





Lindisfarne: The Holy Island Archaeology Project

Assessment Report and Updated Project Design

Chris Casswell

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Purpose of document

This document has been prepared as an Assessment Report (Part 1) and Updated Project Design (Part 2). The purpose of the first part of this document is to provide an account of the archaeological excavations undertaken in 2017, including the results of fieldwork, specialist reporting and links to the full archaeological record. It is supported by an easily accessible online database of all written, drawn, photographic and digital data.is to provide an outline of planned fieldwork, aims and objectives of the work, and methodology to be employed. The second part of the document builds on the results and recommendations of the first, providing an outline for planned 2018 fieldwork, including aims and objectives of the work, and methodology to be employed.

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Project summary

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Executive summary

This document is submitted in support of continued fieldwork on the Lindisfarne research project on Holy Island, carried out by DigVentures in partnership with Durham University. It provides an interim report on the 2017 fieldwork results and outlines plans for 2018. The project fieldwork will take place between 3rd and 26th September 2018 and will comprise a community-based archaeological investigation at Sanctuary Close, immediately east of the Priory church.

A MORPHE/PRINCE2 compliant document has been produced outlining key archaeological research questions, roles, procedures, stages and outputs. The overarching aim of this fieldwork is to provide baseline information to contribute to the future management, research and presentation of the site, creating multiple educational and participatory learning experiences for community participants. This will be achieved through a community-based archaeological research project designed to:

- define the results of previous non-invasive surveys, refining the chronology and phasing of the site with a programme of trenching; and
- understand the site's archaeological and palaeoenvironmental conditions.

This document is presented in two parts; *Part 1: Assessment report* provides a post-excavation assessment of the results of the 2017 fieldwork season, including a background to the project, aims and objectives, a summary of the results and recommendations for further work. *Part 2: Updated project design* builds on from the results of the 2017 fieldwork to outline a proposal for work to be undertaken in 2018. This includes a proposed methodology, key sources and activities required to support the delivery of the proposal's outcomes, identifying responsibilities of individual project staff members and outlines the tasks and programme. The Updated Project Design provides an outline of methodology and planned intervention to complete:

- Targeted excavation Excavation of two archaeological evaluation trenches within Sanctuary Close, immediately east of the Priory church. The full extent of Trench 2 will be reopened with an extension in the northwest corner targeting a suspected building foundation, and Trench 4 will be extended significantly to explore the Infirmary building wall and internal features.
- Public engagement The project is supported by a comprehensive learning, engagement and activity plan. An innovative digital recording system will be used to enable volunteers to record and publish on smartphones or tablets in the field; specifically developed learning materials will be used to deliver schools sessions, with a dedicated project website, underpinned by a digital and audience building strategy.

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Part 1: Assessment report

1 INTRODUCTION

1.1 Project summary

- 1.1.1 This document provides an Assessment Report and Updated Project Design (UPD) for a community-based archaeological investigation at Lindisfarne (hereafter 'the site', Figure 1, NGR NU 12650 41758). The project is a multi-staged archaeological project with an ongoing post excavation programme. This report provides an interim summary of the results from the 2017 fieldwork season and defines how DigVentures intends to deliver the 2018 phase of the project, outlining how research aims and participation targets will be met. All DigVentures projects are managed according to a MoRPHE project model (Management of Archaeological Research Projects in the Historic Environment; Historic England 2012) – itself based on a PRINCE2 public sector project delivery framework.
- 1.1.2 The overarching aim of fieldwork is to provide baseline information to contribute to the future management, research and presentation of the site, creating multiple educational and participatory learning experiences for community participants. This will be achieved through a community-based archaeological research project designed to:
 - Identify the physical extent and character of the archaeological remains on the site with a programme of remote sensing.
 - Characterise the results of non-invasive survey, refining the chronology and phasing of the site with a programme of trenching.
 - Understand the site's archaeological and palaeoenvironmental conditions.
 - Make recommendations, analysis and publication.

2 BACKGROUND

2.1 Research context

- 2.1.1 Holy Island (Lindisfarne) is a small tidal island (technically a tombolo) lying just of the northeast coast of Northumberland. It is best known, archaeologically, as the site of a major Anglo-Saxon monastery founded in AD635 by Oswald, King of Northumbria and Aidan, a monk from Iona. Whilst a significant quantity of early medieval sculpture has been recovered from the area of the later medieval priory, there have been no confirmed archaeological sightings of the early monastic site. This project aims to locate elements of Anglo-Saxon Lindisfarne building on previous work on the island by David Petts (Durham University).
- 2.1.2 In addition to Holy Island's important early religious heritage, the island has seen longterm settlement from the Mesolithic to the 21st century. The current Holy Island village and the adjacent priory ruins have been the focus of occupation since the Middle Ages. Following the dissolution of the monasteries in the 16th century, there was substantial investment in constructing defensive installations to protect against

possible incursions from Scotland as well as raids from the Dutch. The fishing industry grew increasingly important in the 18th century and in the 19th century the island became an important centre for the quarrying of limestone and its subsequent conversion into lime in the two large limeworks that were operated. These declined in the early 20th century. Since then, whilst farming and fishing remain important to the local economy, tourism has become increasingly central to life on the island.

2.2 Summary of previous work

- 2.2.1 Compared with other major early monastic sites, such as Iona, Whithorn, Monkwearmouth and Jarrow, there has been relatively little direct archaeological work in the probabe area of the monastic enclosure. The most significant programmes of work in the immediate locality have taken the ruins of the medieval priory as their focus. Extensive clearance of the rubble-choked complex of standing structures was undertaken by William Crossman, the landowner in the 1890s, whose work was centred on the cloistral range. His work was supplemented by further clearance by the Ministry of Works (MoW) under the supervision of Charles Peers in the early 20th century. Both sets of work have seen only limited publication (Crossman 1890b; Peers 1923-4) although most of the finds are held by Historic England in their stores in Helmsley. Notes relating to Crossman's work are held in the Northumberland Archives and the paperwork relating to MoW work is at Helmsley. Crossman also carried out some limited exploration on the site of nearby St Cuthbert's Island, the location of a probably Anglo-Saxon hermitage and certainly used as such in the medieval period.
- 2.2.2 There was no further archaeological work on the island until 1962, when the noted field archaeologist, and excavator of the major Anglo-Saxon palace site at Yeavering, Brian Hope-Taylor, turned his attention to Holy Island. Over the course of a month he carried out a series of excavations in and around the village. He placed three trenches in Rectory Field, due west of the parish church. This revealed evidence for later medieval occupation, although there were hints of earlier features. It was not easy to understand this early activity though due to the limited size of his intervention. He also excavated three trenches on or against the Heugh. Two revealed further evidence for medieval occupation, whilst one, exploring a rectangular feature on top of the Heugh revealed a small building. The lack of any identifiable ceramics from this structure suggests a possible early date, although this has not been confirmed by scientific dating. Hope-Taylor's excavations were never published. Some of his plans, sections and site notes were recovered after his death and are now in the RCAHM in Edinburgh. The project team have digitised them, and their publication is part of the wider aims of this project.
- 2.2.3 Following on from a small excavation on the site of the current English Heritage visitor centre by Deirdre O'Sullivan in 1977, a major campaign of archaeological work was initiated by O'Sullivan and Rob Young under the auspices of the Department of Archaeology, University of Leicester. This ran from the mid-1980s to the mid-1990s. A wide range of activities took place including geophysical survey (particularly of the Heugh and the area to the east of the Priory), survey of Mesolithic sites on the north side of the island, earthwork survey of the Kennedy limekilns and other sites, excavations at the major midden of Jenny Bell's Well, fieldwalking, and, most significantly as far as early medieval material is concerned, the site of Green Shiel, an important rural settlement on the north side of the island, which comprised a series of

long houses and produced a substantial faunal assemblage. A large number of interim reports related to this material have been published, although no final report has yet been produced (O'Sullivan 1985; O'Sullivan 1989; O'Sullivan and Young 1991, 1992, 1993, 1995, 1996).

- 2.2.4 Since the cessation of the Leicester campaign of research, archaeological research on the island has largely been limited to Development Control excavation. The most significant intervention of this kind took place on the site of the Lindisfarne Winery, when its shop was extended. This revealed a sequence of post-medieval and medieval activity, including a significant build-up of midden deposits. However, beneath this were a number of earlier ditch and pit features, one of which contained an early medieval comb (NAA 2001). Possible early medieval activity was also identified in excavations carried out in advance of the construction of community housing on Castle View Gardens, which revealed a substantial post-medieval/recent soil accumulation overlying at least one, if not two, medieval structures fronting Green Lane as well as remains of a possible early medieval sunken floored building - frustratingly the archives, finds and environmental samples from this site appear to have been lost. A number of smaller interventions have been made across the village, whilst several of these have produced evidence for late medieval or early post-medieval midden deposits and some structural features; none have produced clear indications of early medieval activity.
- 2.2.5 In 2012, a major new geophysical magnetometry survey of the island was carried out by Archaeological Services Durham University on behalf of David Petts (Durham University) with the financial support of National Geographic. This resurveyed some areas covered by the Leicester project, as well as taking in large areas to the north and west of the village. This produced evidence for a second cloister at the Priory, probably an infirmary cloister. It also produced a series of features of uncertain date to the east of the Priory church. To the north of the village, little was found, beyond evidence for medieval agriculture and a small ditched enclosure of unknown date. To the west of the village, western extensions of both Marygate and Priors Lane were identified as well as a network of small paddocks or enclosures and an area of potential industrial activity of uncertain type or date (Petts 2013).

2.3 2016 fieldwork

- 2.3.1 Three evaluation trenches were excavated by DigVentures over the course of the 2016 field season, each located to investigate possible features identified from the geophysical survey. In addition to this a programme of remote sensing was undertaken, including a low-level aerial survey of the site. A full report on the results of this work was made by Wilkins *et al.* in 2016.
- 2.3.2 Trenches 1 and 2 were located to explore the possible remains of the Anglo-Saxon monastic complex to the east and southeast of the medieval priory church in Sanctuary Close. Results suggested that the area may have originally formed part of an early Christian burial ground which was later abandoned, disturbed and cleared to make way for a later phase of construction. Disarticulated human remains, stone demolition rubble and broken funerary objects, as well as sporadic quartz pebble fragments and the extremely rare find of a broken 'name-stone' burial marker, were recovered within deposits sealing in-situ burials. The burials had been disturbed and cleared to make

way for later structures, although fragments of human bone were large in size and seem not to have been displaced too far from their original burial placement. Radiocarbon dates from three samples of human bone indicate that the cemetery was in use between the late 8th to late 10th century AD. Structural remains were recorded in both trenches and found to be medieval in date, indicated by the recovery of an 8th century Anglo Saxon coin during excavation of a floor surface.

2.3.3 Excavation in Trench 3 revealed extensive evidence for medieval occupation of 13th century date and later, which appears to confirm that Prior's Lane had not only existed at this time, but continued into this area and that on the south side it had been flanked by medieval domestic activity. An important aspect of the artefactual and faunal assemblage recovered was the presence of a range of material relating to the maritime economy of the village. The recovered assemblage contained significant quantities of fishbone, iron fish-hooks and clench nails. Whilst Trench 3 did produce a potentially earlier object (bone comb), the bulk of artefactual evidence suggests that the features were 12th century or later.

3 PROJECT AIMS AND OBJECTIVES

3.1 Background

3.1.1 The aims and objectives articulated below were defined in the Project Design for this stage of research (Wilkins and Petts 2016). The business case for this work has been designed in accordance with the fundamental principles of Historic England's Strategic framework for the Historic Environment Activities and Programmes (SHAPE) (*ibid.* 12).

3.2 Aims

- 3.2.1 The overarching aim of the project is to define and characterise the physical extent of the site through a programme of non-intrusive investigations and intrusive excavation, obtaining baseline data that will facilitate its future management. This project model is framed as overarching aims and key questions/objectives that provide a framework for the methods, stages, products and tasks set out in Part 2 below.
- 3.2.2 Aim 1 Define and establish the precise physical extent and condition of the Site with a programme of remote sensing and metric survey
 - Q1: Can the layout of the site and associated sub-surface archaeology be established by remote survey?
 - Q2: Can we identify the location of the structural remains?
- 3.2.3 Aim 2 Characterise the results of non-invasive survey, refining the chronology and phasing of the site with a programme of trenching
 - Q3: What can we say about the scale and nature of any structural remains?
- 3.2.4 Aim 3 Understand the site's archaeological and palaeoenvironmental conditions

- Q4: What is the current state of the archaeological and palaeoenvironmental material across the site?
- Q5: Can the palaeoenvironmental data recovered from sampling in the trenches inform us about farming, food processing, industrial or medical activities?
- Q6: Can we increase our understanding of the local environment in the medieval period?
- 3.2.5 Aim 4 Making recommendations, analysis and publication
 - Q7: How well do deposits survive, and how deeply are they buried?
 - Q8: Can we assess the state to which the archaeological and palaeoenvironmental resource at Lindisfarne is being successfully preserved in situ, and how is this being impacted by farming and bioturbation?
 - Q9: Formulate recommendations for further archaeological and palaeoenvironmental analysis at Lindisfarne based on Aims 1-3, and implement a programme to publish and disseminate the results.

4 METHODOLOGY

- 4.1 Project model
- 4.1.1 The archaeological fieldwork was carried out in accordance with the methodology defined in the Project Design (Wilkins and Petts 2016). All work was undertaken in conjunction with best practice, national guidelines and published standards, including ClfA Standards and guidance (ClfA 2014). A summary of methodologies is presented below, following detailed descriptions in the Project Design linking specific techniques to aims and objectives.

4.2 Excavation methodology

- 4.2.1 Excavation took place between 10th and 29th July 2017 to address the research questions associated with Aims 1 and 2. This entailed a programme of targeted interventions comprising two trenches. Trench 2 from the 2016 field season was extended to the west and north, forming a 17m x 15m trench designed to further investigate the potential for the presence of an early Christian burial ground that had been cleared to make way for a later phase of construction. A smaller trench (Trench 4) measured 2m x 1m and was positioned to investigate the eastern wall of the suspected infirmary cloister.
- 4.2.2 All trenches were located using a GPS prior to the commencement of work, and each area scanned for finds with a metal detector prior to, and during, excavation. All trenches were de-turfed by hand and machine excavation was carried out in Trench 2 using a JCB 3CX fitted with a toothless ditching bucket, removing the overburden to the top of the first recognisable archaeological horizon, under the constant supervision of an experienced archaeologist. Trench 4 was excavated entirely by hand.
- 4.2.3 Trenches were subsequently hand-cleaned, planned and photographed prior to handexcavation. Any archaeological features and deposits exposed in the trenches were hand-cleaned and excavated to determine their nature, character and date. Carefully chosen cross-sections were then excavated through features to enable sufficient

information about form, development, date and stratigraphic relationships to be recorded. Excavated features were dry-sieved for artefacts using a 10mm gauge.

- 4.2.4 A complete drawn record of the trenches comprises plans and sections drawn to appropriate scales and annotated with coordinates and AOD heights. A single context recording system was used to record the deposits and a full list of all records is presented in Appendix A. Layers and fills are recorded '(2001)'. The cut of the feature is shown '[2001]'. Each number has been attributed to a specific trench with the primary number(s) relating to specific trenches (i.e. Trench 2, 2001+, Trench 4, 4001+). Features were also specified in a similar manner, pre-fixed with the letter 'F' (i.e. Trench 2, F201+, Trench 4, F401+).
- 4.2.5 All interventions were surveyed using a GPS tied into the Ordnance Survey grid. All recording was undertaken using the DigVentures Digital Dig Team recording system. Digital Dig Team is DigVentures' bespoke, cloud-based, open data recording platform, designed to enable researchers to publish data directly from the field using any web-enabled device (such as a smartphone or tablet) into a live relational database. Once recorded, the born-digital archive is instantly accessible via open-access on a dedicated website, and published to social profiles of all project participants (community, professional and specialist). Links to all individual trench, feature and context records are provided in Appendix A, from where all associated finds, samples, plans, sections, photographic records and 3D models can also be explored.

4.3 Health and safety

4.3.1 All work was carried out in accordance with its company Health and Safety Policy, to standards defined in The Health and Safety at Work etc. Act 1974, and The Management of Health and Safety Regulations 1999, and in accordance with the SCAUM (Standing Conference of Archaeological Unit Managers) health and safety manual Health and Safety in Field Archaeology (1996), and DigVentures Health and Safety Policy.

5 EXCAVATION RESULTS

Chris Casswell

All digital context and feature records have been archived on the Digital Dig Team system and can be reviewed at https://digventures.com/lindisfarne/ddt/browser.php and by clicking on the links in green in the text.

5.1 Introduction

5.1.1 During 2017, one excavation area and one smaller evaluation trench were investigated in Sanctuary Close. The principle purpose of these excavations was to define and establish the precise physical extent and condition of archaeological remains (Aim 1), to characterise the results of non-invasive survey, refining the chronology and phasing (Aim 2), and to understand the palaeoenvironmental conditions at the site (Aim 3). Each trench was designed to address specific research objectives, and these are discussed with the excavation results below. Figure 2 shows the overall location of each targeted area, Figure 3 the illustrated excavation results from Trench 2, and those for Trench 4 on Figure 4. Detailed descriptions of every context are included in Appendix A, organised by trench number.

- 5.2 Stratigraphic sequence
- 5.2.1 A common stratigraphic sequence was recognised across the site. Trench 2, for example, comprised topsoil (2001) overlying orange brown silty sand subsoil (2002). The stratigraphic sequence fluctuated in depth across the site predominantly due to natural height variation with the underlying topography.
- 5.3 Trench 2 (Figure 3)
- 5.3.1 Trench 2 measured 17m x 15m and involved re-opening the original trench from the 2017 fieldwork season and extending it to the north and west. The purpose of this was to further investigate the human remains recovered to see if any *in-situ* burials remained and whether they were associated with early medieval monastic buildings. A 2m wide baulk was retained across the excavated area as a result of the presence of an electric cable identified on the geophysical survey.
- 5.3.2 The earliest archaeological horizon encountered was a layer of compact clay (2015) and (2056). All archaeological features were cut into this layer or were found overlying it. Two fragments of wall F211 and (2042) were found on the eastern side of the baulk, aligned roughly north to south, probably representing part of the same structure. The stones used in the construction were large each measuring up to 0.6m x 0.4m x 0.3m and showed signs they had been roughly hewn into shape. They also exhibited plough damage on their upper surfaces, which may explain the fragmentary nature of the wall in the centre of the trench.
- 5.3.3 Two adult inhumation graves F204 and F205 were cut into the early clay layer and were situated centrally in the eastern part of the trench. They were both aligned east to west and contained the fully articulated human skeletal remains of two individuals in an extended supine position with heads at the western end with hands overlying the pelvis. The position of the western grave F205 respected the end of one of the wall fragments (2042), suggesting that the burials had been made after the wall had been constructed. Seven quartz pebbles were recovered from the fill of this grave, four from around the skull and two either side of the pelvis, suggesting they may have been placed as grave markers. In addition to this two fossils known as 'St Cuthbert's Beads' were also found, possibly incorporated into a rosary that was buried along with the individual.
- 5.3.4 To the north and east of the graves were five linear arrangements stones (2046), (2047), (2048), (2049) and (2054). They were oriented roughly east to west and may be the remnants of stone-lined graves; however, because of the mixed nature of the underlying and overlying layers, no grave cuts were identified. It is anticipated that should excavation continue in this area, further human remains could be encountered.
- 5.3.5 In the northwest corner of the trench an L-shaped feature was identified in plan and interpreted as a possible wall-line for a structure F213 that extended beyond the edge of the excavation to the north and west. It consisted of an intermittent line of five

worked stone blocks separated by a deposit noticeably void of stone inclusions. Without excavation the form of the wall could not be determined, but is likely to have been a mixed wood and stone construction. Within its footprint were three other features: a small posthole F209, a short length of ditch F210 and a later, shallow pit F206 cutting it. The posthole measured 0.1m in diameter and was 0.05m deep, positioned just within the projected line of the southern section of the wall. The ditch was found to the north of this extending to the southeast from the northwest corner of the excavation. It was 2.15m long, 0.1m wide and 0.1m deep, and had shallow sloping, irregular sides and base. At its southeastern end it was cut by a circular pit filled with fragments of plaster adhering to small angular stone rubble. It is possible that the plaster found within this feature originally derived from the wall of the building it was positioned next to.

- 5.3.6 In the southern part of the trench was a ditch aligned east to west F208. It was found following the removal of an overlying layer (2039) in a 2m wide sondage placed against the west-facing baulk section. The ditch had concave sloping sides down to a rounded base and measured 0.5m wide and 0.16m deep. The remains of a truncated cobbled surface (2052) comprising worn cobbles lay immediately to the south of the ditch, suggesting an association.
- 5.3.7 Overlying the clay layer (2015) was a large spread of stony material comprising frequent large sub-angular cobbles within a sandy silt soil matrix (2008) and (2021). It was found both sides of the baulk in the northern part of the trench and to the south surrounding the largest section of wall F211 to the south. Four iron nails (SF45, 47, 50, 51) and an iron hook (SF48) were recovered during excavation. It is likely this layer is associated with the tumble of the wall because it was confined to within 3m of its projected north-south line; its absence in the centre of the trench likely down to its truncation by a later furrow running across the trench.
- 5.3.8 In the western part of the trench this layer was overlain by a clayey, stony subsoil (2019) and (2039) that contained a small assemblage of pottery dating to the later-13th to mid-14th century and two pieces of painted or stained medieval window glass (SF38, 39). In turn, this layer was cut by a large furrow (2020), measuring 6m wide and 0.1m deep that crossed the trench from east to west and produced a range of pottery types indicating a later-14th to 15th century date for its formation. A 1.4m long, 0.8m wide charnel pit F203 was found cut into the furrow and contained the disarticulated human skeletal remains of a number of individuals.
- 5.4 Trench 4 (Figure 4)
- 5.4.1 Trench 4 measured 2m x 1m and targeted a recti-linear, low resistance anomaly identified from previous geophysical survey results and interpreted as a second cloister at the Priory, probably an infirmary cloister. The purpose of this trench was to characterise the buried archaeology and provide baseline data for future investigation.
- 5.4.2 One large, 0.9m wide wall F401 was found running north to south through the centre of the trench. It comprised roughly hewn, locally sourced stone blocks each measuring approximately 0.35m x 0.18m with no indication of mortar bonding them together. Layers were reduced both sides of the wall to establish whether there was any facing evident; however, none was found.

- 5.4.3 On the west side of the wall was a reddish brown silty clay layer (4004) that contained frequent stone rubble inclusions. To the east of the wall was an orange brown silty clay (4003) with significantly less stone inclusions. Both layers were excavated to a depth of 0.1m below the top of the wall, but not to the base of either.
- 5.4.4 All remains were sealed beneath the subsoil (4002), the base of which coincided with the top of the wall. This layer was the only one in the trench to produce datable finds: two sherds of 13th to 14th century Scarborough ware and two sherds of a 17th century albarello jar.

6 ARTEFACTS AND ECOFACTS

Chris Casswell, David Petts (small finds), Andrew Sage (pottery), and Rosalind McKenna (environmental)

All digital finds records have been archived on the Digital Dig Team system and can be reviewed at https://digventures.com/lindisfarne/ddt/browser.php and by clicking on the links in green in the text.

6.1 Small finds

- 6.1.1 The finds assemblage from the 2017 season was relatively small consisting of only 34 objects, many of which were from secondary contexts, such as topsoil and cleaning layers. Very few have any diagnostic value for dating any of the site.
- 6.1.2 The assemblage was dominated by iron objects, including ten iron nails, probably hand-made (SF27, 36, 42, 44, 45, 47, 52, 53, 55). There were also a series of unidentifiable iron objects (SF29, 30, 40, 43, 46, 50), some of which may also be parts of fragmented nails. Given the proximity of the cemetery it is possible that these objects may be related to coffins, although none were found in situ within a grave cut, and there were none of the larger iron straps and clench bolts commonly associated with 8th/9th century chest burials. One more identifiable item was an iron hook (SF48). This was more robust than the small iron fishing hooks recovered in medieval contexts in the 2016 season (eg. SF1, 14, 16), and is unlikely to have been related to fishing. Finally, there is a small iron stud or button (SF49) of unidentifiable form. All iron objects will be X-rayed over the coming year.
- 6.1.3 The small copper alloy assemblage comprised a Victorian or modern St Christopher's Medallion from the topsoil, most likely a relatively recent loss by a tourist or other visitor. There is one undiagnostic cu alloy lump (SF26) and a badly eroded coin (SF28). It was not possible to identify the date or any other features of the coin, but following further conservation it will be revisited.
- 6.1.4 The glass consisted mainly of fragments of thin window glass (SF31, 32, 33, 38, 39, 41), including some which appeared to be fragments of painted or stained glass (SF31, 38, 39). These are most likely to derive from the medieval priory and may have reached the area of the trench following post-Dissolution stripping of the Priory in the mid-16th century. The stained glass held by English Heritage derived from the late 19th and early 20th century excavations within the Priory will provide useful comparisons.

- 6.1.5 There was one badly fragmented piece of bone which appeared to have a series of scored or incised lines running around the outside; the item appears to be worked, but it is not easy to identify a possibly date or function for the object.
- 6.1.6 Two fragments of possible carved stone were found (SF35, 56). These show some evidence of working, but given their fragmentary nature further examination is required to confirm that this was deliberate rather than due to accidental damage such as plough strike. They will be shown to the team from the Corpus of Anglo-Saxon Stone Sculpture for further comment.
- 6.1.7 Two small fossils of the type known locally as St Cuthbert's Beads were found (SF58, 59), this join the similar item and another fossil (SF2, 4) found in 2016. These items are commonly found on the island's beaches, although they may have been deliberately brought to the area of the excavation. One small possible worked flint was identified (SF57).

6.2 Pottery; medieval

- 6.2.1 The medieval pottery assemblage comprised 43 sherds, weighing 356g, with a high level of fragmentation common throughout the assemblage. Like other medieval assemblages from Lindisfarne the pottery appears to be sourced from a relatively wide variety of regional sources. In this instance these can be divided into three main groups; the lower Tweed Valley, micaceous sandy wares from south Northumberland, and Tyneside and Yorkshire sources. The date range of the medieval pottery spans the later 12th to 15th centuries and no particular peak of activity could be identified.
- 6.2.2 The typical Tweed Valley Wares are uncommon in the assemblage however a small number of fine sandy wares (2001), (2002), (2019) and (2020) appears to represent a fine sandy variant of Tweed Valley Ware. Later Lower Tweed Valley types are represented by sherds of Berwick type Late Reduced Greenware (2020). A single sherd of Lucker Hall-type ware was present in the assemblage (2001). Lucker Hall, to the south of Belford, is the nearest known pottery production site to Lindisfarne, and our current understanding of the chronology of this ware is limited; the type is broadly dated to the 12th to early 14th century.
- 6.2.3 The second component of the medieval assemblage is dominated by low-fired micaceous sandy wares (2002) and (2020) similar to those produced during the 12th to early 14th century at sites such as Eshott. Sources on Tyneside and in Yorkshire are represented by small quantities of Scarborough Ware (2002) and (4002), Tyneside Buff-White Ware (2002) and Newcastle Late Reduced Greenware type 4 (2002).
- 6.3 Pottery; post-medieval and early modern
- 6.3.1 The post-medieval and early modern pottery assemblage consisted of 57 sherds, weighing 533g was also heavily fragmented with some elements notably abraded. The post-medieval assemblage is from a range of British and European sources. Regionally produced material included Berwick-type English Redware (2002) and (2020) and later glazed red earthenwares from Tyne- or Wearside (2001) and (2002). Types from southern England were represented by metropolitan-type slipwares (2002), London tin-glazed wares (2001), (2002) and (4002) and Surrey-Hampshire border ware(2002).

European types are represented by Rhenish stonewares (2001) and (2002), Werra slipwares (2001) and (2002) and Martincamp-type 1 ware (2002).

6.4 Pottery; chronology

- 6.4.1 The majority of the pottery in the assemblage was from topsoil and subsoil, both of which contained a very broad span of medieval to early modern types. Two sherds of pottery came from context (2019); a sherd of a finer sandy variant of sandy Tweed valley ware, and a sherd of hard-fired Tyneside ware, indicating a later-13th to mid-14th century date for this layer.
- 6.4.2 The furrow (2020) contained a range of 13th to 15th century types. Whilst English redware is generally dated to the 17th century this sherd is not typical in that it is largely undecorated with the exception of some splashes of brown glaze and may represent an earlier late-medieval phase of production. The lack of other post-medieval types in this context compared with the topsoil and subsoil would also indicate a later-14th to 15th century date.
- 6.4.3 The single sherd of 19th century transfer printed ware found in the fill of the grave grave F205 must be considered intrusive in this context. The subsoil in Trench 4 (4002) contained only two small sherds of 13th to early 14th century Scarborough ware and two sherds of a 17th century albarello jar.

6.5 Environmental; results

- 6.5.1 In total, ten samples were recovered from the 2017 season and seven samples were processed for assessment (Table 11). Charred plant macrofossils were present within two of the samples SAM25 and SAM27. Indeterminate cereal grains were recorded in both of these samples, and these were identified based on their overall size and morphological characteristics, which may suggest a high degree of surface abrasion on the grains. This is indicative of mechanical disturbances that are common in features such as pits and ditches, where rubbish and waste are frequently discarded. Given that these remains were recovered from the soil relating to skeletal remains, it may indicate that the poor preservation is due more to a high burning temperature which has caused the grains to warp and explode, before then being deposited. Whilst only four grains were recorded from the fill of the charnel pit SAM25 (2017), there were numerous fragments of probable grain, but due to such poor preservation they have not been recorded as definite grains. The results of this analysis can be seen in Table 12 below.
- 6.5.2 The samples produced very small suites of plant macrofossils, both in terms of quantity and diversity. Due to this fact, other than to state their presence in the samples, nothing of further interpretable value can be gained. The presence of root / rootlet fragments within most of the samples indicates disturbance of the archaeological features, and it may be due to the nature of some features being relatively close to the surface, as well as deep root action from vegetation that covered the site. The presence of earthworm egg capsules, together with the remains of insect fragments within some of the samples, and snails in a single sample further confirms this.

- 6.5.3 Charcoal fragments were present within the majority of the samples, scoring between a '1' and '3' on the semi quantitative scale. The preservation of the charcoal fragments was fair to poor. The majority of the fragments were too small to enable successful fracturing that reveals identifying morphological characteristics. Where fragments were large enough, the fragments were very brittle, and the material crumbled or broke in uneven patterns making the identifying characteristics difficult to distinguish and interpret, and so only a limited amount of environmental data can be gained from the samples. Identifiable remains were however present in two of the samples, and the results of this analysis can be seen in Table 13 below.
- 6.5.4 The total range of taxa comprises oak (*Quercus*). This taxa belongs to the groups of species represented in the native British flora. As seen in Table 13, oak was the only recorded species within the samples. It is possible that this was the preferred fuel wood obtained from a local environment containing a broader choice of species. The compositions of the samples are very similar, it is probable therefore that the assemblages of charcoal remains, reflect the deposition or build up of domestic waste.
- 6.5.5 Generally, there are various, largely unquantifiable, factors that affect the representation of species in charcoal samples including bias in contemporary collection, inclusive of social and economic factors, and various factors of taphonomy and conservation (Thiery-Parisot 2002). On account of these considerations, the identified taxa are not considered to be proportionately representative of the availability of wood resources in the environment in a definitive sense, and are possibly reflective of particular choice of fire making fuel from these resources.
- 6.6 Environmental; conclusions
- 6.6.1 The samples produced some environmental material of interpretable value, with the charred plant macrofossils from two of the samples, and the charcoal remains from two of the samples. The deposits from which the samples derive, probably represent the deposition or buildup of domestic waste associated with fires. The charred remains recovered are small in numbers and tend to be of average to poor quality charred material that was within the samples appears to have been subjected to high temperatures of combustion, as the grains were severely puffed and distorted. It also tended to be abraded and fragmented, possibly as a result of post depositional disturbance and taphanomic processes.
- 6.6.2 The remains of plant macrofossils recovered from the samples showed the utilisation of indeterminate cereal grains. There is no evidence of cereal processing occurring at the site, or of any plant remains that may indicate some industrial use. The samples have produced broadly similar results suggests that these deposits do not result from deposition of debris from accidental charring events, but instead represent a consistent pattern of charring cereal grain, chaff and crop weeds which are then incorporated into the waste of the site over the period of occupation.
- 6.6.3 The charcoal remains showed the exploitation of a single species native to Britain. Oak has good burning properties and would have made a fire suitable for most purposes (Edlin 1949). Oak is a particularly useful fire fuel as well as being a commonly used structural/artefactual wood that may have had subsequent use as a fire fuel (Rossen and Olsen 1985). Dryland wood species indicates the presence of an oak-ash

woodland close to the site. This would have consisted of oak, which would be the dominant large tree species (Gale & Cutler 2000, 120, 205).

- 6.6.4 As asserted by Scholtz (1986) cited in Prins and Shackleton (1992: 632), the "Principle of Least Effort" suggests that communities of the past collected firewood from the closest possible available wooded area, and in particular the collection of economically less important kindling fuel wood (which was most likely obtained from the area close to the site), the charcoal assemblage does suggest that the local vegetation would have consisted of an oak woodland close to the site.
- 6.6.5 It is thought to be problematic using charcoal and plant macrofossil records from archaeological sites, as they do not accurately reflect the surrounding environment. Wood was gathered before burning or was used for building which introduces an element of bias. Plant remains were also gathered foods, and were generally only burnt by accident. Despite this, plant and charcoal remains can provide good information about the landscapes surrounding the sites presuming that people did not travel too far to gather food and fuel.

7 DISCUSSION

7.1 Introduction

7.1.1 The 2017 excavations on Holy Island focused entirely on Sanctuary Close, following on from fieldwork undertaken the previous year. Trench 2 was reopened to continue investigation of the late 8th to late 10th century cemetery and identify structural remains relating to monastic buildings. Trench 4 served to evaluate the results of geophysical survey and characterise buried archaeological remains believed to be related to an infirmary cloister.

7.2 Monastic buildings

- 7.2.1 Two distinct phases of monastic building were identified in Trench 2. The earliest was the found in the northwest corner of the trench and survived as an intermittent line of stones between a well-defined, narrow ditch-like feature forming an L-shape that was aligned on the cardinal points and extended beyond the limit of excavation to the north and west. The footprint of this structure closely resembles that of excavated examples from Hartlepool where posthole and plank-in-gully construction techniques had been used create the earliest buildings dating to the 7th and 8th century (Daniels 2007). No datable material was recovered during the 2017 field season, but the remains were sealed by a layer dating to the later-13th to mid-14th century.
- 7.2.2 Further evidence for ecclesiastical buildings was found to the east of the central baulk. Two large upstanding fragments of wall were found with a layer of stone rubble either side of its projected line. Stratigraphically this too was earlier than the later-13th to mid-14th century; however, its alignment was slightly different to that of the structure found to the northwest and its construction from large stone blocks indicates a later phase of construction, one probably associated with the excavated graves.

7.3 Cemetery

- 7.3.1 The eastern part of trench provided ample evidence for the use of this space as a cemetery from as early at the 8th century, evidenced through radiocarbon dates of the human bone in 2016 and the recovery of stone sculptural fragments. Two inhumation graves were found, with many more disarticulated remains recorded from overlying layers. The graves were typical of traditional Christian burials with their heads at the west end of the grave and lying in an extended supine position and their alignment and position respecting that of the stone wall next to them.
- 7.3.2 Further evidence for graves was found in the eastern half of the trench in the form of short rows of stones aligned on an east-west axis, and in the substantial quantity of quartz pebbles recovered across the site. Similar stone-lined cist graves mixed with dug graves are known from Bowl Hole, Bamburgh (Groves 2011), and the use of quartz pebbles to embellish graves is also well-known in the north (Maldonado 2013).

7.4 Infirmary cloister

- 7.4.1 Trench 4 focused on characterizing the results of the geophysical survey which had previously identified the presence of a probable infirmary cloister associated with the extant remains of the Priory to the west of the trenches. Excavation confirmed the presence of a substantial stone-built wall where the geophysics had identified a low resistance anomaly. Further investigation here would establish the date and use of the structure, but the form and construction techniques used would provisionally indicate a 12th century or later date.
- 7.5 Recommendations (Aim 4)
- 7.5.1 Further work should be undertaken to establish the full extent and nature of all structural remains identified during the 2017 fieldwork season (Aim 2). Two structures were identified, therefore it will be necessary to reopen Trench 2 in its entirety with the addition of a small extension in the northwest corner. In addition to the information to be gained from investigating the walls of the structures it is expected that internal features and possibly floor surfaces may be present.
- 7.5.2 Two adult inhumation graves were excavated in 2017, with potentially a further five identified through the presence of stone-linings. It is proposed that these areas will need excavating fully to define the full extent of the cemetery and the range of dates it was in use for.
- 7.5.3 The top of a substantial medieval wall in Trench 4 indicates a large structure, potentially an infirmary cloister, was constructed here. Further investigation in this area would enable the full characterisation of the nature and scale of the building (Aim 2) and allow the state of preservation of archaeological and palaeoenvironmental material to be assessed (Aim 3).
- 7.5.4 A full assessment of all artefacts and ecofacts from the 2017 field season will need to be undertaken upon completion of all fieldwork.

Part 2: Updated project design

8 UPDATED PROJECT AIMS AND OBJECTIVES

8.1 Introduction

- 8.1.1 The principle purpose of this research is defined by four overarching aims, which provide the framework for all archaeological work. They are, to define and characterise the physical extent of the site through a programme of non-intrusive investigations (Aim 1) and intrusive excavation (Aim 2), obtaining baseline data that will facilitate its future management (Aims 3 and 4). In addition to these original aims, one further aim will be introduced, recognizing the importance of community engagement throughout the process. The aim is to offer a range of opportunities for local community members, school children and visitors to the area to get involved and learn more about the archaeology of Lindisfarne (Aim 5).
- 8.1.2 Key questions posed within each aim are based on those outlined in the initial Project Design (Wilkins and Petts 2016) and have been updated following review of assessment results and recommendations (Section 12, Stage 5, RV6). These will form the basis of all 2018 archaeological fieldwork (Stage 6) and post-excavation assessment (Stage 7).
- 8.2 Updated project aims and objectives
- 8.2.1 Taking into consideration the conclusions and recommendations drawn from the 2017 post-excavation assessment (Section 7), the following updated project aims are proposed:
- 8.2.2 Aim 1 Define and establish the precise physical extent and condition of the Site with a programme of remote sensing and metric survey
 - Q1: Can the layout of the site and associated sub-surface archaeology be established by remote survey?
- 8.2.3 Aim 2 Characterise the results of non-invasive survey, refining the chronology and phasing of the site with a programme of trenching
 - Q2: What can we say about the scale and nature of any structural remains?
 - Q3: Can we corroborate chronological phasing for the site, including the presence of earlier and later features and structures, as defined in Aim 1?
- 8.2.4 Aim 3 Understand the site's archaeological and palaeoenvironmental conditions
 - Q4: What is the current state of the archaeological and palaeoenvironmental material across the site?
 - Q5: Can the palaeoenvironmental data recovered from sampling in the trenches inform us about farming, food processing, industrial or medical activities?
 - Q6: Can we increase our understanding of the local environment in the medieval period?
 - Q7: How well do deposits survive, and how deeply are they buried?

- 8.2.5 Aim 4 Making recommendations, analysis and publication
 - Q8: In light of the evidence recovered from this and previous work, can we articulate a link between the multi-phased use of the site and its different areas?
 - Q9: Formulate recommendations for further archaeological and palaeoenvironmental analysis at Lindisfarne based on Aims 1-3, and implement a programme to publish and disseminate the results.
- 8.2.6 DigVentures specialises in delivering participatory archaeological projects in collaboration with communities, researching and recording the past to professional standards. The desired outcomes for public engagement and participation in this stage of the project have been articulated below.
- 8.2.7 Aim 5 Creating opportunities for people and communities
- 8.2.8 This aim runs throughout the whole programme, from the initial project set up through to dissemination and beyond. The project will offer a range of opportunities for local community members, school children and visitors to the area to get involved and learn more about the archaeology of Lindisfarne. Working closely with the wider project team and the Durham University, participation opportunities will include excavation, finds processing, photogrammetry and guided visits. In 2018, the public engagement programme will also build on the discovery of the Anglo Saxon namestone in 2016, exploring the context of this find alongside a number of finds of similar objects from the north-east region as part of the HLF-funded *Etched in Stone* project. We aim to:
 - train a minimum of 275 community volunteers in archaeological techniques, including 3D modelling, photogrammetry, post excavation analysis, report writing, archiving and digitisation
 - engage 500+ school children with our education sessions;
 - deliver a programme of public events, workshops and exhibitions;
 - produce and provide a digital archive and exhibition resource for the excavation project website; and
 - develop a virtual museum and learning resource centered around the discovery of a number of Anglos Saxon namestones in the region.
- 8.2.9 During the excavation, regular site tours and public events will provide opportunities for local community members and visitors to the area to look around the excavations. Volunteers will be invited to join the excavations and will be trained in archaeological skills, co-producing the archaeological archive using DigVentures unique Digital Dig Team software. Results will be recorded directly onto the project microsite, providing live updates of both technical data and social media.

9 BUSINESS CASE

9.1 SHAPE sub-programme

9.1.1 The project has been designed in accordance with priorities articulated in Historic England's Action Plan 2015-18 (informing Heritage 2020, the successor to the National Heritage Protection Plan) and detailing how heritage organisations will work together to benefit the historic environment. In addition to these priorities, the project drivers

can also be articulated in accordance with the fundamental principles of SHAPE (Strategic Framework for the Historic Environment Activities and Programmes in Historic England, 2008).

- 9.1.2 In line with Historic England working practice and the fundamental principles of SHAPE to understand, manage, and promote archaeology, the project has a primary driver (SHAPE sub-programme number 11111.130) in addition to other research outcomes that will address other Historic England and sector priorities, delivering significant value added benefit.
- 9.1.3 The main aim of the project is therefore to increase our understanding of the character of the Site:
 - SHAPE sub-programme number 11111.130: development of a sound evidence base for specific locales and historic assets in order to ensure appropriate management information is available and effective communication possible to community.
- 9.1.4 This research also has the potential to generate insight and recommendations with a local and national applicability, assisting the Client and Statutory Stakeholders in establishing best practice conservation and management measures.
 - SHAPE sub-programme number 31521.110: building heritage issues into wider change-management considerations, taking account of conservation principles and heritage legislation whilst efficiently reducing management burden for given areas.
- 9.1.5 As a consequence of the innovative digital and cross-platform approach, there is a significant 'value added' dimension to this project:
 - SHAPE sub-programme number 12212.110: developing wider understanding of the value of the historic environment; enhancing lifelong learning, encouraging support and enthusiasm for all aspects of heritage whilst contributing to quality of lie.
 - SHAPE sub-programme number 51311.110: increasing public awareness, building direct support and engaging enthusiasm from which multiple benefits flow; encouraging knowledge transfer through enjoyment.
 - SHAPE sub-programme number 51332.110: high-profile outreach hitting potentially millions of people. Targeted to raise key issues or encourage wider understanding.

9.2 Research frameworks

9.2.1 The key sets of Research Agendas relating to Lindisfarne are the 2006 North-East Regional Research Framework for the Historic Environment (NERRF) (Petts and Gerrard 2006) and the priorities outlined in the Holy Island Extensive Urban Survey (Finlayson and Hardie 1995-7 revised 2010). The Key NERRF research priorities are outlined in table below:

NERRF the key	Description
research priorities	
EMi Landscape	The ground truthing of the geophysical survey (Petts 2013) combined with SfM survey of St Cuthbert's Island will improve an understanding of the wider landscape of early medieval (and later) Holy Island.
EMii Settlement	The potential to understand the chronology and spatial organisation of a major population centre is at the heart of this project. Previous excavation has indicated the potential for the survival of structural features of this period (Aims 1 & 2).
EMiii Architecture	Whilst there have been a number of excavations on secular settlements in North Northumberland (including Green Shiel on the island), there is little understanding of how building techniques and structural layout compares between secular and ecclesiastical centres. Previous excavation on Holy Island has indicated the potential for the survival of structural features of this period.
EMiv The early medieval coast	Most of the major early medieval ecclesiastical establishments of Northumbria lie on the coastline (Whitby; Hartlepool; Monkwearmouth; Jarrow; Tynemouth). A better understanding of how these ecclesiastical sites related to the sea as a landscape and as an economic resource may come from excavation on Holy Island
EMv Trade and economy	Previous excavation on Holy Island has produced substantial faunal remains and early medieval coinage. If located, excavation on the early medieval monastery has a high potential to improve our knowledge of trade and economy through the analysis of artefactual assemblages and palaeoenvironmental data.
EMvi Early Christianity	As one of the major centres of early Christianity in Northumbria, and a key point of fusion of Irish and Roman streams of the church, excavation of the early medieval monastery on Holy Island has great potential to inform us about patterns of belief and how this related to wider social and economic structures
Mviii Impact of the Vikings	Although traditional narratives highlight the role of the Vikings in the alleged abandonment of Holy Island by the Community of St Cuthbert, it is becoming increasingly clear from archaeological and documentary evidence that there was some continued presence on the island after 875. This fieldwork has a great potential to further refine and isolate the impact of Viking raiding on the long-term occupation of Holy Island.
MD1 Large-scale (medieval) settlement survey; MDi Settlement; MDii Landscape	The existing geophysical survey and an improved understanding of the chronology of settlement and activity in and around the historic medieval core of Holy Island will build on previous work on the island, and feed into a longer-term aspiration for comprehensive survey of Holy Island and its hinterland
MD4 Church architecture (medieval); MDv Churches and religion	Survey work on St Cuthbert's Island and on the Priory ruins will provide a more detailed understanding of both one of the major ecclesiastical centres in the region, and a small-scale, poorly preserved devotional site.

NERRF the key research priorities	Description
MD5 The origins of Deep Sea Fishing in the North-East; MDx The Fishing Industry	The recovery of environmental and artefactual material from the site has the potential to improve our understanding of the origins and expansion of deep sea fishing in Northern England, complementing the documentary evidence available from key textual sources.

Table 1: Key NERF research priorities

9.2.2 The *Extensive Urban Survey* presents a Research Agenda including a list of key agenda items as well as a list of archaeological priorities – these are laid out by period as follows:

9.2.3 Early Medieval Research Agenda

- Where was the early monastic community located and what was its extent and character?
- Where was the secular settlement and what was its extent and character?
- How did the establishment of an early Christian foundation affect the existing population and what relationship did they have?
- How much of an impact did Viking raids have on the secular community?
- Did the Vikings settle on the island?
- Was the monastery and church completely destroyed by the Vikings?
- To what extent did Christian life continue?
- What evidence is there for the introduction of a Danish economy on the island?
- What effect did the Norman Conquest have?
- 9.2.4 Early Medieval archaeological priorities.
 - Identify the limits of the early medieval monastery and where possible its nature and form.
 - Seek to identify any of the craft industries which Lindisfarne became famous for during Northumbria's Golden Age, and how they were organised.
 - Seek to identify the impact of the Viking invasions on the island community.
 - Seek to explore the evolution of the village from the early medieval period and its relationship with the priory.
 - Seek to identify the route of a possible *vallum monasterii*.
- 9.2.5 Medieval Research Agenda
 - How did the priory complex affect the growth of the village?
 - Did the priory undertake any active management lay settlement?
 - How different was the medieval street pattern from that of today?
- 9.2.6 Medieval archaeological priorities
 - Establish the extent of occupation on the island in medieval times
 - Explore the relationship between priory and village
 - Record the evolution of the village from early medieval times to the Dissolution
 - Confirm the medieval street pattern

10 INTERFACES

10.1.1 This project will interface with a series of other projects, stakeholders, and initiatives, summarised in the table below:

Interfaces	Description
Remote sensing team	Initial geophysical survey has been carried out by Archaeological Services Durham University, with plans for further survey by Dr Brian Buchanan (Durham University). This will be supported with an Aerial photogrammetry survey completed by Adam Stanford (Easter Island Project; Stonehenge Riverside Project; Marden Henge Project) ensuring that this multidisciplinary approach remains at the forefront of current remote sensing research.
Academic Advisory Board	An academic advisory group of subject area experts (in Early Ecclesiastical and Monastic Archaeology) is being formed to ensure that the project remains pertinent to relevant research questions and agendas, interfacing with other teams working in similar landscapes in the UK. These include Professor Rosemary Cramp (Durham University), Dr Sarah Semple (Durham University), Dr Rob Young (independent researcher) with others to be appointed.
Core Project Team	The core project team and specialist staff have consulted widely during the project planning and previous execution stages, and will continue to build on this as the project develops, forging strong links with local, national and international professionals and institutions actively engaged in a broad range of ecclesiastical sites.
Heritage at Risk	The only Heritage Risk monument within the study area is the Chapel and associated building on St Cuthbert's Isle. The project will liaise with Historic England, Holy Island of Lindisfarne Community Development Trust (the landowners) and HLF Peregrini concerning planning and timing of planned survey and recording work in order to ensure subsequent rapid consolidation of any eroding features. The site is a Scheduled Ancient Monument so Scheduled Monument Consent is required from HE – an initial enquiry has been made to the Inspector (Case Ref. PA00425505).
Local Stakeholders	The key local stakeholder is the owner of the land on which the fieldwork will take place. Sanctuary Close is owned by the Crossman Estate and Mr J. Patterson the tenant farmer. The Holy Island of Lindisfarne Community Development Trust own St Cuthbert's Island and the Heugh. The ruins of the Priory are owned by English Heritage and the church and churchyard of St Mary's are owned by the Diocese of Newcastle. Contacts have been made with all landowners and their local representatives and appropriate permissions have been secured. Major community projects engaging with heritage, natural history and geology are being run on the island as part of the HLF Peregrini Landscape Partnership – the community archaeology

Interfaces	Description
programme being contracted out to the Archaeological	
Practice, Newcastle. The project is liaising with manageme	
	HLF Peregrini (Helen Griffiths; David Suggett) and with Richard
	Carlton (Archaeological Practice).

Table 2: Project interfaces

11 COMMUNICATIONS

11.1 Project team

- 11.1.1 In addition to funding through the DigVentures crowdfunding platform, the *Etched in Stone* project is funded by the HLF. Project Assurance will be undertaken by the Project Executive (Lisa Westcott Wilkins, DigVentures) who will monitor compliance against the deliverables detailed in this document, with formal and informal progress reports submitted to the HLF. The Project Manager (Manda Forster, DigVentures) will act as the primary contact point for the project, and ensure that stakeholders and clients are regularly updated as to progress.
- 11.1.2 The project team have all worked closely together over a number of research projects, including Leiston Abbey (2013-2016) and Barrowed Time (community investigation of a Bronze Age hoard site, 2016-2017). There will be four core DigVentures archaeological staff and two community archaeologists on site throughout the fieldwork. Lisa Westcott Wilkins (Managing Director) will provide oversight of the project delivery and Manda Forster (Programme Manager) will undertake day-to-day management of the project. Chris Casswell (Head of Fieldwork) will direct fieldwork with David Petts (University of Durham). Maiya Pina-Dacier (Head of Community) and Harriet Tatton (Community Archaeologist) will liaise with and coordinate volunteer and visitors to the site. Johanna Ungemach (Community Archaeologist) will oversee the finds and sample processing on-site, and supervise volunteer activities in the finds hut. Core staff will remain consistent and will be retained throughout the post-excavation phase of the project. All core staff are employed in line with CIfA guidelines, and are practicing field archaeologists at PCIfA level or above. Senior project staff are both Members of CIfA in good standing.
- 11.1.3 The Expert team is drawn from various university departments and laboratories with a considerable range of experience in the undertaking and delivery of similar research projects. The Academic Advisory Board provides an extra layer of expertise to help advise as the project progresses.
- 11.2 Project management
- 11.2.1 DigVentures operates a computer-assisted project management system. Projects are undertaken under the direction of the Projects Director who is responsible for the successful completion of all aspects of the project. All work is monitored and checked whilst in progress on a regular basis, and the Projects Director / Site Director checks all reports and other documents before being issued. A series of guideline documents or manuals form the basis for all work.

11.2.2 The DigVentures management team are all full members of the Chartered Institute for Archaeologists (MCIfA). DigVentures is a CIfA Registered Organisation (No. 102), and fully endorses the *Code of Conduct*, the *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology*, and the Standards and Guidance documents of the Institute for Archaeologists. All DigVentures staff are employed in line with the Institute's Codes and will usually be members of the Institute.

11.3 Outreach and engagement

- 11.3.1 As a crowdfunded and crowdsourced archaeological organisation every aspect of the DigVentures approach is cognisant of a wider outreach agenda. Running alongside the community excavation, as part of the *Etched in Stone* project, a dedicated educational programme of schools visits, training sessions and events programme designed to increase local awareness of the area's archaeology and heritage, and amplify this with a coordinated digital and social media strategy.
- 11.3.2 In addition to site tours, we will be running a publicly accessible focusing on the early medieval period and the archaeology of the namestones recovered from the local area. We will also be creating educational tools targeting local primary schools, inviting Key Stage 1 and 2 pupils to get hands on with our finds and to learn about Lindisfarne's unique history in an interactive and entertaining environment. A dedicated welcome tent will be erected on site, and will be permanently staffed by DigVentures throughout the dig. Special activities and trench tours will be offered, as well scheduled lunchtime chats with the archaeological team. The project will be widely advertised locally on radio, newspapers and the parish council newsletter, and flyers will be distributed through the existing heritage networks as well as in pubs, shops, businesses and venues. Signposts will also be erected on main roads leading to the Site to encourage passing traffic to visit.
- 11.3.3 Engagement will be both on and offline, with a dedicated *Digital Dig Team* project website developed to engage a new local and global audience, inviting external communities (and those not usually engaged with archaeology) to take an active role in knowledge production. *Digital Dig Team* is a cloud-based, open-source software platform enabling participants to publish data directly from the field using any web-enabled device (such as a smartphone or tablet) into a live relational database. The implications of this new approach is the subject of research in its own right, as the born-digital archive enables geographically dispersed specialist teams to collaborate in real time during the data collection stage of field projects (Wilkins, PhD Research with Leicester School of Museum Studies).
- 11.3.4 All major social media channels will be used to amplifying daily blog content. A digital video specialist will be on site throughout the excavation, and broadcast quality footage will be uploaded to YouTube daily. The project will feature regular evening lectures open to the public where the day's findings will be discussed, followed by presentations by the wider specialist team in addition to the on-site specialist team. These will also be filmed and broadcast live, with the recorded archive made available on the project website.
- 11.3.5 The impact of this outreach work will be measured with a quantitative and qualitative evaluation of all participants to establish baseline audience awareness data and assist

with future management strategies and promotion. This will be undertaken with a visitor survey conducted throughout the field season, targeting both excavation participants and casual visitors, and critically assessing the breadth, depth and diversity of engagement.

11.4 Dissemination and reporting

- 11.4.1 Rapid dissemination of the results to, and involvement of, stakeholders of the project is vital throughout. This will take place through multiple channels, addressing a multitude of established and new audiences. Dissemination outlined below will all be undertaken during 2018, and will include, but not be limited to:
 - Dedicated website with daily news updates on a blog and all major social media channels (Facebook, Twitter, Google+, Flickr and Instagram) amplified through third-party coverage by the networked blogging community.
 - Dedicated digital archive of the excavation data.
 - Wide circulation of the project assessment and the final report, and links to the OASIS record.
 - Site publication in an appropriate local/national journal commensurate with the final results.
 - Wide circulation of Assessment and Final Report, Updated Project Design and links to the OASIS record.
 - Final site publication in an appropriate local/national journal commensurate with the final results.

11.5 Project archive

11.5.1 The project archive will be prepared in accordance with DigVentures guidelines for Archive Preparation, following Appendix 1, P1 of MoRPHE PPN 3 (Historic England 2012), fulfilling the Guidelines for the preparation of excavation archives for long term storage (UKIC 1990). All reports produced by the project will be openly and freely disseminated through County Council Historic Environment Record, Archaeological Data Service, OASIS portal and Scribd website. Copyright on all reports submitted will reside with DigVentures, although a third party in-perpetuity licence will automatically be given for reproduction of the works by the originator, subject to agreement in writing with Historic England.

12 PROJECT REVIEW

12.1.1 The project will be continually reviewed by the Project Executive and Project Manager, with a formal review undertaken at the end of each Stage as follows:

Stage	Description	Review Point	Completion
			Date
Initiation	Consideration of Project	RV1 – Assemble Project Team	Completed –
	Proposal, HLF	and liaise with stakeholders	December
			2015
Stage 1	Project Start-up, finalising	RV2 – Sign-off on MoRPHE	Completed –
	Project Design and definition	Project Design, and liaison	May 2016
	of scope		



Stage	Description	Review Point	Completion Date
		with stakeholders and landowners	
Stage 2	Archaeological Fieldwork	RV3 – assemble site archive and distribute pertinent data to specialists	Completed – July 2016
Stage 3	Assessment Report & Updated Project Design	RV4 – critically review findings, making recommendations for further work or closure	Completed – October 2016
Stage 4	Archaeological Fieldwork	RV5 – assemble site archive and distribute pertinent data to specialists	Completed – July 2017
Stage 5	Assessment Report & Updated Project Design	RV6 – critically review findings, making recommendations for further work or closure	Completed – August 2018
Stage 6	Archaeological Fieldwork	RV7 – assemble site archive and distribute pertinent data to specialists	Proposed – September 2018
Stage 7	Assessment Report & Updated Project Design	RV8 – critically review findings, making recommendations for further work or closure	Proposed – March 2019
Stage 8	Analysis & Publication	RV9 – final publication sign- off, and prepare archive for accession	Proposed – September 2019
Closure			September 2019

Table 3: Project review stages

13 HEALTH AND SAFETY

13.1.1 DigVentures will undertake the works in accordance with Health and Safety requirements and a Health and Safety Plan. This document will take account of any design information pertaining to above and below ground hazards. DigVentures will ensure that all work is carried out in accordance with its company Health and Safety Policy, to standards defined in *The Health and Safety at Work etc. Act 1974*, and *The Management of Health and Safety Regulations 1992*, and in accordance with the SCAUM (Standing Conference of Archaeological Unit Managers) health and safety manual *Health and Safety in Field Archaeology* (1996).

14 PROJECT TEAM STRUCTURE

14.1 Team and responsibilities

14.1.1 DigVentures' Project Team is outlined in Table 4. A summary CV, setting out the skills and expertise of DigVentures core team members, with CVs for the wider specialist team available on request.

Name	Initials	Project Role	Key Responsibility
Lisa Westcott Wilkins	LWW	Project Executive	Overall project
			responsibility, budget
			responsibility and project
			assurance
Brendon Wilkins	BW	Projects Director	Overall responsibility for the
			direction of the project
David Petts	DP	Archaeological Site	Archaeological co-direction
		Director	(on-site), liaison with project
			team, partners and
			Stakeholders. Reporting.
Chris Casswell	CC	Archaeological Site	Archaeological co-direction
		Director	(on-site), liaison with project
			team, partners and
			Stakeholders. Reporting.
Manda Forster	MF	Programme Manager	Archaeological co-direction
			(off-site), liaison with project
			team, partners and
Maine Dire Desien			Stakenolders
Maiya Pina-Dacier	INIPD	Head of Community	Developing content
Enable: Channes itti	FCC	Dauta analiza a Mana ana a	management strategy
Emily Stammitti-	ESC	Partnersnips Manager	On-site fieldwork, liaison
Campbell			and Stakeholders
lohanna Ungamach		Community Archaoologist	On site fieldwork and
Jonanna Ongemach	50	Community Archaeologist	responsible for post
			excavation processing
Harriet Tatton	μт	Community Archaeologist	On-site fieldwork
Maggie Eno	ME	Community Archaeologist	On-site fieldwork
Ed Caswell	FC	Community Archaeologist	On-site fieldwork
		Community Archaeologist	On-site fieldwork
Lucy Godridge	IG	Community Archaeologist	On-site fieldwork
Adam Stanford	AS	Expert - Photography	Aerial photography
	,		

Table 4: Team and responsibilities

16 METHODOLOGY

16.1 Introduction

- 16.1.1 The methods reflect the project Stages set out above (Section 12), and a task list, with allocation of staff time and team members in Section 17 below, along with a GANTT chart, setting out a provisional programme. Detailed method statements relating the specific techniques or approaches included below can be found in Appendix F at the end of this document.
- 16.2 Stage 6 Updated Project Design
- 16.2.1 A Project Design (this document) has been prepared (Review Point 6).
- 16.3 Stage 7 Archaeological Fieldwork
- 16.3.1 Stage 7 fieldwork (scheduled from 3rd to 26th September) will comprise the third fieldwork stage required to meet Aims 1 and 2, and will entail a combination of 3D photogrammetry survey, topographical survey, geophysical survey and targeted trenching. It will aim to answer the following research questions:
 - Q1: Can the layout of the site and associated sub-surface archaeology be established by remote survey?
 - Q2: What can we say about the scale and nature of any structural remains?
 - Q3: Can we corroborate chronological phasing for the site, including the presence of earlier and later features and structures, as defined in Aim 1?
- 16.3.2 Specific archaeological intervention will include the excavation of two trenches (Figure 8). Trench 2, measuring 17m x 15m, will be reopened to continue investigation of the cemetery and as yet undated structural remains. In addition to this, a 40m² extension will be made in the northwest corner to open up a larger area around the potential early medieval structure identified in 2017. Trench 4 will be enlarged to 10m x 4m, targeting the wall and exploring the probable interior of the cloister.
- 16.4 Stage 3 Assessment Report & Updated Project Design
- 16.4.1 This Stage will address Aim 3, culminating in Review Point 4, and focusing on answering the following research questions:
 - Q4: What is the current state of the archaeological and palaeoenvironmental material across the site?
 - Q5: Can the palaeoenvironmental data recovered from sampling in the trenches inform us about farming, food processing, industrial or medical activities?
 - Q6: Can we increase our understanding of the local environment in the medieval period?
 - Q7: How well do deposits survive, and how deeply are they buried?

- 16.5 Stage 4 Analysis and Publication
- 16.5.1 Addressing Aim 4, this is the main reporting and recommendation stage of the project, culminating in Review Point 5 and focusing on the following research questions
 - Q8: In light of the evidence recovered from this and previous work, can we articulate a link between the multi-phased use of the site and its different areas?
 - Q9: Formulate recommendations for further archaeological and palaeoenvironmental analysis at Lindisfarne based on Aims 1-3, and implement a programme to publish and disseminate the results.

17 STAGES, PRODUCTS AND TASKS

17.1 Methodological Linkages

17.1.1 It is anticipated that the 2018 work will be undertaken in four stages. These are set out in the table below and are set against the project aims and questions that will be met at each stage, the products that will be produced and the tasks undertaken.

Stage	Description	Project Aims/	Products	Task & ID Number
		Questions		
Stage 5	Project Start-up and Design	Aim 1-5 Q1-9	 Permissions (planning application & stewardship derogations) Finalised UPD & Risk Log Educational Plan Information Pack Digital Communication Plan Risk Assessment Health and Safety Plan 	 Consult with wider project team and stakeholders to define milestones and delivery timetable. Core Archaeology Team Meeting. Design project database. RV6 – Sign off on MoRPHE
Stage 6	Archaeological Fieldwork	Aim 1 Q1 Aim 2 Q2-3 Aim 5	6. Field Archive 7. Survey Archive 8. 3D Survey Archive	 8. Site Preparation 9. Fieldwork (remote sensing, survey & excavation) 10. RV7 - 5 – assemble site archive & distribute to specialists
Stage 7	Assessment Report & Updated Project Design	Aim 3 Q4-7	9. Stratigraphic & Assessment Report	13. Specialist finds and palaeoenvironmental assessments
Stage	Description	Project Aims/ Questions	Products	Task & ID Number
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				14. Integrated assessment report 15.RV8 – recommendations for further work
Stage 8	Analysis and Publication	Aim 1-4 Q1-9	10. Final report11. Publication12. Completed andaccessionedarchive	 Specialist analysis Finalise report and publication Prepare data and archive for deposition RV9 – final sign-off Closure

Table 5: Methodological Linkages

18 OWNERSHIP

18.1.1 The Copyright on all reports submitted will reside with DigVentures, although a third party in-perpetuity licence will automatically be given for reproduction of all products, subject to agreement with DigVentures. The original copyright holder will retain copyright in pre-existing data.

19 RISK LOG

Risk number	1	2	3	4
Description	Inclement weather - prolonged periods of rain	Exceptional weather (drying exposed	Absence of core team member	Absence of specialist team member
		archaeology)		
Probability	Medium	Medium-low	Low	Low
Impact	Delay programme of work	Slow progress	Delay programme of work	Delay programme of work
Countermeasures	Provision of site hut, and planned indoor archiving tasks with flexible programme	Provision of water bowser + spray	Reallocate responsibilities or appointment of alternative	Reallocate responsibilities or appointment of alternative
Estimated time/cost	3 Days	None	Minimal if done by adjustment	Minimal if done by adjustment
Owner	BW/MF/CC	BW/MF/CC	BW/MF/CC	BW/MF/CC
Risk number	5	6		
Description	Equipment theft/breakages	Serious site injury		
Probability	Medium	Medium		
Impact	Delay programme of work	Delay programme of work		
Countermeasures	Removal of finds material and digital equipment from site	Detailed H&S Risk Assessment + daily safety briefing		
Estimated time/cost	3 days	3 days		
Owner	BW/MF/CC	BW/MF/CC		

Table 6: Risk log

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Google Earth Image Landsat / Copernicus © Infoterra Ltd & Bluesky 643000 Holy Island Lindisfarne Castle Site 500m

Figure 1 - Lindisfarne: Site location



Figure 2 - Lindisfarne: Trench locations overlying geophysical survey



Pre-excavation photo of west side, looking north, 2m scales



Pre-excavation photo of east side, looking north, 2m scales



Pre-excavation orthophoto plan



Pre-excavation photo of skeletal remains in charnel pit F203, 1m and 0.4m scales



Orthophoto section of features F206 and F210 in northwest corner

0

2m

0



Orthophoto plan of inhumation graves F204 and F205



Post-excavation orthophoto plan



Orthophoto section of ditch F208



Post-excavation photo of stone structure F211, 1m scale Figure 3 – Lindisfarne: Trench 2 excavation results





Post-excavation orthophoto plan



Orthophoto south-facing section



Indie, Joan and Megan recording the trench section Figure 4 – Lindisfarne: Trench 4 excavation results

DigVentures



Chris kicks things off with 'the big yellow trowel'



Team Lindisfarne, week one



Julie, John, Michael, Stephanie and Tobias... soggy



Spice girls: Rita, Anna and Joan





DigVentures staff

DigCamp!

Figure 5 – Lindisfarne: Meet the team

DigVentures



Chris, Brendon and Lisa investigate the charnal pit



Always nice to see a busy trench



Martin and Tim hard at work



Sophie carefully plans the base of the trench



Hannah and Rosie carefully clean one of the skeletons



Hands up if you love mud!

Figure 6 – Lindisfarne: Site work

DigVentures



John makes a start on washing A LOT finds...



...with a little help from DigCamp



Quartz pebbles everywhere



Michael shows us what a seal femur looks like



Hide and seek with Johanna



Finds galore!

Figure 7 – Lindisfarne: Finds



Figure 8 - Lindisfarne: 2018 trench locations



Figure 9 - Lindisfarne: Proposed area of GPR survey

Appendices

Appendix A: Trench and context descriptions

Trench 2	Dimensions: 17m x 15m			
Treffelt 2	Orientation: N-S			
	Reason for Trench: One of in Sanctuary Close due ea remains predating the curr	two additional evaluation ast of the Priory church ent monastic complex	on trenches (17m x 15m) 1 to investigate possibl	positioned e structural
Context	Description	Interpretation	Dimensions (m)	Feature
2001	Dark brown soft silty-clay with occasional small rounded pebbles.	Deposit – topsoil	Length – 17.00m Width – 15.00m Depth – 0.15m Ranges from 0 – 0.15m	
Link	https://digv	entures.com/lindisfarne	e/ddt/cxt/LDF_2001	
2002	Mid brown orange firm sandy silt with Moderate charcoal fragments, moderate cobbles and small angular pebbles.	Deposit – subsoil	Length – 17.00m Width – 15.0m Depth – 0.15m to 0.27m	
Link	https://digv	ventures.com/lindisfarne	e/ddt/cxt/LDF_2002	
2003	Orange-brown, soft silty sand with small sub- angular stones and larger cobbles	Deposit – Subsoil cleaning level	Length – 10.00m Width – 4:00m Depth – 0.03m	
Link	https://digv	entures.com/lindisfarne	e/ddt/cxt/LDF_2003	
2004	Dark brown firm sandy silt with medium angular to sub-rounded stones and pebbles.	Deposit – demolition and cemetery clearance rubble	Length – 2.25m Width – 1.50m Depth – 0.20m	
Link	https://digv	ventures.com/lindisfarne	e/ddt/cxt/LDF_2004	
2005	Dark brown firm sandy silt with medium angular to sub-rounded stones and pebbles.	Deposit – demolition and cemetery clearance rubble. Probably same as (2004)	Length – 1.10m Width – 1.03m Depth – 0.20m	
Link	https://digv	ventures.com/lindisfarne	e/ddt/cxt/LDF_2005	

2006	Light grey- brown hard sandy silt, sandstone cobbles and pebbles.	Layer – Rubble deposit. Probably same as (2004)	Length – 2.20m Width – 2.80m Depth – 0.50m	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2006	
2007	Light grey-brown loose sandy silt with 10% sub- angular pebbles.	Deposit – Rubble deposit. Probably same as (2004)	Length – 1.14m Width – 0.50m Depth – 0.10m	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2007	
2008	Mid greyish brown hard sandy silt with medium to large sub-angular to rounded cobbles and pebbles.	Deposit – Rubble deposit. Probably same as (2004)	Length – 3.30m Width – 4.00m Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2008	
2009	Light greyish brown sandy silt with angular to sub-angular pebbles and gravel.	Deposit – Possible levelling layer	Length – 4.00m Width – 3.50m Depth – 0.10m	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2009	
2010	Mid grey brown hard sandy clay with large angular and sub-angular sandstone cobbles and stones.	Layer – Possible clay and stone capping of a burial mound	Length – 1.65m Width – 0.35m Depth – 0.20m	F212
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2010	
2011	Mid grey-brown loose sandy silt with inclusions of 10% sub-angular rounded gravel.	Deposit – levelling layer	Length – 0.50m Width – 0.54m Depth – 0.20m	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2011	
2012	Light orange brown sandy clay with 30% inclusions of flecks charcoal, small sandstone pieces.	Deposit – levelling layer	Length – 1.00m Width – 0.40m Depth – 0.30m	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2012	
2013	Sandstone block and cobbles roughly hewn with random coursing and no bonding.	Masonry – Relating to possible cist lined burial	Length – 1.00m Width – 0.25m Depth – 0.20m	

Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2013	
2014	Mid-orange brown compact silty clay with 40% inclusions of sub- angular to rounded gravel and sandstone pebbles.	Deposit – Levelling layer	Length -1.20m Width -0.80m Depth- Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2014	
2015	Mid-orange brown compact sandy clay 50% sub-angular inclusions sandstone pieces, charcoal flecks and gravel.	Deposit – clay surface	Length -4.00m Width -2.80m Depth- Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2015	
2016	Oval shape oriented N-S with a gradual break of slope at the top, concave sides, a gradual almost non perceptible break of slope at the bottom, and an ever so slightly curved base.	Cut-charnel pit	Length – 1.40m Width – 0.80m Depth – 0.20m	F203
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2016	
2017	Dark brown soil fill surrounding human remains with frequent (25%) bone and sub- angular pebbles.	Fill-soil surrounding human remains in charnel pit	Length – 1.40m Width – 0.80m Depth – 0.20m	F203
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2017	
2018	A mixture of human remains found within a charnel pit.	Fill-Skeletal remains within charnel pit	Length – 1.40m Width – 0.80m Depth – 0.20m	F203
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2018	
2019	Firm light yellowish brown clayey silt with Moderately sorted stone inclusions (15%).	Deposit-Stonier subsoil localised in north part of western part of trench	Length – 9.00m Width – 6.00m Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2019	
2020	Compact greyish brown silt with sub angular rubble(20%) and human bone (<1%) inclusions.	Deposit- Plough furrow	Length – 9.00m Width – 4.40m Depth – Unknown not fully excavated	

Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2020	
2021	Dark brown sandy silt with sub angular rubble (<10%) inclusions and large quantities of animal remains of varying species.	Layer- Collection of animal, and human bone in north-eastern part of the west side of trench	Length – 3.20m Width – 2.00m Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2021	
2022	Very compact dark yellowish brown clayey sand containing sub angular and sub- rounded rubble inclusions (70%)	Layer- A rubble layer in the south part of the eastern side of trench 2	Length – 6.00m Width – 3.00m Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2022	
2023	Uneven rectilinear cut oriented SW-NE with a gradual break of slope at the top, shallow sides and a non-perceptible break of slope at the bottom.	Cut-grave in eastern section of trench 2	Length – 1.88m Width – 0.43 Depth – 0.20m	F204
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2023	
2024	Supine individual facing upwards with upper arms parallel to body, and lower arms crossed over pelvis. The ankles were placed side by side.	Skeleton-Articulated human remains in eastern section of trench 2	Length – 1.88m Width – 0.43 Depth – 0.20m	F204
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2024	
2025	Hard brown silty sand with sub angular stone inclusions (10%).	Fill- Backfill of grave cut 2023	Length – 1.88m Width – 0.43m Depth – 0.20m	F204
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2025	
2026	Oval cut oriented E-W with an almost non perceptible break of slope at the top, concave sides and a gradual break of slope at the bottom.	Cut- Possibly a partially excavated grave	Length – 1.60m Width – 1.00m Depth – Unknown not fully excavated	F212
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2026	

2027	Firm orange brown sandy silt with sub angular stone inclusions (80%). The top of the layer is filled with disarticulated bone there may be a further undisturbed burial below.	Fill- soil from short linear feature	Length – 1.60m Width – 1.00m Depth – Unknown not fully excavated	F212
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2027	
2028	Rectilinear cut oriented E-W with a sharp break of slope at the top and concave sides.	Cut-grave in the middle of the eastern side of the trench	Length – 1.72m Width – 0.45m Depth – 0.20m	F205
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2028	
2029	Orangey brown sandy silt with Poorly sorted sub angular stones (10%,). At least 7 Quartz pebbles recovered from around the skull and chest cavity. 4 pebbles found around and under the skull when removing it. 2 pebbles found either side of the spine at the waist.	Fill- Backfill of grave cut 2028	Length – 1.72m Width – 0.45m Depth – 0.20m	F205
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2029	
2030	Supine individual facing upwards with upper arms parallel to body, and lower arms crossed over pelvis. The ankles were placed side by side with the right foot placed on top of the left.	Skeleton-Articulated human remains in the middle of the eastern side of the trench	Length – 1.72m Width – 0.45m Depth – 0.20m	F205
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2030	
2031	Compact yellowish brown silty clay with small sub angular stone (20%) inclusions and human bone.	Deposit-Disturbed deposit of human remains	Length – Unknown not fully excavated Width – Unknown not fully excavated Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2031	

2032	Linear cut running N-S.	Cut-for a potential wall in the north west of the trench	Length – 2.21m Width – 0.38m Depth – Unknown not fully excavated	F213
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2032	
	Stones placed in a row From north to south:			
	0.34m			
	2.) length 0.15m, width 0.24m		Length – 2.11m	
2033	3.) length 0.31m, width 0.35m	Masonry- Linear row of tooled stone running N-S	Width – 0.57m Depth – Unknown	F213
	4.) length 0.46m, width 0.33m		not fully excavated	b
	5.) length 0.15m, width 0.16m			
	6.) length 0.2m, width 0.16m			
Link	https://digventures.com/lindisfarne/ddt/cxt/LDF_2033			
2034	Friable white brown plaster made of large sub-angular rubble.	Layer-plaster in north- west of trench 2	Length – 1.58m Width – 1.52m Depth – 0.22m	F206
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2034	
2035	Compact reddish brown silty clay with no inclusions.	Fill-red clay fill of linear feature in north-west corner of trench	Length – 2.20m Width – 0.40m Depth – 0.10m	F210
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2035	
2036	Compact dark greyish brown soil and frequent well sorted sub- rounded stone inclusions (80%).	Fill-Raised cobbled surface in NW of trench 2	Length – 1.25m Width – 0.80m Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2036	-
2037	Rectilinear cut with a gradual break of slope at the top and gradual sides.	Cut-Posthole at western edge of west side of trench	Length – 0.10m Width – 0.10m Depth – 0.05m	F209
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2037	

2038	Soft grey silty clay with no inclusions.	Fill-Fill of posthole 2037	Length – 0.10m Width – 0.10m Depth – 0.05m	F209
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2038	•
2039	Firm orange brown sandy silt with sub- angular stone inclusions (10%)	Layer- Rubble spread at south end of Western part of trench below (2002)	Length – 9.00m Width – 4.00m Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2039	
2040	Cut orientated E-W with a gradual break of slope at the top and concave sides and gradual break of slope at its bottom.	Cut-Cut of pit in northwest trench	Length – Unknown not fully excavated Width – Unknown not fully excavated Depth – 0.22m	F206
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2040	
2041	Large mud stone faces that appear to line up with 2042.	Masonry- Large stone wall/platform aligned roughly north to south in south part of east side of trench	Length – 2.50m Width – 1.12m Depth – Unknown not fully excavated	F211
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2041	l
2042	Large mud stone faces that appear to line up with 2041.	Masonry-2 large stones north of projected line of (2041)	Length – 1.00m Width – 0.40m Depth – Unknown not fully excavated	F211
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2042	1
2043	Oval shape orientated N-S.	Cut-Possible post hole in north of eastern side of trench	Length – 0.60m Width – 0.50m Depth – Unknown not fully excavated	F207
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2043	
2044	Stone packing that might indicate the presence of a post hole, unexcavated	Fill-Packing of post hole in north of eastern side of trench	Length – 0.60m Width – 0.45m Depth – Unknown not fully excavated	F207
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2044	
2045	Dark brown sandy silt unexcavated.	Fill-soil found within the cut of a potential post hole	Length – 0.65m Width – 0.45m Depth – Unknown not fully excavated	F207
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2045	

2046	A row of stone and soil that were left unexcavated, running NE-SW. Their might be a stone lining between these stones.	Fill- Parallel stone lined fill in northeast corner of east side of trench	Length – 0.90m Width – 0.70m Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2046	
2047	A row of irregular stone running E-W that return on their western edge slightly. This may represent the capping of a burial but was left unexcavated.	Fill- L-shaped stone lined fill in northeast corner of east side of trench	Length – 1.86m Width – 0.87m Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2047	
2048	Left unexcavated.	Fill-parallel stones forming a small gulley placed south of context 2047.	Length – 0.60m Width – 0.20m Depth – Unknown not fully excavated	
Link	https://digventures.com/lindisfarne/ddt/cxt/LDF_2048			
2049	Three aligned stones running E-W with a further cluster stones on its E end.	Fill- East to west aligned stone kerbing in southeast corner of west side of trench	Length – 1.30m Width – 0.10m Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2049	
2050	Linear cut orientated E- W with a sharp break of slope at the top and concave sides and gradual break of slope at its bottom.	Cut- East to west aligned ditch in southeast corner of west side of trench, possible robber trench	Length – Unknown not fully excavated Width – 1.10m Depth – 0.16m	F208
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2050	
2051	Soft mid orange brown sandy silt with frequent small sub-angular and moderate large angular stones.	Fill- Fill of east to west aligned ditch in southeast corner of west side of trench	Length – Unknown not fully excavated Width – 1.10m Depth – 0.16m	F208
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2051	
2052	A roughly circular stone layer found in the SE of Trench 2 west, left unexcavated.	Fill- Stone layer south side of context 2050	Length – 1.60m Width – 1.00m Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2052	

2053	A patch of disturbed rubble this may be a continuation of context 2049.	Fill- Stone layer west of context 2049	Length – 1.20m Width – 1.20m Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2053	
2054	A row of stones running E-W during 2017 these were thought to cover burials. Left unexcavated.	Fill- Row of stones in east side of west half of trench	Length – 1.10m Width – 0.25m Depth – Unknown not fully excavated	
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2054	
2055	A linear cut aligned NW-SE with a gradual break of slope at its top, shallow sides and a gradual break of slope at its bottom. It has an uneven base.	Cut- Northwest to southeast aligned small ditch cut by [2040]	Length – 2.15m Width – 0.10m Depth – 0.10m	F210
Link	https://dig	ventures.com/lindisfarne	e/ddt/cxt/LDF_2055	

Table 7: Trench 2 context descriptions

Trench 4	Dimensions: 2m x 1m			
Treffert 4	Orientation: East-West			
	Reason for Trench: to con-	firm the interior wall of	the infirmary identified	d within the
	geophysical survey and to	identify its depth below	the exiting ground sur	face
Context	Description	Interpretation	Dimensions (m)	Feature
4001	Loose mid orange brown silt.	Deposit - Topsoil	Length – 2.00m Width – 1.00m Depth – 0.10m	
Link	https://digv	ventures.com/lindisfarne	e/ddt/cxt/LDF_4001	
4002	Medium dark brown sandy silt.	Deposit - Subsoil	Length – 2.00m Width – 1.00m Depth – 0.25m	
Link	https://digv	ventures.com/lindisfarne	e/ddt/cxt/LDF_4002	
4003	Firm mid orange brown silty clay with charcoal flecks, lime, rubble and bones inclusions (<5%).	Layer - Sediment on eastern side of wall	Length –1.00m Width –0.55m Depth – 0.36m	
Link	https://digv	entures.com/lindisfarne	e/ddt/cxt/LDF_4003	•
4004	Firm mid reddish brown silty clay with stone rubble inclusions possible spill from 4005.	Layer - Layer west of wall	Length –1.00m Width –0.54m Depth – Unknown not fully excavated	
Link	https://digv	entures.com/lindisfarne	e/ddt/cxt/LDF_4004	
4005	Unworked (or minimal finishing) stone orientated E-W with no bonding material.	Masonry – Stone wall of presumed infirmary	Size of material 0.35m by 0.18m	F401
Link	https://digv	ventures.com/lindisfarne	e/ddt/cxt/LDF_4005	

Table 8: Trench 4 context descriptions

Small Find	Context	Object	Туре	Quantity	Description
1	3003	Object	Iron	1	Possible fishing hook
2	3003	Bead	Stone	1	Fossil; Carboniferous crinoid. Known colloquially as "St Cuthbert's Beads" found commonly on the coast of the Holy Island.
3	3006	Comb	Bone	1	Fragment of comb plate. Two parallel central lines with paired ring-and-dot motifs either side enclosed with further parallel lines on edge of plate. Indications of rivet holds at each end suggesting the bone has snapped off at these week points. Notching caused by sawing of comb teeth visible on one side (6-7 teeth/cm). Fragmentary, but probably an Ashby Type 8b (10th-12th century AD). According to Ashby's atlas of bone combs, this is the most northerly English example, although they are also recorded in northern and western Scotland. (Ashby 2011) Length 30mm. Width 9mm, Length 30mm. Width 9mm.
4	3006	Bowl	Stone	1	Fossil; 17mm x 14mm
5	3006	Object	Bone	1	Plaque of cetacean bone (species unknown). Sawn at both ends; L. 100mm W. 55mm. Th.5-8mm
6	3015	Object	Bone	1	Fragment of horn(?) plate or mount. Three incised parallel lines at c.10mm space running along length crossed by 3 incised lines at right angles. Function unknown, L. 31mm, W.23mm Th. 4.5mm
7	1004	Object	Metal	1	Slag
8	1004	Nail	Iron	1	Thick iron nail. Length. 37mm. Width 37mm.
9	1004	Object	Metal	1	Slag
10	3014	Bolt	lron	1	Clench bolt; Length 53mm. Plank thickness 30.6mm. Rove d. 28.5mm. Shank width 11.50mm.
11	3015	Bolt	Iron	1	Clench bolt; Rove missing. Length 60.5mm. Shank width 15.5mm.
12	1004	Object	Metal	2	Non ferrous Slag

Appendix B: Small finds register

Small Find	Context	Object	Туре	Quantity	Description
13	1004	Coin	Silver	1	Silver <i>sceatta</i> of Eadberht (737- <i>c.</i> 758)
14	3019	Object	Iron	1	Fishing hook
15	1004	Object	Stone	1	Hone stone; Probably beach cobble. Sandstone(?) Heavily burnished on one long face; 250 x 90 x 6mm
16	3015	Object	Iron	1	Fishing hook
17	2004	Object	Stone	1	Sculpture; Fragment of cross incised carved stone. Incised image of shaft (of cross?) runs down centre of main face defined by parallel incised lines c.20mm apart; 170 x 90 x 70mm
18	3031	Object	Lead	1	Medieval. Rectangular lead sheet, partially folded at some edges. Two piercings at one end. Unfolded dimensions c.100mm x c.60mm. Th.2.9mm.
19	3017	Object	Iron	1	Fishing hook
20	3017	Object	Copper Alloy	1	Medieval; Irregular fragment of thin copper alloy sheet showing. Possibly from vessel or mount. No piercings or holes. 43mm x 24mm. Thickness 0.5mm.
21	3015	Bolt	Iron	9	 24mm. Thickness 0.5mm. Clench bolt Assemblage of nine clench bolts, mostly with attached roves. Length (overall) 56mm. Plank thickness 30.1mm. Rove d. 30mm Shank width 14.5mm Length (overall) 62mm. Plank thickness 33.3mm. Rove d.30mm Shank width 15mm Shank only. Length 69mm, Shank width 19mm Length (overall) 63mm. Plank thickness 35mm. Rove d. 31mm. Shank width 11mm Length (overall) 49.2mm. Plank thickness 32mm. Rove d.28mm Shank width 13mm Length (overall) 44.6mm. Plank thickness 30mm. Rove d.30mm. Shank width 15.6mm Shank only. Length 28mm. Shank width 13.5mm Length (overall) 50mm. Plank thickness 28mm Rove diam. c.26mm Shank width 12mm Length (overall) 59mm.Plank thickness 36mm. Rove diam. c25mm Shank 14.9mm

Small Find	Context	Object	Туре	Quantity	Description
22	2004	Object	Stone	1	Name Stone; Red sandstone. 8.4.2 The inscribed stone consists of the top portion of a round-headed sandstone cross-slab. The back of the stone is plain as are the remaining original edges. On the face are parts of the top and right-hand arms of an incised cross.
23	2004	lamp	Stone	1	NFS. Fragment of stone lamp. Only around 20% of the lamp surviving (based on circumference). Carbon deposits surviving on interior surface. Good parallels known from the Anglo-Saxon monastery at Hartlepool (Daniels 2007, 130; McGarry 1991); 130mm (height), internal depth 80mm
24	3024	Object	Stone	1	Hone Stone; Fragment of red sandstone honestone, well worn with use-wear visible on both sides; 15 x 76 x 35mm
25	2001	Object	Copper Alloy	1	Mount from a St Christopher's pendant, modern and badly preserved.
26	2002	Object	Copper Alloy	1	Copper Alloy lump
27	2002	Nail	Iron	2	2 handmade nails found directly together
28	2002	Coin	Copper Alloy	1	Badly corroded copper coin
29	2002	Object	Iron	1	Small ferrous object
30	2002	Object	Iron	1	Corroded ferrous object
31	2002	Object	Glass	1	Fragment of stained glass
32	2002	Object	Glass	1	Fragment of glass
33	2002	Object	Glass	1	Fragment of glass
34	2002	Object	Copper Alloy	1	
35	2009	Inlay	Stone	1	Carved stone
36	2020	Nail	Iron	1	Hand made nail
37	2020	Object	Bone	1	Potentially worked piece of bone
38	2019	Object	Glass	1	Medieval stained glass sherd
39	2019	Window	Glass	1	Medieval stained glass sherd



Small Find	Context	Object	Туре	Quantity	Description
40	2020	Object	Iron	1	
41	2020	Window	Glass	1	Glass shard, potentially stained
42	2020	Object	Iron	1	Ferrous object possible nail
43	2020	Object	Iron	1	
44	2012	Nail	Iron	1	
45	2008	Nail	Iron	1	
46	2022	Object	Iron	1	Unidentified ferous object
47	2008	Nail	Iron	1	Iron nail
48	2008	Object	Iron	1	Iron hook
49	2022	Button	Iron	1	Ferrous object maybe button
50	2008	Nail		1	Ferrous object possible lead nail
51	2008	Object	Ceramic	1	Medieval green-glazed pottery
52	2022	Nail	Iron	1	Iron nail
53	4001	Nail	Iron	1	Hand made iron nail
54	2020	Object		1	Black unidentifiable shiny object maybe production waste
55	2022	Nail	Iron	1	Hand-made nail.
56	3019	Object	Stone	1	Carved Stone
57	2021	Object	Flint	1	Worked flint -Mesolithic?
58	2029	Bead	Stone	1	St. Cuthbert's bead fossil, from sample 32
59	2029	Bead	Stone	1	St. Cuthbert's bead fossil, from sample 32

Table 9: Small finds register

Code	Full Name/Description	No. Sherds	Weight (g)	No. Vessels	TPQ	TAQ	Source
LUCK-type	Lucker Hall Ware	1	11	1	1100?	1350?	Lucker, Northumberland
EGSWGR	Early glazed/Scottish white gritty ware	2	11	1	1150	1500	Northumberland
EG3 type	Newcastle early glazed ware type 3	1	2	1	1200	1250	Tyneside
TWV1	Tweed Valley ware type 1	2	11	2	1200	1350	Lower Tweed Valley
SCARB	Scarborough ware	5	27	3	1225	1350	Yorkshire
BW	Tyneside Buff-white ware	1	4	1	1250	1350	Tyneside
MEDLOC 1	Find sandy hard fired pale grey to buff fabric. Typically with pale olive green glaze externally. Potentially fine variant of TWVS.	6	33	6	1250	1350	N.Northumberland
MEDLOC 2	Soft fired micaceous fine sandy mid to dark grey fabric similar to finer SHOIRGC fabrics from Shotton. Traces of pitted olive gg on some sherds.	8	81	8	1250	1350	S.Northumberland
MEDLOC 3	Hard fired mid - dark grey coarse sandy dark olive green glaze with ferrous rich streaking.	3	36	2	1250	1350	Northumberland
SHOIRGR	Shotton-type iron-rich coarse gritty ware	1	25	1	1250	1350	S.Northumberland
TWV2 type	Tweed Valley ware type 2	1	23	1	1250	1350	Lower Tweed Valley
TWVS	Sandy Tweed Valley ware type	1	5	1	1250	1350	Lower Tweed Valley
RG type	Misc. reduced greenware type	2	3	1	1250	1400	unknown
OBWH	Tyneside high-fired oxidised buff-white ware	1	9	1	1275	1350	Tyneside
LRGBER	Late reduced greenware - Berwick type	2	28	2	1300	1550	Lower Tweed Valley
LORG	Late oxidised greenware type	4	36	3	1350	1550	unknown
RG4	Newcastle reduced greenware type 4	1	9	1	1350	1550	Tyneside

Appendix C: Pottery catalogue

Code	Full Name/Description	No. Sherds	Weight (g)	No. Vessels	TPQ	TAQ	Source
MART1	Martincamp-type ware type I flask (buff earthenware)	1	3	1	1480	1550	Northern France
CSTN	Cistercian ware	1	1	1	1480	1600	various
RAER	Raeren stoneware	2	72	2	1480	1610	Germany
BORD	Surrey-Hampshire border white ware	4	35	3	1550	1700	Surrey/Hampshire
FREC	Frechen stoneware	4	16	3	1550	1700	Germany
TGW	British tin-glazed ware	12	83	10	1570	1846	various
WERR	Werra slipware	2	10	2	1580	1650	Germany
ER	English redware	7	136	4	1580	1700	various
ERBER	English redware - Berwick type	2	23	1	1580	1700	Berwick+H11
WEST	Westerwald Stoneware	1	6	1	1590	1900	Germany
ERSL	English redware w. metropolitan type slip dec.	4	55	3	1630	1700	various
TPW	Refined white ware w. underglaze transfer- printed dec.	3	7	3	1780	1900	various
REFW	Refined white earthenware	11	16	3	1805	1900	various
ENGS BRST	English stoneware w. Bristol glz	1	55	1	1830	1900	various
LGRESL	Late glazed red earthen ware with white slip	1	13	1	1750?	1900	North East England
LGRESLF	Fine late glazed red earthenware with white slip	1	2	1	1750?	1900	North East England
Total		100	889	76			

Table 10: Pottery types and count

Context	F code	Form	No Sherds	Weight (g)	No. Vessels	Part	Comment
2001	EG3 type	hv	1	2	1		
2001	ENGS BRST	jar	1	55	1	b	
2001	FREC	hv	2	7	1	Н	
2001	LGRESL	dish/bowl	1	13	1	R	
2001	LUCK-type	hv	1	11	1		Dark reddish brown (purple) sandy fabric with spots/streaks of glz int. and ext. Marginally fewer coarse inc than typical Lucker Hall ware.
2001	MEDLOC 1	hv	1	4	1		
2001	MEDLOC 1	hv	1	4	1		



Contact	Ecodo	Form	No	Weight	No.	Port	Commont	
Context	r code	Form	Sherds	(g)	Vessels	ran	Comment	
2001	RAER	jug	1	38	1	R+H		
2001	REFW	cup	6	13	1	В		
2001	TGW	jar	1	1	1			
2001	TGW A	dish	2	45	2	В		
2001	TGW B	hv	1	3	1			
2001	TPW		2	4	2			
2001	WERR	fw	1	3	1			
2002	BORD	fw	3	14	2			
2002	BORD	mug	1	21	1		Encrusted dec.	
2002	BW	hv	1	4	1			
2002	CSTN	cup	1	1	1	R		
2002	EGSWGR	hv	2	11	1			
2002	ER		7	136	4		heavily braded	
2002	ERBER	fw	1	12	1	R	Flattened Berwick type rim.	
2002	ERSL	dish/bowl	4	55	3	В		
2002	FREC	hv	2	9	2			
2002	LGRESLF	bowl	1	2	1	R		
2002	LORG	hv	3	29	2			
2002	MART1	flask	1	3	1			
2002	MEDLOC	hv	1	2	1		Ox scrap.	
2002	MEDLOC 1	hv	1	5	1			
2002	MEDLOC 2	hv	7	68	7	В		
2002	MEDLOC 3	hv	3	36	2			
2002	RAER	jug/mug	1	34	2	В		
2002	REFW		4	2	1			
2002	REFW PNTD	hv	1	1	1			
2002	RG	hv	2	3	1			
2002	RG4	hv	1	9				
2002	SCARB	jug	3	24	2			
2002	SHOIRGR	hv	1	25	1	R?	Narrow necked hollow form with flat internal flange resulting in constricted opening. Identified at Marygate Berwick as a kiln furniture but this form has now been identified on several sites in Northumberland where there has been no evidence of pottery production these may be from some other form - although no parallels have yet been identified.	
2002	TGW	fw	3	4	2		18c	
2002	TGW	hv	1	3	1		burnt	
2002	TGW A	fw	2	7	2			
2002	TWV1	hv	1	10	1			
2002	TWVS	hv	1	5	1			

Context	F code	Form	No Sherds	Weight (g)	No. Vessels	Part	Comment
2002	WERR	dish/bowl	1	7	1		burnt
2002	WEST	hv	1	6	1		underfired
2019	MEDLOC 1	hv	1	3	1		
2019	OBWH	hv	1	9	1		
2020	ERBER type	hv	1	11	1		
2020	LORG	hv	1	7	1		
2020	MEDLOC 1	jug	2	17	2	R	Simple thickened rim.
2020	MEDLOC 2	hv	1	13	1		oxidised
2020	LRGBER type	hv	2	28	2		Mod hard fine dark grey sandy relatively open micaceous fabric. Dark olive gg ext. Finer than MEDLOC 2
2020	TWV2 type	hv	1	23	1		
2020	TWV1	hv	1	1	1		
2029	TPW	fw	1	3	1		
4002	SCARB	hv	2	3	1		
4002	TGW	jar	2	20	1	В	albarello

Table 11: Pottery catalogue

Sample	Context	Condition	Contamination	Туре	Sample size	Volume	Processed
25	2017	Moist	Possible mixing	Human			Wet sieve
			with other context	remains			
				recovery			
26	2008	Moist	Possible mixing with other context	General Bulk	5-20%	401	Dry sieve
27	2029	Moist	No contamination	Human	80-100%	501	Wet sieve
				remains			
				recovery			
28	2025	Moist	No contamination	Human	80-100%	501	Dry sieve
				remains			
				recovery			
29	2031	Moist	No contamination	Human	80-100%	301	Dry sieve
				remains			
				recovery			
30	2035	Moist	No contamination	General Bulk	40-60%	201	Wet sieve
31	2034	Moist	No contamination	General Bulk	60-80%	201	Wet sieve
32	2029	Moist	No contamination	Human	5-20%	51	Wet sieve
				remains			
				recovery			
33	2034	Dry	No contamination	Charcoal	< 5%	N/A	N/A
34	2025	Moist	No contamination	Human	5-20%	51	Wet sieve
				remains			
				recovery			

Appendix D: Environmental catalogue

Table 12: Sample catalogue

Sample	25	27
Context	2017	2029
Feature	207	205
Indeterminate Cereal	4*	1

Table 13: Plant macrofossils

	Sample	30	33
	Context	2035	2034
	Feature	210	206
	Fragments	50+	1
	Max. size (mm)	12	26
Latin	Vernacular		
Quercus	Oak	11	1
Indeterminate	Indeterminate	39	

Table 14: Charcoal

Sample	25	27	30	31	32	33	34
Context	2017	2029	2035	2034	2029	2034	2025
Feature	207	205	210	206	205	206	204
Charcoal	2	2	2	2	4	4	
Earthworm egg	1	1	1	2	1		4
capsules							
?Hammerscale fgts.				2			
Insect fragments	1	1	1	1			
Plant macrofossils –	1	1					
charred							
Root / rootlet	4	3	3	4			
fragments							
Sand	3	4	4	3			
Snails				2			

Table 15: Sample components

Trench	Context	Material Type	Quantity	Weight (g)	Description
2	2001	Bone	6	34	Animal teeth
2	2001	Bone	162	840	Human/ animal; 1 tooth
2	2001	Ceramic	10	254	
		Building			
		Material			
2	2001	Clay Tobacco	27	69	
2	2001	Pipe Coppor Allow	0	20	1 Putton
2	2001	Object	0	20	1 Button
2	2001	Eerrous Object	10	173	2 nails
2	2001	Glass	1	8	areen
2	2001	Lead object	21	211	
2	2001	Other	6	27	Charcoal
2	2001	Other	6	63	Coal
2	2001	Other	3	8	Plastic
2	2001	Other	2	153	Unidentified - Bigger one:
					Prolate elipsoid, length 7cm,
					widest 4cm, density 2900
					kg/cubic meter
2	2001	Pot	22	203	
2	2001	Shell	1	1	
2	2001	Stone	8	42	1 carved stone
2	2001	Stone	10	123	White quartz pebble
2	2002	Bone	153	274	
2	2002	Bone	64	702	Animal
2	2002	Bone	1	4	butchered
2	2002	Bone	767	1264	Human / animal
2	2002	Bone	33	374	Probably animal
2	2002	Bone	2		Teeth
2	2002	Bone	166		
2	2002	Ceramic	24	348	1 burnt brick
		Building			
		Material			
2	2002	Clay Tobacco	15	35	Stem fragments, with one
		Pipe	105	0.01	partial bowl
2	2002	Clay Tobacco Pipe	135	306	
2	2002	copper Alloy Object	4	1	
2	2002	Ferrous Object	22	333	
2	2002	Glass	2	20	Modern glass
2	2002	Glass	1	30	
2	2002	Human bone	161	476	
2	2002	Human bone	4	8	Teeth

Appendix E: Finds catalogues

Trench	Context	Material Type	Quantity	Weight (g)	Description
2	2002	Human bone	17	257	
2	2002	Lead object	1	9	1 x 42 x 16mm
2	2002	Other	11	82	Coal
2	2002	Other	5	85	Fossil / Coral
2	2002	Other	255	3843	White quartz pebble
2	2002	Pot	18	117	
2	2002	Pot	65	576	
2	2002	Shell	18	28	
2	2002	Slag	1	13	
2	2002	Stone	1	105	Sandstone, not visibly worked; 48 x 22 x 66mm
2	2002	Stone	2	12	perfectly rounded pebble
2	2002	Wood	3	10	Broom stick?
2	2003	Bone	26	?	
2	2003	Clay Tobacco Pipe	6	39	Two bowls, and four stem fragments
2	2003	Ferrous Object	2	30	5
2	2003	Pot	1	29	
2	2004	Bone	153	848	possible human/animal mix
2	2004	Bone	153	848	
2	2004	Ferrous Object	6	13	
2	2004	Human bone	84	489	skull fragments
2	2004	Human bone	5	383	
2	2004	Other	25	3	Charcoal
2	2004	Pot	1	11	
2	2004	Stone	5	315	Includes two fragments red sandstone with possible toolmarks; "75 x 52 x 32mm; 40 x 36 x 45mm; 54 x 55 x 10mm; 75 x 35 x 25mm; 68 x 38 x 12mm"
2	2004	Stone	1	372	Sandtone fragment will possible tool marking, 110 x 85 x 32mm
2	2005	Bone	1	11	
2	2005	Ferrous Object	1	5	
2	2005	Pot	1	2	
2	2005	Stone	1	559	Unworked fragment, red sandstone; 175 x 46 x 38mm
2	2006	Bone	26	264	possible human/animal mix
2	2006	Bone	26	264	

Trench	Context	Material Type	Quantity	Weight (g)	Description		
2	2006	Bone	44	29			
2	2007	Bone	1	3	possibly human		
2	2007	Bone	14	93			
2	2008	Bone	26	22	includes suspected human		
					bone		
2	2008	Bone	1	4			
2	2008	Bone	37	146	Animal teeth		
2	2008	Bone	1399	7344	Human / animal		
2	2008	Bone	1	7	rodent skull		
2	2008	Clay Tobacco Pipe	2	9			
2	2008	Ferrous Object	1	7			
2	2008	Glass	1	7			
2	2008	Human bone	20	63	Teeth		
2	2008	Lead object	2	19			
2	2008	Other	1	2	Daub		
2	2008	Other	6	91	Fossil, 1 fossilised wood		
2	2008	Other	3	13	Industrial residue?		
2	2008	Other	745	7337	White quartz pebble		
2	2008	Other		1747	Dragon egg pebbles		
2	2008	Shell	26	12			
2	2008	Slag	1	10			
2	2008	Other	< 15	1	Magnetic material from sample number 26		
2	2008	Bone	11	10	from sample number 26		
2	2009	Bone	18	41	includes suspected human bone		
2	2009	Stone	1	1135			
2	2011	Bone	33	298	Includes suspected human		
					bone		
2	2012	Bone	3	10	Animal teeth		
2	2012	Bone	242	769	Human / animal		
2	2012	Human bone	13	60	2 jaw, 11 teeth		
2	2012	Other	142	1566	White quartz pebble		
2	2015	Human bone	20	132	Cranial		
2	2015	Human bone	13	984	Cranial A		
				(with			
				soil)			
2	2015	Human bone	43	248	Cranial B		
				(with			
2	2015	Other	2	SOII)			
2	2015	Otner	3	19	vvnite quartz pebble		
2	2017	Bone	74	1367			
Trench	Context	Material Type	Quantity	Weight (g)	Description		
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2	2017	Clay Tobacco Pipe	1	4			
2	2017	Human bone	3	130	Jaw with teeth		
2	2017	Other	8	15	White quartz pebble		
2	2017	Pot	1	2	From sample number 25		
2	2017	Other	> 50	2	Magnetic material from sample number 25		
2	2017	Bone	> 50	29	From sample number 25		
2	2017	Slag	> 25	6	From sample number 25		
2	2017	Other	15	5	Charcoal from sample number 25		
2	2018	Bone	14	100	Animal teeth and bone		
2	2018	Bone	964	14192	Human / animal		
2	2018	Lead object	1	4			
2	2018	Other	1	7	White quartz pebble		
2	2018	Shell	3	3			
2	2019	Bone	52	495	Animal, 4 teeth		
2	2019	Bone	845	3421	Human / animal		
2	2019	Ceramic Building Material	94	579			
2	2019	Human bone	8	38			
2	2019	Lead object	1	4			
2	2019	Other	6	19	Coal		
2	2019	Other	8	392	Fossil, 6 marine Fossil		
2	2019	Other	3	61	Clinker?		
2	2019	Other	3	146	Mortar		
2	2019	Other	1	9	unidentified		
2	2019	Other	246	2538	White quartz pebble		
2	2019	Pot	4	21			
2	2019	Shell	221	246			
2	2019	Slag	1	3			
2	2020	Bone	11	44	Animal teeth		
2	2020	Bone	136	543	Human / animal		
2	2020	Ceramic Building Material	4	10			
2	2020	Clay Tobacco Pipe	3	12			
2	2020	Ferrous Object	2	10			
2	2020	Human bone	4	22	1 jaw bone, 3 teeth		
2	2020	Other	5	145	Fossil		

Trench	Context	Material Type	Quantity	Weight (g)	Description		
2	2020	Other	201	1957	White quartz pebble		
2	2020	Pot	11	99			
2	2020	Shell	13	33			
2	2020	Stone	2	234	Worked stone		
2	2021	Bone	5	17	Animal teeth		
2	2021	Bone	83	1031	human / animal		
2	2021	Ferrous Object	1	5			
2	2021	Other	5	43	White quartz pebble		
2	2021	Shell	36	168			
2	2022	Bone	363	1347	Human / animal, 19 teeth		
2	2022	Ferrous Object	1	19			
2	2022	Other	121	1381	White quartz pebble		
2	2025	Human bone	3	126			
2	2025	Other	8	10	Charred material from sample number 28		
2	2025	Other	> 25	1	Magnetic material from sample number 28		
2	2025	Bone	> 50	6	from sample number 34		
2	2027	Human bone	55	81	1 tooth		
2	2027	Other	75	600	White quartz pebble		
2	2027	Shell	2	3	·		
2	2029	Other	9	61	White quartz pebble		
2	2029	Pot	1	2			
2	2029	Other	> 10	1	Magnetic material from sample number 27		
2	2029	Bone	>15	4	from sample number 27		
2	2029	Stone	5	6	Quartz pebbles from sample number 27		
2	2029	Stone	> 50	322	Charred stone from sample number 27		
2	2029	Bone	> 25	7	2 fingerbones, 1 fragment of joint and other small fragments from sample number 32		
2	2029	Other	4	1	Klinker from sample number 32		
2	2031	Slag	9	9	From sample number 29		
2	2031	Bone	> 25	6	From sample number 29		
2	2034	Ceramic Building Material	2	48	Burnt brick		
2	2034	Other	96	3257	Mortar (90 pieces were discarded, so there are 6 pieces left in the archive)		
2	2034	Other	> 25	2	Magnetic material from sample number 33		

Trench	Context	Material Type	Quantity	Weight (g)	Description		
2	2034	Other	1	1	St. Cuthberts bead from sample number 33		
2	2034	Bone	> 50	53	From sample number 33		
2	2034	Other	> 25	197	Mortar from sample number 31		
2	2034	Slag	5	6	from sample number 31		
2	2034	Bone	1	1	from sample number 31		
2	2034	Other	> 25	4	Magnetic material from sample number 31		
2	2034	Slag	1	132	Stone with slag from sample number 31		
2	2034	Other	26	174	Daub from sample number 31		
2	2034	Other	8	3	Charcoal from sample number 31		
2	2034	Shell	2	1	Shell from sample number 31		
2	2035	Bone	1	1			
2	2035	Ceramic Building Material	4	19			
2	2035	Other	2	12	White quartz pebble		
2	2035	Bone	11	2	from sample number 30		
2	2035	Other	9	10	Charcoal from sample number 30		
2	2039	Bone	37	235	Human / animal		
2	2039	Clay Tobacco Pipe	1	4			
2	2039	Other	31	381	White quartz pebble		
4	4002	Bone	52	179			
4	4002	Clay Tobacco Pipe	2	3	Stem		
4	4002	copper Alloy Object	1	2			
4	4002	Other	1	10	Fossil		
4	4002	Other	4	41	White quartz pebble		
4	4002	Pot	4	22			
4	4004	Bone	1	10			
2	SK2030	Human bone	8	151	Sacrum		
2	SK2030	Human bone	14	314	Pelvis		
2	SK2030	Human bone	32	380	Vertebrae		
2	SK2030	Human bone		4	Unknown: Pelvic region		
2	SK2030	Human bone	3 F0	0.2	Unknown: Hand region		
2	5K2U3U		5U 61	02			
2	3NZU3U		20	233	Rib: cmall fragments		
2	312030		30	28			
2	2K2020	Human bono	6	170			
۷	31/2030		0	170			

Trench	Context	Material Type	Quantity	Weight (g)	Description	
2	SK2030	Human bone	7	440	Left leg	
2	SK2030	Human bone	10	180	Right arm	
2	SK2030	Human bone	6	440	Right leg	
2	SK2030	Human bone	42	170	Feet	
2	SK2030	Human bone	69	507	Cranial	
2	SK2024	Human bone	11	333	left leg	
2	SK2024	Human bone	20	355	right leg	
2	SK2024	Human bone	77	172	vertebrae (2 bags) & 1	
					phalange	
2	SK2024	Human bone	30	260	Pelvis / Sacrum & 4 phalanges	
2	SK2024	Human bone	17	180	Right arm (interesting bone	
					formation - lamellas bone?)	
2	SK2024	Human bone	37	121	Left arm	
2	SK2024	Human bone	92	110	Ribs	
2	SK2024	Human bone	45	300	Skull (2 bags) noticeable	
					porosity	
2	SK2024	Human bone	53	88	left ribs	
2	SK2024	Human bone	7	67	feet	
2	SK2024	Human bone	60	44	fingers and unidentified	
2	SK2024	Human bone	5	3	teeth	
2	SK2024	Human bone	1	90	Maxilla (still mud adhering)	
2	SK2024	Human bone	1	180	Mandible (still mud adhering)	
2	SK2024	Human bone	40	78	skull fragments	
2	SK2024	Human bone	1	1	unstratified	
2	SK2024	Stone	1	1	Quartz - found in left arm	
					context	
2	SK2024	Stone	15	103	Found together with hands	
2	unstrat	Bone	2	71		
2	Unstrat	Ferrous Object	10	229		

Table 16: Finds catalogue (Trench 2 and 4)

Appendix F: Method statements

The methods for the proposed project will involve a combination of Lidar survey, geophysical survey (resistivity and ground penetrating radar) GIS modelling, archaeological excavation, sampling, palaeoenvironmental sampling and assessment. The methods are linked directly to the project aims and objectives (see Table 15) and detailed below.

Key Questions and Objectives	Lidar Survey	Photogrammetry and Digital Terrain Modelling	Auger Survey	Earthwork Survey and GIS Modelling	Archaeological Excavation	Sampling	Environmental Assessment	Finds Assessment	Synthesis and Data integration
Q1	\checkmark	~							
Q2	\checkmark								
Q3	~	✓							
Q4				1					
Q5				~	\checkmark		✓		
Q6				~	~				
Q7				~	~	~	~		
Q8			~		~	~	\checkmark	~	
Q9			~			~	~	~	
Q10			\checkmark			1	\checkmark		
Q11							~		~
Q12							~		~
Q13									\checkmark

Table 17: Linking methods with objectives

Topographic survey and GIS modelling

Topographical survey work will be carried out using a Trimble Real Time Differential GPS survey system. The Trimble VRS system is used in conjunction with a GPS Rover unit. It allows for surveying without the use of a site specific fixed base station. This is achieved by connecting to Trimble's network of fixed base stations by means of mobile phone communication. This method is highly efficient and accurate (+/- 2cm) when good signal is available. The survey data is exported from the data logger as a comma delimited file (csv) and a Trimble data

collector file (dc). Either of these files can be imported into Trimble GeoSite Communicator, which recognises the feature code library and plots all strings, polygons and labels as intended. All survey and excavation data will be stored within a GIS environment, which will remain the principle conduit for all spatial data throughout the project.

Photogrammetry survey

Photogrammetry survey will utilize Agisoft PhotoScan 3D Modelling software to detect the feature points of the structure, and match these in different images to create a point cloud. The camera positions will be calculated automatically by the software and a dense reconstruction or geometric model will be built to create a DSM. The resulting model can then be. The resulting DSM can be manipulated for viewing from any angle using a variety of artificial light and shading techniques to highlight certain features, or overlaid or draped with the original photographs for true colour representation.

Images will be captured perpendicular to the structure using telescopic mounted cameras, to deliver optimum results requiring little or no rectification. All images are taken with a 16 megapixel Nikon D7000 digital camera (unless other cameras are specified) with a variety of standard and other lenses and are captured in RAW format for later processing into high resolution JPG and TIF files, and downloaded directly on to the hard disk of the laptop.

Where vehicular access is possible Aerial-Cam can be used to record the larger areas of a structure using perpendicular positioning, as well as going to a greater height to provide general overview and context aerial perspectives. Surface boards will be laid down where necessary to minimise surface impact. Where access is restricted the Pole-Cam operated in the space of a single person, can be used for perpendicular positioning and for close up detailed images of masonry features etc. The methods used to generate raw data in advance of DSM processing are detailed below.

Ground Penetrating Radar (GPR) survey

The GPR survey will be undertaken using a MALÅ Geoscience GX450 or MALÅ MIRA; the choice will be dependent upon ground conditions and access within the designated survey areas at the time of survey. The GX450 is a single channel, 450MHz, cart-mounted GPR system utilising HDR (high dynamic range) technology, which can provide better resolution and depth penetration when compared with traditional GPR technology, thus offering the opportunity to record significantly better results than previously possible. The MIRA system is a multi-channel GPR system providing true 3D data collection; data are collected at the same resolution inline and cross-line, at around ¼ of the centre wavelength of the antennas, in this instance 400MHz.

If the GX is used, data will be collected using a sample interval no greater than 0.05m along 0.5m separated traverses across a common baseline which will be tied-in to either fixed reference points (such as elements of the standing remains), the local site grid, or recorded using Ordnance Survey co-ordinates via a total station or RTK GPS. Data will be processed and presented as radargrams and depth-slices using a combination of proprietary (MALÅ) software and either Sandmeier ReflexW or Goodman Archaeometry Laboratory's GPRSlice as necessary.

If the MIRA system is employed, multi-channel swathes will be collected every ~0.5m resulting in a data set with traverse spacing of 0.08m, with a sample interval no greater than 0.08m. Realtime positioning of all swathes is achieved using an RTK GPS unit. Data processing and presentation will be conducted using a combination of MALÅ rSlicer and/or Goodman Archaeometry Laboratory GPRSlice as required to produce radargrams and depth slices.

Survey results will be reported on, conforming to current standards and guidance available from the relevant heritage bodies.

Archaeological excavation

A limited number of targeted machine trenches (Figure 8) will be excavated.

These will include:

- Trench 2 will be reopened in its entirety with an extension in the northwest corner to target the suspected 8th century building identified in 2017.
- Trench 4 will be reopened and extended significantly the measure 10m x 4m, investigating more of the wall identified in 2017 and some of the geophysical anomalies highlighted on the geophysical survey.

The final location of trenches may alter slightly depending on underlying ground conditions, services and access issues. Should this be the case, all relevant parties, including landowners and stakeholders, will be consulted before excavation.

Interventions

All machine excavation will be carried out under constant archaeological supervision using a toothless bucket, and will include visually scanning spoil for artefacts. As soon as archaeological deposits or features are recognised, machining will be stopped and trenches excavated by hand. Each trench will be cleaned by hand where appropriate, planned and photographed prior to any hand-excavation. A representative section, not less than 1m in width, of the entire deposit sequence encountered will be recorded.

If complex stratigraphy and/ or significant remains (e.g. structural remains, artefact scatters, remains clearly of a funerary nature etc.) are encountered, following consultation with HE, these may only be excavated to the minimum requirement in order to satisfy the project objective, to avoid compromising the integrity of remains that may be either (a) preserved in situ, or (b) excavated in detail during any next phase of research excavation. Interventions will focus on feature intersections in order to establish relative chronologies, and 'clean' sections to maximise retrieval of stratigraphically secure dating evidence and environmental samples.

Full written, drawn and photographic records will be made of each trench and test pit, even where no archaeological remains are identified. A plan at an appropriate scale (1:50 or 1:100) will be prepared, showing the areas investigated and their relation to more permanent topographical features, and the location of contexts observed and recorded in the course of the investigation. Plans, sections and elevations of archaeological features and deposits will be drawn as necessary at an appropriate scale (normally 1:20, or 1:10 for complex features). Drawings will be made in pencil on permanent drafting film.

Written records will be made using pro forma record sheets for each trench or test pit, following the DigVentures single context recording system. Digital photography will be used for all photography of significant features, finds, deposits and general site working. The photographic record will illustrate both the detail and the general context of the principal features and finds excavated, and the Site as a whole.

Palaeoenvironmental sampling

All deposits with good palaeoenvironmental potential will be sampled; bulk samples shall be taken from the section as appropriate, under advisement from the project specialist. Context specific samples will be taken by the most appropriate means (kubiena tins, contiguous

columns, incremental block, bulk etc.) for multi-disciplinary analysis. All aspects of the collection, selection, processing, assessment and reporting on the environmental archaeology component of the evaluation shall be undertaken in accordance with the principles set out in *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (Historic England 2012) and with reference to the *Association for Environmental Archaeology's Working Paper No. 2, Environmental Archaeology and Archaeological Evaluations* (1995).

Bulk sampling strategy

Bulk samples will usually be 60 litres in size, depending on the likely density of macrofossils. Ten litre samples will only be used for the recovery of plant macrofossils from waterlogged contexts. Samples will be stored in ten litre plastic buckets with lids and handles. A waterproof label will be fixed to the bucket and will record site code, context number and sample number and number of buckets in comprising the sample. A duplicate label will be retained inside the bucket. Samples will be protected from temperatures below 5° and above 25° Celsius and will be prevented from either wetting or drying out.

- Bulk samples selected for processing shall be wet-sieved/floated and washed over a mesh size of 250 microns for the recovery of palaeobotanical and other organic remains, and refloated to maximise recovery;
- Non-organic residues shall be washed through a nest of sieves of 10mm, 5mm, 2mm, 1mm and 250 micron mesh to maximise finds recovery;
- Both organic and non-organic residues shall be dried under controlled conditions;
- The dried inorganic fractions shall be sorted for small finds or any non-buoyant palaeoenvironmental remains, and scanned with a magnet to pick up ferrous debris such as hammerscale;
- The dried organic fractions shall be sorted under a light microscope to identify the range of species or other material on a presence/absence basis, the degree of preservation of the bio-archaeological material and the rough proportions of different categories of material present;
- In the event that waterlogged deposits are identified and sampled, further processing shall be undertaken as appropriate and agreed, including paraffin flotation to recover insect remains. Any such remains shall be scanned to identify and assess their potential;
- Selection of other types of sample for processing and the methods to be used for processing and assessment shall be undertaken on the advice of the relevant specialist and shall be agreed with the Consultant before implementation.

Contexts that are well stratified and potentially datable are all of value, so a systematic approach to selecting samples for processing and assessment will be taken. These will be divided into three categories:

- Category A (always sampled): contexts where the composition of the sediments are likely to inform us of the use of a particular structure or feature or if the deposits are waterlogged. These will include: *in situ* occupation deposits and fills/layers associated with particular activities; hearths; destruction deposits; basal pit/slot trench fills; waterlogged deposits, cesspits or latrines.
- Category B (always sampled, though discretion should be exercised): deposits identified as containing material that could yield information regarding their origin or the process that produced them. These will include: dumps, middens, upper pit fills with evidence for charred material, shell, bone and industrial waste.

 Category C: deposits containing material which is not necessarily related to the function of the feature to which they are related, but which can characterise deposits from different areas of the site. These will include: secondary and tertiary fills, postholes, levelling deposits, spreads etc.

Category A and B deposits should always be sampled, and Category C deposits sampled on a random basis (such as 1 in 5). These samples can help to characterise the background noise of a site, so as to highlight spatial or temporal trends and provide material that can be directly compared with those from Category A and B. All samples will be taken in large white 10 litre tubs, with labels placed inside with the deposit and attached to the bucket. All samples will be processed on site in a dedicated floatation and wet sieving area.

Zooarchaeology

If large deposits of bone or marine shell are encountered advice of the project zooarchaeologist (Matilda Holmes) will be sought as regards further sampling. If large deposits of bone or marine shell are encountered the project zooarchaeologist advice will be sought as regards further sampling. If articulated groups of bones are encountered they will be surveyed, recorded in situ, (including digital photography and planning), and then excavated to retain the group's integrity. Bones from each articulated limb will be bagged separately. If inhumations or cremation burials are encountered and excavated the surrounding soil will be sampled to retrieve any loose teeth or bone fragments.

All hand collected animal bones and bones from processed samples will be assessed, following English Heritage Environmental Archaeology guidelines (2002). If warranted by the size of the recovered assemblage, it will be assessed using two different quantification methods to determine the most suitable for full analysis, taking into account methods used in comparative assemblages. The assessment will not distinguish between certain taxonomic groups, for example equids (horse and donkey); full speciation should be carried out as part of any recommended analysis, using a vertebrate comparative collection. In addition to quantification of domestic species and occurrence of wild species, the assessment will consider the number of articulated bone groups, and the prevalence of aging, sexing and osteometric data available for full analysis, following standard published conventions. The assessment report will comment on the potential of the assemblage, particularly in the context of the excavation's research questions and current understanding of comparative assemblages. It will also provide recommendations for any necessary future analysis.

Human osteoarchaeology

In the event of the discovery of human remains (inhumations, cremations and disarticulated fragments) they should be left in situ, covered and protected, until the English Heritage Inspector of Ancient Monuments has been informed. If a decision is taken to remove them, they will be fully recorded and excavated in compliance with the relevant Ministry of Justice Licence. The excavation of human remains will be carried out in accordance with the procedures detailed in the document Excavation and post-excavation treatment of cremated and inhumed human remains (McKinley and Roberts 1993, IFA Technical Paper 13). Significant assemblages of human remains will be subject to an assessment of DNA preservation to establish potential familial relationships.

Inhumations will be scanned with a metal detector prior to excavation, and the position of possible metallic grave goods will be noted. Wherever possible, each burial will be excavated within a single working day, particularly with regard to visible grave goods. To minimise

unauthorised disturbance of human remains, partially exposed remains will be covered overnight, though in such a way as to not draw undue attention, using loose excavated spoil.

Excavation of inhumations will be undertaken using a trowel, plasterer's leaf, plastic spoon and paintbrush as appropriate depending on the condition of the bones. When lifted the bones will be bagged by skeletal area (skull, axial, upper and lower limbs) with separate bags for the left and right side. A standard series of samples will be taken from each inhumation burial to ensure full recovery of any remaining osseous tissues or small artefacts. Once human remains are removed from inhumation graves, any soil residue remaining at the base of the grave will be retrieved for bulk processing.

Inhumations and cremations will be drawn at a scale of 1:10 and photographed prior to lifting. They will be recorded on Skeleton Record Sheets that form an integral part of the site pro forma recording system. The recording will include condition, completeness, articulation, orientation and posture. Fragile objects found within graves will be lifted with appropriate care and handling to minimise breakage. This may include subsequent controlled excavation under laboratory conditions. A trained conservator will be employed on the site if necessary.

All cremation burials and cremation-related contexts will be excavated and sampled in quadrants to ascertain the distribution of any archaeological components within the fills, with division into spit also if appropriate. Cremation-related features other than burials may be subject to more detailed sub-divisions, the appropriate strategy being developed by a specialist as the size and nature of the remains becomes clear. Undisturbed and slightly disturbed, but largely intact, urned cremation burials will be lifted en masse for excavation under laboratory conditions. The urns will be wrapped in crepe bandages and securely boxed for transportation. Where a vessel has been crushed, thereby disrupting any original internal deposition of the cremated remains, it will be lifted *en masse* after separate recovery of displaced sherds. All cremation-related contexts will be subject to whole-earth recovery from the point at which any cremated bone or other pyre debris is observed. If deposits of placed human bone are encountered in features, these may be excavated in spits if appropriate. The soils from these features will be bulk sampled.

Finds

Finds will be treated in accordance with the relevant guidance given in the *Chartered Institute for Archaeologist's Standard and Guidance for Archaeological Evaluation* (2008), excepting where statements made below supersede them. All artefacts will be retained from excavated contexts, except features or deposits undoubtedly of modern date. In these circumstances sufficient artefacts will only be retained to elucidate the date and function of the feature or deposit. All artefacts from the evaluation works will, as a minimum, be washed, marked, counted, weighed and identified. Any stratified ironwork will be X-rayed and stored in a stable condition along with other fragile and delicate material. X-rays of objects and other conservation needs will be undertaken by appropriately qualified conservation specialists. Suitable material, primarily the pottery and non-ferrous metalwork, will be scanned to assess the date range of the assemblage.

Conservation

Artefacts will be recovered as a matter of routine during the excavation. When retrieved from the ground finds will be kept in a finds tray or appropriate bags in accordance with First Aid for Finds (Walker 1990). Where necessary, a conservator may be required to recover fragile finds from the ground depending upon circumstances.

After the completion of the fieldwork stage, a conservation assessment will be undertaken which will include the X-radiography of all the ironwork (after initial screening to separate obviously modern debris), and a selection of the non-ferrous finds (including all coins). A sample of slag may also be X-rayed to assist with identification and interpretation. Wet-packed material, including glass, bone and leather will be stabilised and consolidated to ensure their long-term preservation. All finds will be stored in optimum conditions in accordance with First Aid for Finds and Guidelines for the Preparation of Excavation Archives for Long-Term Storage (Walker, 1990).

The conservation assessment report will include statements on condition, stability and potential for further investigation (with conservation costs) for all material groups. The conservation report will be included in the updated project design prepared for the analysis stage of the project.

Scientific dating

Where uncontaminated deposits are recorded which are able to inform understanding of the research aims (in particular, relating to the construction of the banks and ditches), appropriate samples will be taken. Radiocarbon dating will be appropriate for clarifying and linking aspects of archaeological and environmental chronologies, and a strategy for this will be agreed following discussion with HE Science Advisor and the relevant specialists.

Synthesis and data integration

The results of the project will be integrated and synthesised with those from the previous investigations and other relevant work within the region and further afield (see Section 1 and 2 above). This will include a literature review of other pertinent sites.

Appendix G: Core Staff CVs