the mid-19th century, Brownsea Castle was remodelled, and a new Tudor style facade, gatehouse and pier built. This was destroyed by fire and rebuilt in 1897. The castle is now



Grade II listed and owned by the National Trust. St Mary's Church designed by Blanchard was also constructed in 1854. The interior contains 16th century material originally used in Crosby Hall, London. Again, it is likely that some materials would have been transported by ship and therefore evidence could include wrecks or materials that were lost or discarded overboard or from the dock.

Modern

- 5.2.14 Several World War II structures remain on Brownsea Island, including gun emplacements that were used to guard the entrance to Poole Harbour, and were manned by 110 men from 347 Coast Battery of the Royal Artillery. The remains of a demolished site of a World War II searchlight emplacement is also present as well as the remains of a World War II extended defence officers post, that was used for exploding sea mines in the Channel in the event of invasion, although some of the building has now eroded over the cliff. The remains of Poole coastal battery, an emergency battery located on Brownsea Island, is at the entrance to Poole Harbour. There are also remains of a Second World War air raid shelter and searchlight battery on Brownsea Island. As there are several World War II features around the coastline of the island, there is potential for material dating to this period to be found in a submerged context as materials may have been lost or discarded from cliffs.
- 5.2.15 In addition to the known heritage assets discussed, there is additional potential for further remains of maritime origin to be located within the Site. There are large numbers of known and accurately charted wreck sites in UK waters although the resource is inherently biased towards 19th and 20th century wrecks.
- 5.2.16 There is evidence for post-medieval wrecks and more modern wrecks within the Search Area. Wrecks of these dates, if they are known, are usually plotted on a chart and therefore encountering unexpected wrecks should not be likely.
- 5.2.17 Since the introduction of marine craft, it can also be assumed that a reasonable number of vessels which passed the Poole Harbour may have foundered as a result of natural causes (sea, weather or navigational hazards), collision or war. Many of these may not be charted, and there is a potential for unknown wrecks or debris from wrecks to be located within the Study Area.
- 5.2.18 There could also be evidence of isolated material that has been lost or discarded from the jetty since its construction, or from vessels in the area.

Aviation features

- 5.2.19 Since the invention of flight, the waters off the south and east coasts of the UK have seen a high level of aircraft crashes, predominantly during WWII.
- 5.2.20 During WWII, there was a high concentration of aircraft activity over the southern and eastern coasts of the UK as British and foreign planes crossed the Channel. Corresponding to this activity was a high number of reported losses of aircraft, lost either through enemy action or accidents. As with shipwrecks, the reported locations of aircraft losses are often inaccurate due to weather conditions, inability to locate landmarks or because there were no survivors (Historic England 2002). Planes by their general design are not likely to either survive or be visible on the seafloor as, by nature, they are of a light design and build. Usually they are wrecked because they were damaged, either in the air or when hitting the surface of the water, so it is comparatively rare for a plane to survive underwater intact. They are also subject to damage once on the seabed, through natural marine processes, trawling damage or enthusiastic divers (Historic England 2002).



- 5.2.21 Over 10,000 aircraft have crashed in UK waters since the advent of flight in the early 20th century. Due to high population levels and the predominance of world war activity in the area, the Essex coast can be considered to have a significant number of these losses.
- 5.2.22 There are no known aircraft crash sites located within either the Site or the surrounding Study Area, however there is still the potential for these types of sites, or debris associated with aircraft crash sites, to be uncovered in the Study Area.

6 ASSESSMENT OF IMPACT

6.1 Direct Impact

- 6.1.1 The direct impacts of the proposed works are the piling works, the removal and reinstatement of the current rock armour, and use of a spud-legged crane barge to undertake the marine works. The Ports and Harbour Guidance (Historic England 2016) states that piling could cause physical damage to archaeological material and deformation of the surrounding seabed deposits. However, the piling works are likely to cause negligible impact, less than the construction of the adjacent jetty. Additionally, as there are only four hollow piles, the area being affected is very small, and therefore the likelihood of causing negative direct impact to archaeological material is low.
- 6.1.2 The rock armour is in place to minimise erosion. The removal and reinstallation of it is likely to cause minimal impact to archaeological material as the area has already been impacted, and any new areas of impact are likely to be small. Divers will be present following its re-instatement to ensure the placing is correct, therefore keeping impact to a minimum.
- 6.1.3 The spud legs of the crane barge could physically damage archaeological material on the surface of the seabed and compress the upper sediment horizons of the seabed. However, surface material is likely sparse due to vessel traffic and propeller wash, and the surface area of the spud legs is small. In addition, while buried archaeological material may be crushed, the material will remain relatively *in-situ* and the sediments will remain intact. As such, the spud legs will likely have a negligible impact to archaeological material.

6.2 Indirect Impact

- 6.2.1 The Ports and Harbour Guidance (Historic England 2016) states that the indirect impacts of piling could lead to increased scour around piles and the destabilisation of sites. This is likely to be negligible as the number of piles (4) is not thought to be great enough to affect sedimentation movement. The existing rock armour is there to protect against scour and will be replaced around the piles, therefore there is no likelihood of scour.
- 6.2.2 The indirect impacts of the rock armour may include changes to sedimentation movement and erosion; however, the rock armour will be replaced promptly after works to minimise the effects.

6.3 Mitigation

- 6.3.1 As sources have indicated that there are no protected wrecks or known marine sites within the search area, there is no need for Archaeological Exclusion Zones (AEZs) to be put in place.
- 6.3.2 As minimal impact will take place during the driving of four hollow piles into the seabed, it is not thought necessary to have an archaeologist present during the works, or for any geotechnical works to be undertaken or archaeologically assessed.



- 6.3.3 In the unlikely event that unexpected material should come to light, for example during the diver survey of the rock armour or placement of the spud legs, it should be reported to the Retained Archaeologist for further assessment.

7 CONCLUSIONS

- 7.1.1 Within the Search Area are 13 Grade II Listed Buildings, 7 recorded wrecks in the HER and NRHE records, an anchorage, one submerged findspot and one terrestrial findspot.
- 7.1.2 This desk-based assessment has identified no designated shipwrecks, known aircraft crash sites or prehistoric evidence within the Study Area. However, there could be potential for discoveries of previously unknown material, relating to terrestrial use of the site during the Palaeolithic period, and maritime artefacts from maritime traffic from the Neolithic period onwards.
- 7.1.3 The floating pontoon will be added to the facilities of the current jetty and at a lower level to the jetty itself, partly obscuring the pontoon from the island; therefore, the overall visual impact is likely to be minimal.
- 7.1.4 The replacement of the rock armour and the visual inspection by divers provides an opportunity for any unexpected archaeological material to be reported.
- 7.1.5 Due to the limited scale of the development in the form of four hollow piles, and limited potential for the discovery of archaeological material, no mitigation measures are recommended. However, should unexpected material be discovered, it should be reported to the Retained Archaeologist for further assessment.

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APPENDICES

Appendix 1

WA ID	Designations	NRHE/HER ID/List entry	Period	Name	Description	BNG Easting	BNG Northing
1001	Grade II	457504	Post Medieval	Brownsea Castle	Brownsea Castle, now a country house, was rebuilt on the site of a small Henrician coastal artillery fort or blockhouse, built between 1545-47 by Henry VIII.	403048	87646.3608
1002		MWX2772/457515	Iron Age	Poole Harbour Log Boat	A log boat was dredged from Poole Harbour, east of Brownsea Island in 1964.	403300	87800
1003		888181	Romano-British	Romano British pottery	Romano British pottery of 3rd to 4th century date, worked wood and animal bone were recovered from a ditch on the northeast coast of Brownsea Island.	403500	88500.00001
1004		832541	Unknown	Possible wreck	Unidentified seabed obstruction reported by fishermen. Possibly indicative of wreckage or a submerged feature.	403787	86999
1005		832543	Modern	Remains of fishing vessel	1959 Fishing vessel sunk in inside Poole harbour, about 200 yards south of North Haven Point. Located in 42 feet of water, broken up not dangerous.	403531.9999	87140.00002
1006		900464	18th Century	Wreck of British Cargo vessel	1748 British Cargo vessel, The Mary with a very valuable cargo from Hamburg, was reported ashore at Longball near Brownsea.	402350.0001	88070.00006
1007		MDO20040/900824	19th Century	Island Queen	1887-1895 British Steam Yacht vessel foundered at her moorings.	403250	87650
1009		1445812	Medieval	Wreck of wooden cargo vessel	1275 wreck of wooden cargo vessel which stranded at Brownsea, laden with wine.	402350.0001	88070
1010		MWX5066	Post Medieval	Gift of God	1562 AD? To 1582 AD - A barque carrying a cargo of French wine deliberately run ashore by pirates.	403274	87633
1011		MWX5235	Post Medieval	Anchorage	Anchorage off Brownsea, Poole Harbour, recorded on a chart of 1811	403370	87668
1012		MWX2605	Post Medieval	Findspot	One early 16th century olive jar - top 2/3's only and two 18th century clay pipes recovered from adjacent to Bell Buoy in Poole	403497	87649
1013	Grade II	1120278	Post Medieval	The Family Pier	The Family Pier	403131	87630.3608



1014	Grade II	1120279	Post Medieval	East and West Cottage	East and West Cottage	403125	87710.3608
1015	Grade II	1120280	Post Medieval	Carpenter's cottage	Carpenter's cottage	403151	87708.3608
1016	Grade II	1120281	Post Medieval	Cottages	Cottages	403153	87738.3608
1017	Grade II	1120282	Post Medieval	The Wardens House	The Wardens House	403165	87756.3608
1018	Grade II	1120283	Post Medieval	The Boat Houses House	The Boat Houses House	403166	87764.3608
1019	Grade II	1172219	Post Medieval	Walls and Terrace Walls	Walls and Terrace Walls To Walled Garden Immediately North-East Of Brownsea Castle, Including Gazebo In South Corners Corner	403086	87623.3608
1020	Grade II	1172265	Post Medieval	The Villano And National Trust Restaurant	The Villano And National Trust Restaurant Including Boundary Walls On North And South-East East	403131	87681.3608
1021	Grade II	1172268	Post Medieval	The Engine Houses House	The Engine Houses House	403146	87727.3608
1022	Grade II	1172323	Post Medieval	Carpenters Shop	Carpenters Shop	403161	87749.3608
1023	Grade II	1305205	Post Medieval	Gatehouse to Brownsea Castle	Gatehouse to Brownsea Castle at North Corner Of Walled Gardens Garden	403104	87696.3608
1024	Grade II	1323431	Post Medieval	Terrace Walls and Steps	Terrace Walls and Steps Immediately South-East Of Brownsea Castles Castle	403059	87618.3608



Appendix 8: OASIS record form

Project Details:

Project name	Brownsea Island, Poole Harbour Offshore Archaeological Desk-based Study		
Project code	232140		
OASIS ID	Wessexar1-388736		
Type of project	Desk-based assessment		
Project description	<p>Wessex Archaeology was commissioned by Lymington Technical Services Ltd to prepare an offshore archaeological desk-based study and impact assessment to support proposed works to construct a new pontoon for access to Brownsea Island castle.</p> <p>Visitor access to the castle is by private launch which berths at the jetty. The existing passenger launch has reached the end of its service life and is to be replaced. The boarding arrangements are currently via steps on the jetty. In order to improve the landing facilities in line with the new vessel it is proposed to install a floating pontoon as the vessel berth with a brow from the pontoon up to the existing jetty. This will provide easier access for passengers and enable supplies to be delivered more efficiently. In order to install the pontoon, the existing rock armour will need to be removed and four piles will need to be put in place before it's re-instated.</p>		
Project dates	Start: 02 March 2020	End: 31 March 2020	
Previous work	No		
Future work	Unknown		
Site status	None		
Land use	Marine		
Monument type	None	Period	None

Project Location:

County	Dorset	District	Poole (below MLWS)	Parish	Poole (below MLWS)
Site name	Brownsea Island, Poole Harbour Offshore Archaeological Desk-based Study				
Study area (m²)	1 km ²				
Site co-ordinates	403131 Easting 87630 Northing				

Project Creators:

Name of organisation	Wessex Archaeology		
Project brief originator	Lymington Technical Services Ltd (Southampton)	Project design originator	Wessex Archaeology
Project manager	Danielle Wilkinson	Project supervisor	Lowri Roberts

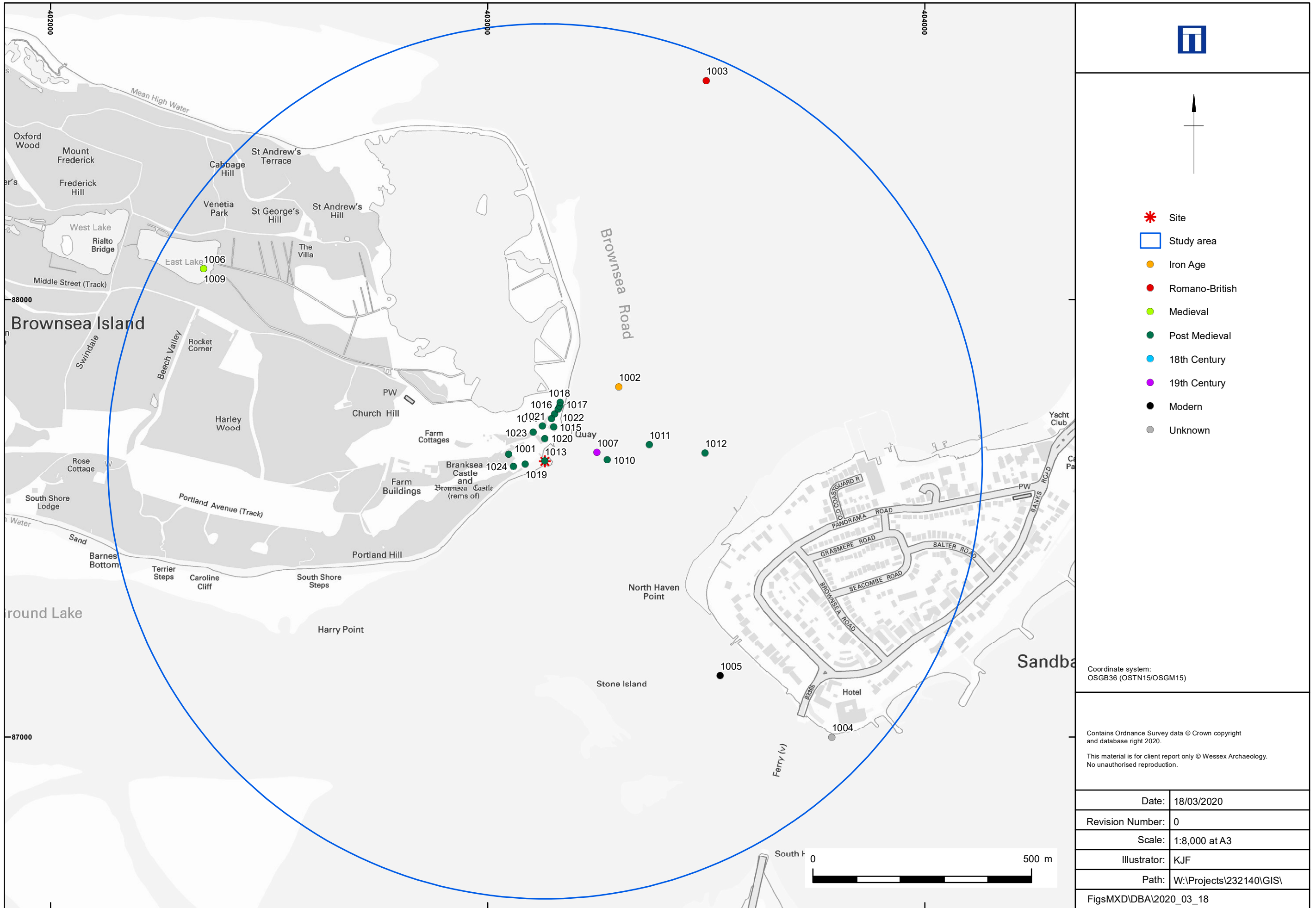
Project Archive and Bibliography:

Physical archive	None	Digital archive	GIS, spreadsheets, text	Paper archive	None
Report title	Brownsea Island, Poole Harbour Offshore Archaeological Desk-based Study			Year	2020
Author	Wessex Archaeology	Place of issue	Salisbury	Report ref.	232140.01



Study Area

Figure 1



Known and Potential Archaeological Features

Figure 2



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