



# Appendix 3

Leiston Abbey Archaeological Evaluation

Updated Project Design

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# **Appendix 3**

## **Leiston Abbey**

### **Updated Project Design**

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## Executive summary

This document is submitted in support of an application for Scheduled Monument Consent to undertake a research project at Leiston Abbey. The first stage of fieldwork took place between 28<sup>th</sup> June and the 14<sup>th</sup> July 2013. The results have been assessed with recommendations for further fieldwork, following up on profitable research leads generated during the 2013-field season (Wilkins *et al* 2014). A second stage of fieldwork is planned for the 7<sup>th</sup>-20<sup>th</sup> July 2014. This will focus on a programme of remote sensing and 3D photogrammetry survey followed by targeted test trenches. The approach to this work is evidenced through the following MoRPHE compliant document, outlining key archaeological research questions, roles, procedures, stages and outputs.

|                            |                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Remote Sensing</b>      | Survey work, including Ground Penetrating Radar (GPR), Magnetometry and Resistance Survey, will continue into areas of the site that were unavailable in 2013 (due to time constraints or crop cover). This includes the fields immediately east and west of the Abbey complex, containing poorly understood earthworks and cropmarks.                                                    |
| <b>3D Photogrammetry</b>   | Sub-surface survey will be supported by a photogrammetry survey of the built remains, completing the 2013 survey of the Abbey Church with a full metrically accurate 3D digital elevation model of the remaining cloister structure. This will be supported with a low-level aerial photography survey using kite-mounted cameras and UAV's to place the site into its landscape context. |
| <b>Targeted Excavation</b> | Six trenches are proposed for the 2014 field season, focusing on the outer precinct area to the west of the Abbey complex, with a small number of interventions within the monastic precinct to reopen unpublished (and un-archived) trenches previously excavated in the 1980s, making this data publically available for the first time.                                                |

## Compliance Matrix

|                                             |                                                            |
|---------------------------------------------|------------------------------------------------------------|
| Project background and research priorities  | Detailed in Part 1 – this document                         |
| Methodology                                 | Detailed in Part 2 – this document                         |
| Relevant experience of project team         | Detailed in Appendix 1                                     |
| Organisational capability/quality assurance | Detailed in Part 2; See also IfA RO reference (ID No. 102) |

## Table of Contents

|           |                                                                                                                                              |           |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>1</b>  | <b>BACKGROUND</b>                                                                                                                            | <b>7</b>  |
| 1.1       | INTRODUCTION                                                                                                                                 | 7         |
| 1.2       | RESEARCH CONTEXT                                                                                                                             | 8         |
| 1.3       | 2013 FIELDWORK RESULTS SUMMARY                                                                                                               | 8         |
| 1.4       | 2014 FIELDWORK PROPOSALS                                                                                                                     | 9         |
| <b>2</b>  | <b>RESEARCH AIMS &amp; OBJECTIVES</b>                                                                                                        | <b>9</b>  |
| 2.1       | AIMS                                                                                                                                         | 9         |
| 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      | 9         |
| 2.3       | AIM 2 – CHARACTERISE THE RESULTS OF NON-INVASIVE SURVEY, REFINING THE CHRONOLOGY AND PHASING OF THE SITE WITH A PROGRAMME OF TRIAL TRENCHING | 10        |
| 2.4       | AIM 3 – UNDERSTAND THE PALAEOENVIRONMENTAL CONDITIONS AT THE SITE.                                                                           | 10        |
| 2.5       | AIM 4 – MAKING RECOMMENDATIONS, ANALYSIS AND PUBLICATION                                                                                     | 10        |
| <b>3</b>  | <b>BUSINESS CASE</b>                                                                                                                         | <b>11</b> |
| 3.1       | SHAPE SUB-PROGRAMME                                                                                                                          | 11        |
| 3.2       | RESEARCH FRAMEWORKS                                                                                                                          | 12        |
| <b>4</b>  | <b>PROJECT SCOPE</b>                                                                                                                         | <b>12</b> |
| <b>5</b>  | <b>INTERFACES</b>                                                                                                                            | <b>13</b> |
| <b>6</b>  | <b>COMMUNICATIONS</b>                                                                                                                        | <b>14</b> |
| 6.1       | PROJECT TEAM AND MANAGEMENT RESPONSIBILITIES                                                                                                 | 14        |
| 6.2       | COMMUNICATION AND ARCHIVE                                                                                                                    | 14        |
| 6.3       | PROJECT MANAGEMENT                                                                                                                           | 15        |
| 6.4       | OUTREACH – AND HLF SPONSORED ‘DIGITAL DIG TEAM: LEISTON ABBEY’                                                                               | 15        |
| 6.5       | DISSEMINATION                                                                                                                                | 16        |
| <b>7</b>  | <b>PROJECT REVIEW</b>                                                                                                                        | <b>17</b> |
| <b>8</b>  | <b>HEALTH AND SAFETY</b>                                                                                                                     | <b>18</b> |
| <b>9</b>  | <b>PROJECT TEAM STRUCTURE</b>                                                                                                                | <b>20</b> |
| 9.1       | TEAM STRUCTURE AND KEY RESPONSIBILITIES                                                                                                      | 20        |
| <b>10</b> | <b>METHODOLOGY</b>                                                                                                                           | <b>21</b> |
| 10.1      | INTRODUCTION                                                                                                                                 | 21        |

|             |                                                                 |           |
|-------------|-----------------------------------------------------------------|-----------|
| <b>10.2</b> | <b>STAGE 3 – ASSESSMENT REPORT &amp; UPDATED PROJECT DESIGN</b> | <b>21</b> |
| <b>10.3</b> | <b>STAGE 4 – ARCHAEOLOGICAL FIELDWORK – SECOND SEASON</b>       | <b>21</b> |
| <b>10.4</b> | <b>STAGE 5 – ASSESSMENT REPORT &amp; UPDATED PROJECT DESIGN</b> | <b>23</b> |
| <b>10.5</b> | <b>STAGE 6 – ANALYSIS AND PUBLICATION</b>                       | <b>23</b> |
| <b>11</b>   | <b>STAGES, PRODUCTS AND TASKS</b>                               | <b>23</b> |
| <b>11.1</b> | <b>METHODOLOGICAL LINKAGES</b>                                  | <b>23</b> |
| <b>11.2</b> | <b>TASK LIST BY PERSON DAYS AND TEAM MEMBER</b>                 | <b>25</b> |
| <b>12</b>   | <b>OWNERSHIP</b>                                                | <b>26</b> |
| <b>13</b>   | <b>RISK LOG</b>                                                 | <b>26</b> |
| <b>14</b>   | <b>BUDGET</b>                                                   | <b>27</b> |
| <b>15</b>   | <b>PROJECT GANNT CHART</b>                                      | <b>27</b> |
| <b>16</b>   | <b>BIBLIOGRAPHY</b>                                             | <b>27</b> |
| <b>17</b>   | <b>APPENDICIES</b>                                              | <b>30</b> |
|             | <b>APPENDIX 1 – CVs</b>                                         | <b>30</b> |
|             | <b>APPENDIX 2 – ARCHAEOLOGICAL AND HISTORICAL BACKGROUND</b>    | <b>31</b> |
|             | <i>THE SITE LOCATION</i>                                        | 31        |
|             | <i>LEISTON ABBEY AND THE PREMONSTRATENSIA</i>                   | 31        |
|             | <i>THE CLAUSTRAL COMPLEX AND INNER PRECINCT</i>                 | 32        |
|             | <i>THE OUTER COURT</i>                                          | 33        |
|             | <b>APPENDIX 3 – METHOD STATEMENTS</b>                           | <b>35</b> |
|             | <b>REMOTE SENSING</b>                                           | <b>36</b> |
|             | <i>TOPOGRAPHIC SURVEY AND GIS MODELLING</i>                     | 36        |
|             | <i>GEOPHYSICAL SURVEY</i>                                       | 36        |
|             | <b>3D MODELLING AND BUILDING CONDITION SURVEY</b>               | <b>37</b> |
|             | <i>PHOTOGRAMMETRY SURVEY</i>                                    | 37        |
|             | <i>AERIAL-CAM</i>                                               | 38        |
|             | <i>MAST-CAM</i>                                                 | 38        |
|             | <i>POLE-CAM</i>                                                 | 38        |
|             | <i>GROUND-LEVEL AND GIGAPAN</i>                                 | 38        |
|             | <b>ARCHAEOLOGICAL EXCAVATION</b>                                | <b>39</b> |
|             | <i>INTERVENTIONS</i>                                            | 39        |
|             | <i>PALAEOENVIRONMENTAL SAMPLING</i>                             | 40        |
|             | <i>ZOOARCHAEOLOGY</i>                                           | 40        |
|             | <i>HUMAN OSTEOARCHAEOLOGY</i>                                   | 41        |
|             | <i>FINDS</i>                                                    | 42        |
|             | <i>CONSERVATION</i>                                             | 42        |
|             | <i>SCIENTIFIC DATING</i>                                        | 43        |
|             | <b>SYNTHESIS AND DATA INTEGRATION</b>                           | <b>43</b> |
|             | <b>APPENDIX 4 – RISK LOG</b>                                    | <b>44</b> |
|             | <i>(TO BE UPDATED WEEKLY)</i>                                   | <b>44</b> |

**Figure 1** – A.W. Clapham's plan of the Abbey remains, indicating unpublished interventions undertaken by Valerie Fenwick in 1984

**Figure 2** – Proposed trench plan and remote sensing areas

Table 1 – Interfaces

Table 2 – Project Review Stages

Table 3 – Project Team Structure

Table 4 – Project stages, products and tasks

Table 5 – Project Task List

Table 6 – Budget by Stage and Financial Year

Table 7 – Linking methods with objectives

Table 8 – Geophysical survey techniques and equipment

## Leiston Abbey

### Community-based Archaeological Investigation

Project No: LA14/LCS 177

#### PART I: DESCRIPTION OF THE PROJECT

##### *Summary Description*

*Recent community-based archaeological investigations at Leiston Abbey have highlighted the benefit of undertaking a multidisciplinary approach to the upstanding and subsurface remains, with a programme of remote sensing and 3D photogrammetry survey followed by targeted trial trench evaluation. The results of this work have been assessed, with recommendations for further archaeological fieldwork. This document formulates those recommendations into a series of aims and objectives, detailing the strategies and resources necessary for completion. The proposed work will continue to map and characterise subsurface features associated with the outer precinct, complete the on-going 3D photogrammetry survey of the remaining buildings in the claustral precinct, and reinvestigate unpublished trenches previously excavated in the 1980s. Recommendations for analysis and publication of the 2013 and 2014 archive are presented with a timetable for delivery.*

## **1 BACKGROUND**

### **1.1 Introduction**

- 1.1.1 This is a research project to investigate the Premonstratensian Abbey and associated archaeology at Leiston (Second Site), and to collate and assess existing material from earlier excavations. Its overarching aim is to characterise the poorly understood archaeology associated with the monastic outer precinct, obtain potential evidence for an earlier phase of activity predating the Abbey construction, and produce a metrically accurate 3D model of the upstanding monastic building complex. The principle driver for this research project is to provide baseline information to contribute to the future management and presentation of the monument (see Section 3, Business Case, below).
- 1.1.2 The first Execution Stage of the project took place between 28<sup>th</sup> June and the 14<sup>th</sup> July 2013. The principle project driver was to provide baseline information contributing to the future management and presentation of the monument (see Section 3, Business Case, below). The results of this work have been assessed with recommendations for further fieldwork, following up on profitable research leads generated during the 2013-field season (Wilkins *et al* 2014).
- 1.1.3 This Updated Project Design is therefore submitted in support of Scheduled Monument Consent for a second Execution Stage of the Leiston Abbey community-based archaeological investigation, scheduled to take place between 7<sup>th</sup> and 20<sup>th</sup> July 2014. Section 1 will outline key research questions,

detailing the research context and scope. Section 2 will define the roles, procedures, stages outputs and budget for the project.

## **1.2 Research Context**

- 1.2.1 Leiston Abbey is considered to include some of the finest surviving monastic remains in Suffolk and is one of the most completely preserved examples of a Premonstratensian monastery in England. The standing and buried remains retain archaeological information concerning the physical and social organisation of the abbey and its development, up to and including its dissolution and adaptation as a farmstead, complementing the historically documented record. This overall research value is increased by proximity to the original abbey site in Minsmere. Preservation of the site of original founding (now an RSPB reserve) could allow for the direct comparison of two chronologically and topographically distinct sequences in its history. The evidence for earlier occupation of the site (potentially indicative of manorial status) offers the prospect of a direct comparison between the economic regimes centred on the moated site, the abbey and the Post-Dissolution farmstead.
- 1.2.2 The Site is currently utilised as a year-round residential music school and visitor attraction, with surrounding fields subject to a mixed farming regime under crop and pasture, with concomitant impacts (ploughing, infrequent cutting of drainage ditches and planting of hedgerows). Precise visitor numbers have not been quantified, but impact from this activity is considered to be relatively low (a full visitor evaluation study was undertaken in 2013 and will continue in 2014 in collaboration with University College Suffolk: see Westcott Wilkins 2014).
- 1.2.3 Leiston Abbey lies within the immediate vicinity of major 10-year infrastructural redevelopment of Sizewell nuclear power station, including residential housing estates, transport links and the decommissioning and construction of a new power station. This development is currently in master planning, and although impacts have not yet been determined, it is likely that Leiston Abbey will be significantly affected. The results of this archaeological investigation will provide a baseline assessment to assist with the future management of the site, enabling the current Site custodians to quantify the archaeological and cultural value of the Leiston Abbey heritage asset.

## **1.3 2013 Fieldwork Results Summary**

- 1.3.1 The 2013 survey and evaluation field season concentrated on the unscheduled area to the north west of the claustral complex. The project was designed to characterise undefined earthworks and settlement evidence in three different areas of the Site, with a programme of remote sensing including Ground Penetrating Radar (GPR), Magnetometry and Resistance Survey. The results of this work were used to target seven small-scale excavation trenches aiming to identify settlement evidence indicated by geophysical anomalies or extant earthworks. Additional work included a photogrammetry survey to produce a metrically accurate 3D digital elevation model of the Abbey Church and a low-level aerial photography

survey using kite mounted cameras and UAV's to assess structural evidence for absent buildings associated with the eastern range.

- 1.3.2 Four trenches were excavated across earthworks and channels in the unscheduled area to the northwest of the Abbey (Trenches 1, 2, 3 and 6). These earthworks were contemporary with the monastic remains, and had been designed to channel floodwater away from higher ground above the claustral precinct, which may then have been harnessed for industrial purposes downslope. These channels had truncated a small number of later prehistoric features, represented by two parallel ditches and two postholes. GPR and Resistance survey also proved successful to the south of the Abbey complex where anomalies typical of wall lines were detected.
- 1.3.3 Trench 7 confirmed that these high responses were the result of demolition spread of a substantial building, though insufficient evidence was recovered to determine the buildings original function. Trench 5 was excavated in an area currently used as a visitor car park, confirming the presence of a post-dissolution agricultural building and associated yard area identified by both the GPR and Resistance survey. A further trench (Trench 4) was excavated across an extant ditch to the rear of the Guesten Hall – previously interpreted as the potential remnant of an earlier phase of moated settlement predating the Abbey construction. Although it's size, scale and composition was certainly in keeping with this interpretation, logistical constraints of the adjacent building meant that the feature could not be excavated to its full depth.

## **1.4 2014 Fieldwork Proposals**

- 1.4.1 The goal of the 2014 fieldwork season will be to continue remote sensing work and small scale excavation trenches into areas of the site that were unavailable in 2013, following-up on profitable research leads generated during the 2013 field season. It will focus on the outer precinct area (with three 4 x 20 metre trenches), in addition to three small hand dug trenches in the Abbey complex to reopen unpublished (and un-archived) trenches previously excavated in the 1980s, making this data publically available for the first time.

## **2 RESEARCH AIMS & OBJECTIVES**

### **2.1 Aims**

- 2.1.1 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 of the Project Design below.

### **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**

- 2.2.1 This will entail a combination of non-intrusive geophysical survey (resistivity and Ground Penetrating Radar) in combination with a GIS analysis of historic

mapping, lidar survey, 3D photogrammetry building condition survey and documentary research to determine likely features for targeted trenching.

- Q1. Can the layout of the precinct and associated sub-surface archaeology be established by remote survey?
- Q2. What are the earthworks to the northwest of the scheduled area, and are they associated with the main claustral complex?
- Q3. What is the condition of the upstanding building remains?
- Q4. Can we identify the location of the original Abbey inner gatehouse, or can we establish the position of other 'lost' structures such as the infirmary?
- Q5. Is it possible to trace the abbey's water supply and management system in detail?

## **2.3 Aim 2 – Characterise the results of non-invasive survey, refining the chronology and phasing of the site with a programme of trial trenching**

2.3.1 This aim will be addressed with a programme of targeted test pits and evaluation trenches designed to 'ground-truth' the results of remote sensing and metric survey, or re-record previously unpublished trenches. The purpose will be to identify and investigating any archaeological features encountered, and obtaining appropriate samples for archaeological, artifactual and palaeoenvironmental assessment.

- Q6: Is it possible to corroborate the location of the inner gatehouse, precinct wall or infirmary, as defined in Aim 1?
- Q7: Is there any evidence for earlier settlement at Leiston prior to the construction of the Abbey church?
- Q8: How were the earthworks to the northwest of the scheduled area used, and what functions and activities took place in this part of the site?
- Q9: What can we say about their scale and nature?
- Q10: Is there any evidence for the 1380 fire, or material culture markers linking the two Leiston Abbey sites?

## **2.4 Aim 3 – Understand the palaeoenvironmental conditions at the Site.**

2.4.1 This will be undertaken with an assessment of samples as defined in Aim 2 using appropriate palaeoenvironmental and archaeological techniques to establish preservation and significance.

- Q11: What is the current state of the archaeological and palaeoenvironmental material across the site?
- Q12: Can the palaeoenvironmental data recovered from sampling in the trenches inform us about farming, food processing or industrial activities?
- Q13: Can we increase our understanding of the local environment in the medieval period?

## **2.5 Aim 4 – Making recommendations, analysis and publication**

2.5.1 This will require all data from Aims 1-3 to be collated and assessed alongside the 2013 archive, in light of any further information recovered from the

unpublished trenches excavated in the 1980s. This material will then be analysed and published, with management recommendations to conserve and enhance the heritage significance of the site.

- Q14: What can an integrated synthesis of the results of this work with previous interventions (such as the 1980s trenches) tell us about the site and its setting?
- Q15: How well do deposits survive, and how deeply are they buried?
- Q16: Can we assess the state to which the archaeological and palaeoenvironmental resource at Leiston Abbey is being successfully preserved *in situ*?
- Q17: Formulate recommendations for further archaeological and palaeoenvironmental analysis at Leiston Abbey based on Aims 1-3, and implement a programme to publish and disseminate the results.

### **3 BUSINESS CASE**

#### **3.1 SHAPE Sub-Programme**

- 3.1.1 The project has been designed in accordance with English Heritage priorities as articulated in NHPP (National Heritage Protection Plan), which sets out how English Heritage, with help from partners in the sector, will prioritise and deliver heritage protection for the four years 2011-2015. In addition to NHPP 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 English Heritage, 2008).
- 3.1.2 In line with English Heritage working practice and the fundamental principles of SHAPE (Strategic framework for the Historic environment Activities and Programmes in English Heritage, 2008) 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 English Heritage and sector priorities, delivering significant value added benefit.
- 3.1.3 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.
- 3.1.4 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.

3.1.5 As a consequence of the innovative digital and cross-platform approach, in addition to the unique way that the Leiston Abbey project is community funded and staffed, 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 life.
- 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.

### **3.2 Research Frameworks**

3.2.1 There is no overarching national research agenda or framework specific to Ecclesiastical or Monastic sites. As such archaeological work at Leiston Abbey will be undertaken with regard to regional priorities in *The East Anglian Research Frameworks* (Glazebrook 1997; Brown and Glazebrook 2000; and Medlycott 2011) in particular the Anglo Saxon and Medieval Rural sections by Wade (1997; and 2000). This framework does not have a specific Ecclesiastical or Monastic agenda or theme, and this may be expanded as part of the on-going review of the *East Anglian Research Frameworks*.

## **4 PROJECT SCOPE**

4.1.1 This Project Design covers the second Execution Stage, designed to ensure that appropriate management information is available to decision makers and that this is communicated as effectively as possible to the wider community (SHAPE sub-programme number 11111.130: development of a sound evidence base for specific locales and historic assets).

4.1.2 The purpose of this work will be to continue remote sensing work and small scale excavation trenches into areas of the site that were unavailable in 2013, following-up on profitable research leads generated during the 2013 field season. This season's work will therefore focus on the outer precinct area, with a small number of interventions in the Abbey complex to reopen *unpublished (and un-archived) trenches previously excavated in the 1980s*, making this data publically available for the first time.

4.1.3 This will specifically comprise:

- Remote Sensing: including Lidar, Ground Penetrating Radar (GPR), Magnetometry, Resistivity and Topographic Survey.

- Building Recording: including a full photogrammetry survey of the upstanding remains to create a 3D Digital Elevation Model.
- Excavation: including trench evaluation outside the EH Guardianship area, and re-opening unpublished trenches previously excavated in the 1980s.

## 5 INTERFACES

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

| Interfaces                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Remote sensing Team</i>     | Remote sensing will be undertaken by GSB Prospection, who have completed numerous non-invasive surveys using resistance meters, magnetic gradiometers, and ground penetrating radar on monastic sites including Westminster Abbey, Dunwich Priory, Earls Colne Priory, Salisbury Cathedral, and Glastonbury Abbey. GSB Prospection are research active, and will ensure that the project interfaces with other project teams undertaking innovative fieldwork on Monastic sites.                                               |
| <i>Academic Advisory Board</i> | 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 Dr Andrew Reynolds, Professor of Medieval Archaeology, UCL (Buckfastleigh Project, the Howmore Survey, and the Wansdyke Survey) and Dr David Petts, Lecturer in Archaeology, Durham University (Lindisfarne, and Sockburn). |
| <i>Core Project Team</i>       | The core project team and specialist staff have consulted widely during the project planning and first execution stage, 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.                                                                                                                                                                                      |
| <i>Heritage at Risk</i>        | The crowdsourcing aspects of this project also interface with recent English Heritage initiatives such as the 'National Heritage at Risk Grade II' scoping project. Though not directly involved with the project team, Director of Pro Corda Trust (and principal of HAR East of England) Jon Ette will be on site regularly to explore how similar EH initiatives to involve the public in in citizen science can work in practice.                                                                                          |
| <i>Local Stakeholders</i>      | The project interfaces with active development-led projects currently being undertaken in the immediate vicinity, and                                                                                                                                                                                                                                                                                                                                                                                                          |

| Interfaces | Description                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | the project team will consult with Jess Tipper (Suffolk County Council); and Dr Rhodri Gardner (Archaeological Service - Suffolk County Council) to ensure that all project outputs remain relevant and opportune. Local Archaeology Societies (such as the Suffolk Institute of Archaeology and History and the Waveney Archaeology Group) have been invited to participate, ensuring the project interfaces with all local initiatives. |

**Table 1 - Interfaces**

## 6 COMMUNICATIONS

### 6.1 Project Team and Management Responsibilities

- 6.1.1 The Project is crowdfunded, so there are in effect several hundred Project Sponsors. Project Assurance will therefore be allocated to the Project Executive (Lisa Westcott Wilkins, DigVentures, and Andrew Quartermain, Pro Corda) who will monitor compliance against the deliverables detailed in this document.
- 6.1.2 The project team have all worked closely together before (at Flag Fen 2012, and Leiston Abbey 2013). Brendon Wilkins (Project Director) will undertake day-to-day Project Management supported by Kerry Ely and Raksha Dave (Project Support). There will be six core DigVentures archaeological staff on site throughout the fieldwork, and all will be retained throughout the post-excavation phase of the project. All core staff are employed in line with IfA guidelines, and are practicing field archaeologists of good standing at IfA level or above. 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 team hope to continue their existing association with Leiston Abbey, and make a long-term commitment to continuing research.

### 6.2 Communication and Archive

- 6.2.1 The Project Director will produce Monthly Status Reports for the Project Executive and Project Team throughout this Execution Stage up to the review of the Assessment Report/UPD (Review Point 4). This will present an overview of progress, list tasks completed or part completed, including any on going work and issues affecting progress.
- 6.2.2 All communication between DigVentures and English Heritage will be directed through DigVentures' Project Manager (Brendon Wilkins) who will also serve as the main point of contact for any broader issues. The principal structure for routine communication with English Heritage (including Highlight Reports) will be the project review mechanisms described in the following section. Communication with stakeholders and other interested parties (as set out in Section 5 above) will be directed through the Project Manager in the first instance.

6.2.3 The Project Manager will be responsible for ensuring that the project runs to schedule, keeping track of key resources (notably staff time) on the basis of weekly Work Records. The Project Team will have a project meeting at each milestone described on the Gantt chart to ensure that all major tasks are briefed / debriefed as necessary. Provision will be made for the project in 'Basecamp', which is a web-based project communication package used by DigVentures, enabling project participants to generate and record notes, tasks, milestones and other project-related communication.

6.2.4 The project archive will be prepared in accordance with DigVentures guidelines for Archive Preparation, following Appendix 1, P1 of MoRPHE PPN 3 (English Heritage 2011), 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 Peterborough City Council, Cambridgeshire County Council Historic Environment Record, Archaeological Data Service, OASIS portal and Scribd website. Copyright on all reports submitted will reside with English Heritage, 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 English Heritage.

### **6.3 Project Management**

6.3.1 DigVentures operates a computer-assisted project management system. Projects are undertaken under the direction of the Project 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 Project Director/Managing Director checks all reports and other documents before being issued. A series of guideline documents or manuals form the basis for all work.

6.3.2 The Project Manager is a full member and elected councillor of the Institute for Archaeologists (IfA), and full member of the Institute of Archaeologists of Ireland (MIAI). DigVentures is an IfA 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.

### **6.4 Outreach – and HLF sponsored 'Digital Dig Team: Leiston Abbey'**

6.4.1 The community-based and outreach aspects will broadly come under a Heritage Lottery Funded project running alongside the archaeological research project. The 'Digital Dig Team: Leiston Abbey' project, is an HLF supported digital archiving, education and outreach initiative, aiming to develop a dedicated digital recording system for community archaeology, and Leiston Abbey microsite. The requirements of this are covered by a separate digital design brief and community activity plan (Wilkins 2014) viewable on request.

6.4.2 This will include a dedicated educational programme of schools visits, traveling exhibition and events programme designed to with the ultimate aim to increase local awareness of the Abbey site and amplify this with a

coordinated social media strategy. This will be measured with an audience evaluation of all site visitors to establish baseline data and assist with future management strategies and promotion.

- 6.4.3 Relationships have been built with local organisations including University Campus Suffolk and the Long Shop Museum in Leiston. The Long Shop Museum has agreed to host a temporary exhibition following the dig. UCS has highlighted the project in a recent review of regional heritage tourism potential and UCS students will be brought in following the dig to work on the temporary exhibition and interpretation panels. Ian Baxter, Head of the Division of Tourism, Heritage, Events and Hospitality at UCS is a DVIP speaker and has advised on the public evaluation.
- 6.4.4 DigVentures and Pro Corda are collaborating on two Family Weekends (on the 12<sup>th</sup> and 13<sup>th</sup> and 19<sup>th</sup> and 20<sup>th</sup> of July. 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 as a lunchtime chat with the archaeological team. This has been widely advertised locally on radio, newspapers and the parish council newsletter, and flyers have been distributed through the existing Pro Corda networks as well as in pubs, shops, businesses and venues. Signposts will also be erected on all roads leading to the Site to encourage passing traffic to visit. The End of Site party (19<sup>th</sup> July) is also open to the public and will feature a presentation of the initial results as well as a barbeque, medieval cookery demonstration and evening drinks for all attendees.
- 6.4.5 As a crowdfunded and crowdsourced archaeological project, every aspect of the project is cognisant of a wider outreach agenda. Engagement will be both on and offline, with a digital platform (called 'The Site Hut') 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. Public Archaeologists working in conjunction with the project team (and under the direction of Ian Baxter and David Gill, University College Suffolk) will critically assess the breadth, depth and diversity of engagement, with a quantitative and qualitative study. This will be undertaken with a visitor survey conducted throughout the field season, targeting both excavation participants and casual visitors.
- 6.4.6 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 nightly lectures open to the public where the days findings will be discussed, followed by presentations by David Petts, Brian Kerr, Duncan Brown, John Ette, Will Fletcher, Adam Stanford, Ian Baxter, and Bob Bewley, 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.
- 6.5 Dissemination**
- 6.5.1 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 2014, 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.
- Daily broadcast quality video feature released on YouTube throughout excavation stage.
- Feature articles in *Current Archaeology* (scheduled for September) and *Past Horizons* (scheduled for August).
- Conference presentation (European Association of Archaeology 2014 in Istanbul).
- Wide circulation of Assessment and Final Report, Updated Project Design and links to the OASIS record.
- Site publication in an appropriate local/national journal commensurate with the final results.
- Deposition of the Assessment Report with the Suffolk Historic Environment Record, and summary article in the *Proceedings of the Suffolk Institute of Archaeology and History*
- Public Seminar and Exhibition hosted at Leiston Abbey presenting the final results (Autumn 2014).

## 7 PROJECT REVIEW

7.1.1 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 Proposal (submitted for competitive tender) | RV1 – Assemble Project Team and liaise with English Heritage                          | Completed – March 2013 |
| Stage 1    | Project Start-up, finalising Project Design and definition of scope  | RV2 – Sign-off on MoRPHE Project Design, and liaison with stakeholders and landowners | Completed – June 2013  |

| Stage   | Description                                | Review Point                                                                         | Completion Date         |
|---------|--------------------------------------------|--------------------------------------------------------------------------------------|-------------------------|
| Stage 2 | Archaeological Fieldwork – First Season    | RV3 – assemble site archive and distribute pertinent data to specialists             | Completed – August 2013 |
| Stage 3 | Assessment Report & Updated Project Design | RV4 – critically review findings, making recommendations for further work or closure | Completed – May 2014    |
| Stage 4 | Archaeological Fieldwork – Second Season   | RV5 – assemble site archive and distribute pertinent data to specialists             | July 2014               |
| Stage 5 | Assessment Report & Updated Project Design | RV6 – recommendations for further work, analysis and publication                     | August 2014             |
| Stage 6 | Analysis and Publication                   | RV7 – final publication sign-off, and prepare archive for accession                  | October 2014            |
| Closure |                                            |                                                                                      | November 2014           |

**Table 2 – Project Review Stages**

7.1.2 It is anticipated that each of the Review Points will be conducted internally, with input from English Heritage on the basis of deliverables (draft reports etc.) submitted by DigVentures. The Project Executive will undertake continuous review of the project through receipt of internal Highlight Reports and by Monitoring Meetings. A schedule of Monitoring Meetings (if necessary) will be agreed with the EH Inspector on commencement of the project.

## 8 HEALTH AND SAFETY

8.1.1 DigVentures shall undertake the works in accordance with English Heritage's and Pro Corda's Health and Safety requirements and Health and Safety Plan. This document should take account of any design information pertaining to above ground hazards such as buildings and structures and below ground hazards such as services, utilities and infrastructure. Risk Assessments should also consider below ground contaminants such as unexploded ordnance, due to the adjacent WW2 airfield.

- 8.1.2 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).

## Leiston Abbey

### Community-based Archaeological Investigation

Project No: LA14/LCS 177

## PART 2: RESOURCES AND PROGRAMMING

### 9 PROJECT TEAM STRUCTURE

#### 9.1 Team Structure and Key Responsibilities

9.1.1 DigVentures' Project Team will be as follows. A summary CV, setting out the skills and expertise of each team member is set out in Appendix 1, with CVs for the wider specialist team available on request. Expert ecofactual and artifactual support will be provided by a range of partner organisations as needed, including MOLA, York Archaeological Trust and Suffolk County Council (Field and Post-excavation Team).

| Name                        | Initials (see resources and programming) | Project Role                                   | Key Responsibility                                                                                                      |
|-----------------------------|------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Lisa Westcott Wilkins       | LWW                                      | Project Executive                              | Overall project responsibility, and project assurance                                                                   |
| Andrew Quartermain          | AQ                                       | Project Executive                              | Overall project responsibility, and project assurance                                                                   |
| Brendon Wilkins DigVentures | BW                                       | Project Manager – Archaeological Site Director | Budget responsibility, archaeological direction (on and off-site), liaison with project team, partners and Stakeholders |
| Kerry Ely                   | KE                                       | Site Supervisor                                | On-site field-work, and post-excavation assessment                                                                      |
| Raksha Dave                 | RD                                       | Site Supervisor and Field School Manager       | On-site field-work, responsible for field school, and assessment                                                        |
| Emma Wood                   | EW                                       | Expert – Geophysics                            | Site survey and geophysics                                                                                              |
| Jimmy Adcock                | JA                                       | Expert – Geophysics                            | Site survey and geophysics                                                                                              |
| Adam Stanford               | AS                                       | Expert – Photogrammetry                        | 3D Modelling and Photogrammetry                                                                                         |

**Table 3** – Project Team Structure

## **10 METHODOLOGY**

### **10.1 Introduction**

- 10.1.1 The methods reflect the project Stages set out in Section 7 above. A task list, with allocation of staff time and team member is set out in Section 11 below, along with a GANTT chart in Section 15, setting out a provisional programme. Detailed method statements relating the specific techniques or approaches detailed below to their constituent research questions can be found in Appendix 3 at the end of this document.

### **10.2 Stage 3 – Assessment Report & Updated Project Design**

- 10.2.1 Stage 3 (completed May 2014) culminated in Review Point 3, with the results of the 2013 fieldwork circulated for peer review and consultation with the wider specialist team. An Updated Project Design (this document) has been prepared and submitted to English Heritage for consultation and comment (Review Point 4).

### **10.3 Stage 4 – Archaeological Fieldwork – Second Season**

- 10.3.1 Stage 4 (scheduled for July 2014) will comprise the second fieldwork stage required to meet Aims 1 and 2, and will entail a combination of non-intrusive geophysical survey (resistivity and Ground Penetrating Radar), 3D photogrammetry survey and targeted trenching. It will aim to answer the following research questions which helped to guide fieldwork during the first three stages of the project:

- Q1. Can the layout of the precinct and associated sub-surface archaeology be established by remote survey?
- Q2. What are the earthworks to the northwest of the scheduled area, and are they associated with the main claustral complex?
- Q3. What is the condition of the upstanding building remains?
- Q4. Can we identify the location of the original Abbey outer gatehouse, or can we establish the position of other 'lost' structures such as the infirmary?
- Q5. Is it possible to trace the abbey's water supply and management system in detail?
- Q6: Is it possible to corroborate the location of the inner gatehouse, precinct wall or infirmary, as defined in Aim 1?
- Q7: Is there any evidence for earlier settlement at Leiston prior to the construction of the Abbey church?
- Q8: How were the earthworks to the northwest of the scheduled area used, and what functions and activities took place in this part of the site?
- Q9: What can we say about their scale and nature?
- Q10: Is there any evidence for the 1380 fire, or material culture markers linking the two Leiston Abbey sites?

- 10.3.2 Stage 4 fieldwork will target areas of the site that remain 'unknown', continuing into areas of the site that were unavailable in 2013 (due to time constraints or crop cover). This includes the fields immediately east and west of the Abbey complex, containing poorly understood earthworks and

cropmarks. Sub-surface survey will be supported by a photogrammetry survey of the built remains, completing the 2013 survey of the Abbey Church with a full metrically accurate 3D digital elevation model of the remaining cloister structure. This will be supported with a low-level aerial photography survey using kite-mounted cameras and UAV's to place the site into its landscape context (See Appendix 3 of this document for detailed method statements).

- 10.3.3 Six trenches are proposed for the 2014 field season, focusing on the outer precinct area to the west of the Abbey complex, with a small number of interventions within the monastic precinct to reopen unpublished (and un-archived) trenches previously excavated in the 1980s, making this data publically available for the first time. These trenches specifically relate to interventions made by Valerie Fenwick in 1984 with the aim of improving the display and interpretation of the monument to visitor in advance of reconsolidation works (see Wilkins *et al* 2014, Section 2.3.4). Aside from a short summary note published in *Medieval Archaeology* XXIX (1985, 200) this work remains unpublished and unfortunately the primary archive and associated finds can no longer be located.
- 10.3.4 As part of the preparations for additional fieldwork in July 2014, the project team met with Valerie Fenwick on site at Leiston to help locate her original 1984 trenches (See Figure 1, marked on to Clapham's plan of the Abbey remains). Four areas were targeted in her 1984 excavations, including the reredorter (to establish the route of the drain), the inner gatehouse (to establish the outline of the south tower), the undercroft (the entrance and floor level) and the cloister (the base of the day stair and inner wall). Two of these interventions (the cloister and gate house) were in advance of reconsolidation, and now have concrete marking the course of robbed out wall footings. Two of the interventions (the reredorter and undercroft) are easily accessible, and away from direct visitor footfall. These areas would benefit from further investigation, re-opening and re-recording the original trenches, and this could be undertaken with a limited site disturbance.
- 10.3.5 Trench 8 (Figure 2) is proposed as a 6 x 4 metre hand dug trench to expose and record the original reredorter intervention (Plate 1.1 & 1.2). Fenwick's work in this area was to help annotate a survey of the fabric of the building by the 'York University Institute of Advanced Architectural Studies Photogrammetric Unit', finding evidence for the building plan, and identifying issues with water supply leading to secondary modifications of the drain and the requirement for water storage. A rich assemblage of pots were found in this second phase of drain, in addition to a gilt-plaster bearded head and faecal matter. Trench 8 will aim to expose the original intervention, recording the two separate phases of drain in plan and section, and recovering dating evidence to help contextualise the buildings use and modification.
- 10.3.6 Trench 9, measuring 4 x 4 metres, will be positioned to the immediate south of this, aiming identifying the course of the drain as it travels down slope. This is a raised area in the south-east corner of the site, and presumed to be the location of spoil heaps for the original 'wall chasing' excavations that led to site clearance in the 1920s. This trench will establish if these are indeed spoil

heaps, and through hand sieving of all deposits, help recover any artefacts that may have been missed.

- 10.3.7 Trench 10, a small 2 x 4 metre hand dug trench is proposed for inside the undercroft (near the entrance). Other than a note that food residues were recovered here, little further is recorded or remembered about the work in this area. This trench will aim to redress this, recovering dating evidence and clarifying the position and direction of a drain culvert in this area (Plate 1.4). The remaining three trenches (11, 12 and 13) are all located to the west of the Abbey complex. Due to logistical and time constraints, these fields were unavailable during the 2013 field season, and further investigation will help to characterise the archaeology associated with the outer court. The proposed trenches will measure 4 x 20 metres, and will be targeted across a potential water channel (Trench 13) and two poorly understood earthworks (Trenches 11 and 12). This stage will culminate in Review Point 5, distributing all relevant finds and data to the wider specialist team.

#### **10.4 Stage 5 – Assessment Report & Updated Project Design**

- 10.4.1 This Stage will address Aim 3, culminating in Review Point 6, and focusing on answering the following research questions:
- Q11: What is the current state of the archaeological and palaeoenvironmental material across the site?
  - Q12: Can the palaeoenvironmental data recovered from sampling in the trenches inform us about farming, food processing or industrial activities?
  - Q13: Can we increase our understanding of the local environment in the medieval period?

#### **10.5 Stage 6 – Analysis and Publication**

- 10.5.1 Addressing Aim 4, this is the main reporting and recommendation Stage of the project, culminating in Review Point 7 and focussing on the following research questions:
- Q14: What can an integrated synthesis of the results of this work with previous interventions tell us about the site and it's setting?
  - Q15: How well do deposits survive, and how deeply are they buried?
  - Q16: Assess the state to which the archaeological and palaeoenvironmental resource at Leiston Abbey is being successfully preserved *in situ*.
  - Q17: Formulate recommendations for further archaeological and palaeoenvironmental study at Leiston Abbey based on Aims 1-3.

### **11 STAGES, PRODUCTS AND TASKS**

#### **11.1 Methodological Linkages**

- 11.1.1 Following an assessment of the scope of works (as detailed in section 7 of the project Brief), it is anticipated that the project 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. For transparency, task numbers are linked directly to the project GANNT chart (for full sequence including milestones see chart in Section 15) and this is linked to the Project Budget in Section 14 below).

| Stage          | Description                                | Project Aims/Questions             | Products                                                                                                                                                                      | Task & ID Number                                                                                                                                                                                    |
|----------------|--------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Stage 3</b> | Assessment Report & Updated Project Design | Aim 1-3<br>Q1-13                   | 1. Assessment Report<br>2. Finalised UPD & Risk Log<br>3. Educational Plan & Information Pack<br>4. Digital Communication Plan<br>5. Risk Assessment & Health and Safety Plan | 3. Consult with wider project team and stakeholders to define milestones and delivery timetable.<br>4. Core Archaeology Team Meeting.<br>5. Design project database.<br>6. RV4 – Sign Off on MoRPHE |
| <b>Stage 4</b> | Archaeological Fieldwork – Second Season   | Aim 1<br>Q1-3<br><br>Aim 2<br>Q4-5 | 6. Field Archive<br>7. Geophysical Archive<br>8. 3D Survey Archive                                                                                                            | 8. Site Preparation<br>9. Fieldwork (remote sensing & Excavation)<br>10. RV5 – assemble site archive & distribute to specialists                                                                    |
| <b>Stage 5</b> | Assessment Report & Updated Project Design | Aim 3<br>Q6-7                      | 9. Stratigraphic & Assessment Report                                                                                                                                          | 13. Specialist finds and palaeoenvironmental assessments<br>14. Integrated assessment report<br>15. RV6 – recommendations for further work                                                          |
| <b>Stage 6</b> | Analysis and Publication                   | Aim 4<br>Q8-10                     | 10. Final report                                                                                                                                                              | 18. Specialist analysis                                                                                                                                                                             |

| Stage | Description | Project Aims/Questions | Products                                                 | Task & ID Number                                                                                                               |
|-------|-------------|------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
|       |             |                        | 11. Publication<br>12. Completed and accessioned archive | 19. Finalise report and publication<br>20. Prepare data and archive for deposition.<br>21. RV7 – final sign-off<br>22. Closure |

**Table 4 (continued)** – Project stages, products and tasks

## 11.2 Task List by Person days and Team Member

11.2.1 DigVentures projects are managed according to the English Heritage MoRPHE project model (Management of Archaeological Research Projects in the Historic Environment) based on a PRINCE2 framework. This is further detailed in the project GANNT chart (Section 15), including project milestones, and linked by Stage with the project budget (Section 14).

| Task ID Number            | Aims  | Task Description                                                                             | Performed by:                   | Person days | Start (no later than)                        |
|---------------------------|-------|----------------------------------------------------------------------------------------------|---------------------------------|-------------|----------------------------------------------|
| <b>Stage 3: UPD</b>       |       |                                                                                              |                                 |             |                                              |
| 3                         | 1     | Consult with wider project team and stakeholders to define milestones and delivery timetable | BW, LWW                         | 1           | 1 <sup>st</sup> May 2014                     |
| 4                         | 1     | Core Team Meeting                                                                            | BW, LWW, RD, EG, KE, JA, EW, AS | 0.25        | 18 <sup>th</sup> June 2014                   |
| 5                         | 1     | Design project database                                                                      | BW, EG, RD                      | 0.5         | 30 <sup>th</sup> April 2014                  |
| 6                         | 1     | RV4 – Sign Off on MoRPHE                                                                     | Project Team & EH               | 0.25        | 23 <sup>rd</sup> June 2014                   |
| <b>Stage 4: Fieldwork</b> |       |                                                                                              |                                 |             |                                              |
| 8                         | 1 & 2 | Site Preparation                                                                             | BW, LWW, RD, KE                 | 2           | 1 <sup>st</sup> July 2014                    |
| 9                         | 1 & 2 | Fieldwork (remote sensing & Excavation)                                                      | BW, LWW, RD, EG, KE, JA, EW, AS | 12          | 7 <sup>th</sup> – 20 <sup>th</sup> July 2014 |

| Task ID Number                               | Aims  | Task Description                                        | Performed by:          | Person days | Start (no later than)           |
|----------------------------------------------|-------|---------------------------------------------------------|------------------------|-------------|---------------------------------|
| 10                                           | 1 & 2 | RV5 – assemble site archive & distribute to specialists | Project Team           | 5           | 21 <sup>st</sup> July 2014      |
| <b>Stage 5:<br/>Assessment</b>               |       |                                                         |                        |             |                                 |
| 13                                           | 3     | Specialist finds and palaeoenvironmental assessments    | Expert Team            | 10          | 4 <sup>th</sup> August 2014     |
| 14                                           | 3     | Integrated Report                                       | BW, LWW & Project Team | 5           | 1 <sup>st</sup> September 2014  |
| 15                                           | 3     | RV6 – recommendations for further work                  | Project Team & EH      | 1           | 15 <sup>th</sup> September 2014 |
| <b>Stage 6:<br/>Analysis and Publication</b> |       |                                                         |                        |             |                                 |
| 18                                           | 4     | Specialist Analysis                                     | BW, LWW & Project Team | 7           | 16 <sup>th</sup> September 2014 |
| 19                                           | 4     | Finalise report and publication                         | BW, AG, CB, TG, IP     | 7           | 13 <sup>th</sup> October 2014   |
| 20                                           | 4     | Prepare data and archive for deposition.                | TG                     | 2           | 27 <sup>th</sup> October 2014   |
| 21                                           | 4     | RV7 – final sign-off                                    | Project Team & EH      | 1           | 31 <sup>st</sup> October 2014   |
| 22                                           | 4     | Closure                                                 | Project Team & EH      | 1           |                                 |

**Table 5 (continued) – Project Task List**

## 12 OWNERSHIP

12.1.1 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 English Heritage. The original copyright holder will retain copyright in pre-existing data. Any publications resulting from the project will be subject to agreement with EH and will bear an acknowledgement of the support of English Heritage.

## 13 RISK LOG

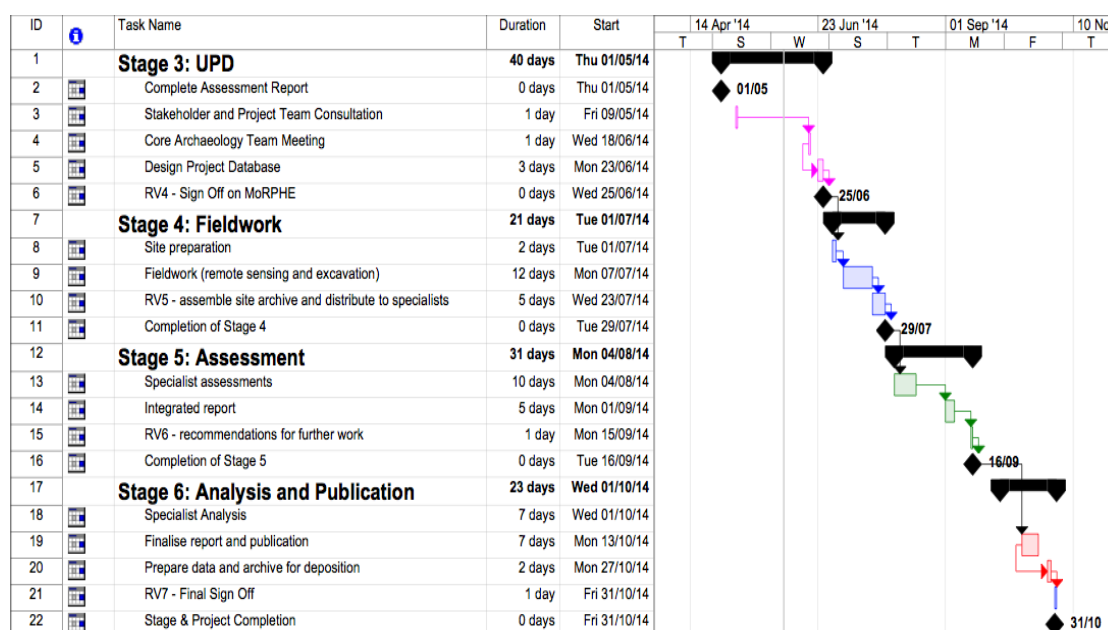
13.1.1 A Risk Log is appended as Appendix 4 to this document.

## 14 BUDGET

- 14.1.1 The estimated overall budget for the project is set out in the table below, and will be delivered entirely within the 2014-15 financial year.

## 15 PROJECT GANNT CHART

- 15.1.1 It is anticipated that the project will be completed in four stages. These are set out in the GANNT chart below, with specific task ID numbers and milestones linked to the project Aims and Objectives in Table 4, and the project budget in Table 6.



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Watkinson, D. and Neal, V. 1998 *First Aid for Finds* (3<sup>rd</sup> edition), RESCUE and the Archaeology Section of the United Kingdom Institute for Conservation.

Wilkins, B., Adcock, J., Dave, R., Stanford, A., and Wood, E. 2013. *Leiston Abbey: Project Design for an Archaeological Evaluation*. DigVentures, London

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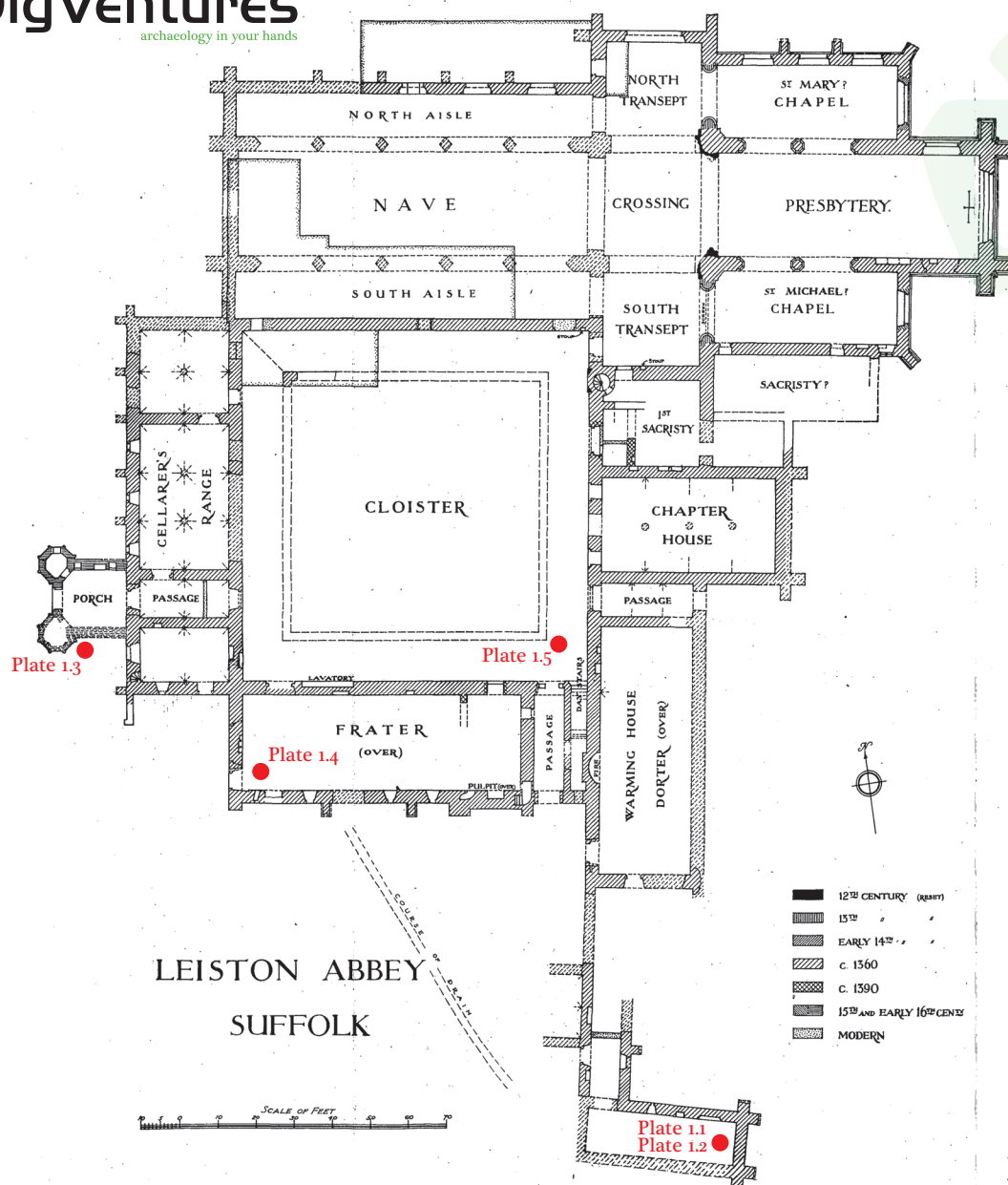


Plate 1.1 - Route of Drain exposed in the Reredorter, facing North



Plate 1.2 - Reredorter Drain looking south, into area of presumed spoil heaps, facing south



Plate 1.3 - The outline of the inner gatehouse south tower, facing east



Plate 1.4 The Undercroft, indicating the passage of the drain, facing south-west



Plate 1.5 Cloister, base of day stair and inner wall, facing south

Figure 1 - Figure 1 - A.W. Clapham's plan of the abbey remains, indicating unpublished interventions undertaken by Valerie Fenwick in 1984.

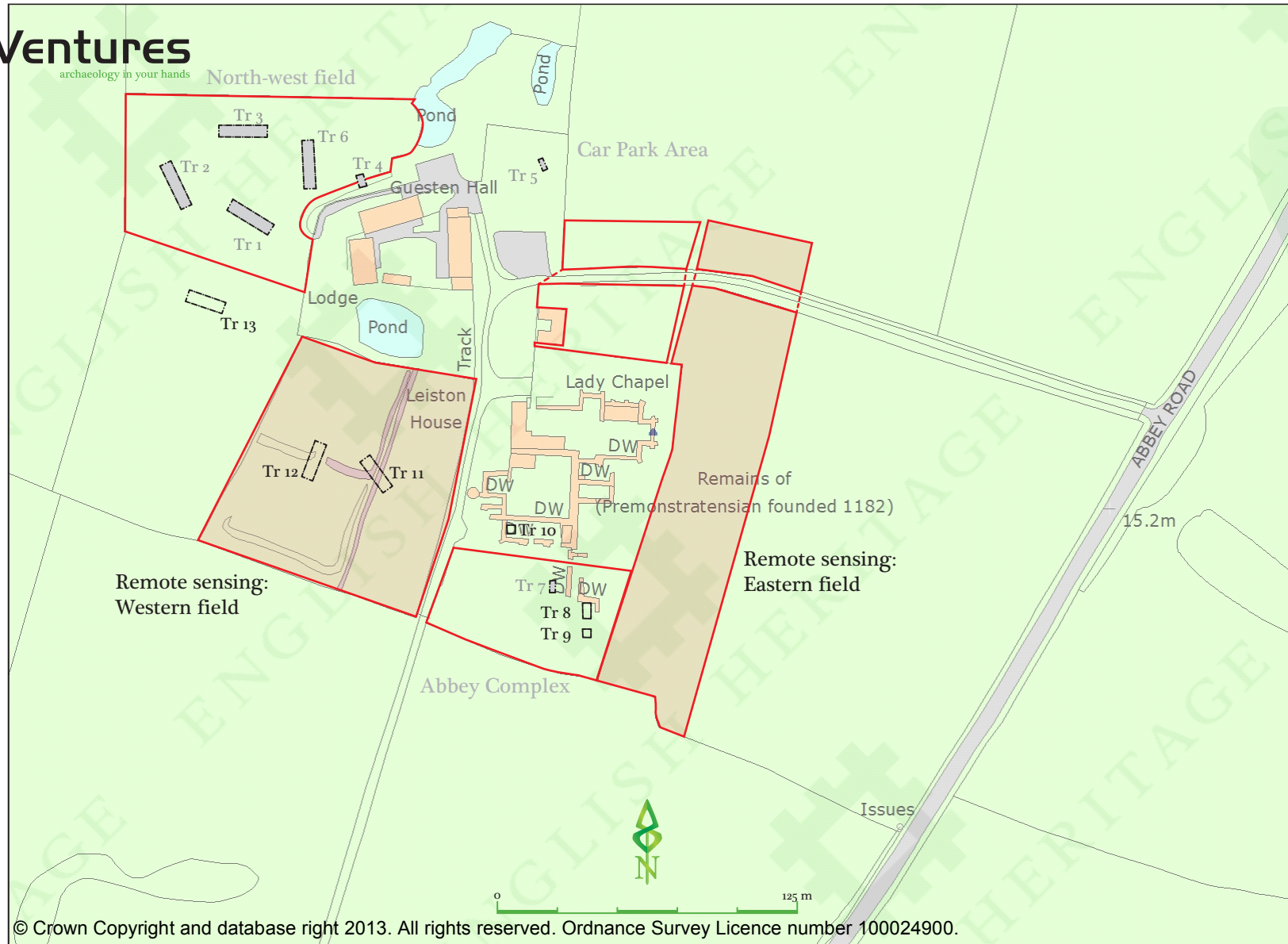


Figure 2 - Proposed Trench Plan and Remote Sensing Areas.

## **17      APPENDICIES**

### **Appendix 1 – CVs**

# Brendon Wilkins MA MIAI MIfA

## PROJECTS DIRECTOR



### EDUCATION AND QUALIFICATIONS

- **Member, Council of the Institute for Archaeologists** 2013
- **MA in Archaeology** (Distinction) University of Bradford 2007 - 2008
- **Member of the Institute for Archaeologists** 2004
- **Member of the Institute of Archaeologists of Ireland** 2004
- **Irish License Eligibility** 2004
- **BSc Archaeology** (Hons) University of Bradford 1996 - 1999

### KEY COMPETENCIES

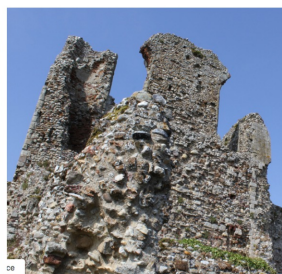
- Archaeological Desk-Based Assessment
- Design and Management of Archaeological Works
- Fieldwork and Survey Management
- Cultural Heritage Environment Statement
- Heritage Consultancy
- Community Archaeology
- Historic Research
- Digital Heritage

### CAREER SUMMARY

Brendon is an award-winning field archaeologist and researcher, with over a decade of experience directing and managing large-scale projects. He has held senior posts in two of the largest commercial contractors in the EU, with equal experience in operations, procurement, sales and marketing. Brendon has a consistent publications record, and has lectured internationally on alluvial and estuarine wetland archaeology, mortuary archaeology and quality assurance on large-scale archaeology projects.



Archaeological Fieldwork



Heritage Consultancy



Field Skills Training



Audience Development



Community Participation

### SELECTED PROJECTS

#### Infrastructure (Road and Rail) Client: Vinci/Bam Nuttall/Lancashire County Council

Full executive responsibility for the archaeological management of major infrastructure developments, including a multiphase London city centre development requiring built heritage recording, geoarchaeology and excavation (Victoria Station Upgrade); a complicated evaluation and excavation project in advance of a new Motorway service station on the M25; and a geoarchaeological, topographic and trial trench evaluation of the M6 link road to contribute to final project design.

#### DBA/EIA/Master Planning

#### Client: WSP Environment

Project Managed the Cultural Heritage dimension to a major 420-hectare mixed-residential development, including built heritage, desk based assessment, historical landscape survey, geophysics and trial trenching, leading to DBA, EIA and Master Planning for final development. This involved liaison with clients, project design teams, regulatory authorities and interaction with engineering and other environmental disciplines to ensure that projects were delivered on schedule and budget.

#### Wetland

#### Client: National Roads Authority

Alluvial and estuarine wetland excavated on the banks of the river Suir in advance of the located on the eastern edge of an area of deep Holocene sediments that accumulated in response to a progressive rise in sea level. I devised and managed a strategy for recording the complex wooden structures and palaeoenvironmental evidence in a method that has subsequently been cited as a model of best practice.

#### Urban

#### Client: Countryside Properties

Permanex Site, St Ives, Cambridgeshire, a town centre redevelopment involving an open area excavation of a river frontage site. Working closely with the developer and other stakeholders, I successfully negotiated a phased scheme of archaeological works to run concurrently with the development schedule. The site revealed a medieval industrial complex comprising a series of associated large pits and ditches.

#### Greenfield

#### Client: National Roads Authority

Carrowkeel, Co. Galway, an early medieval cemetery settlement excavated in advance of the M6. Testing on this area revealed burials within a sequence of ditch enclosures, requiring an urgent review of schedule. I successfully negotiated to bring the excavation stage forward to ensure no delays to the overall project, and then managed both the excavation of this site and the testing of the rest of the road scheme on time and budget.

### PROFESSIONAL EXPERIENCE

Operations Director, Rubicon Heritage Services  
London (2012 - 2013)

Senior Project Manager, Wessex Archaeology  
South East (2010-2012)

Sales and Marketing Manager, Headland Archaeology  
Cork, Ireland (2008-2010)

Site Director/Project Manager, Headland Archaeology  
Cork, Ireland (2004-2008)

Project Officer, Hertfordshire Archaeological Trust (2002-2004)

## PUBLICATIONS

Wilkins, B. 2013. Knowledge, Value and the Celtic Tiger. In Aitchison, K., Jameson, J. and Eogan, J. (eds.) *Archaeologists of the world: globalizing archaeological practice*. Springer

Bermingham, N., Delaney, F., Johnston, B., Molloy, K., O'Sullivan, K., Shiels, D., Shine, D., Skehan, G., Tierney, J. and Wilkins, B. 2013. *The Quiet Landscape: Archaeological Investigation on the N6 Galway to Ballinasloe Scheme*. National Roads Authority: Dublin

Wilkins, B. 2013 'Cracking castles and mega moats; adding value and social media' *The Archaeologist* 86:11-17

Wilkins, B. 2012. Newrath 34, Co. Kilkenny. In Eogan, J., and Shee Twohig, E. (eds.) *Cois tSiure - nine thousand years of human activity in the Lower Suir Valley*. NRA Scheme Monograph: Dublin.

Wilkins, B. 2012. Where the rubber hits the road: a critical evaluation of archaeological decision making on the Irish road schemes. In Cobb, H., Harris, O. and Richardson, P. (eds.) *Reconsidering fieldwork: exploring on site relationships between theory and practice*. Springer

Wilkins, B. 2011. Under the Uplands: Cave archaeology in the Yorkshire and Lancashire Dales. *Current Archaeology*: 261: 28-35

Wilkins, B. 2011. Excavating Death on the N6: 3500 BC to 1500 AD. In O'Sullivan, J., and Stanley, M. (eds.) *Past Times, Changing Fortunes: Archaeology and the National Roads Authority Monograph Series No. 8*. Dublin: National Roads Authority

Wilkins, B. 2011. Past Orders: The Archaeology of Beer. *Current Archaeology* 256: 20-27

Wilkins, B. 2011. The Archaeology of Royal Weddings. *Current Archaeology* 254: 12-19

Wilkins, B. 2010. Saints and Sinners: religion and conflict in Medieval Ireland. *Current Archaeology* 250: 28-35

Wilkins, B. 2010. Ireland's Invisible People: the Celtic past meets the Celtic present. *Current Archaeology* 249: 28-35

Wilkins, B. 2010. From ancient waterways to modern highways: Ireland's prehistoric beginnings. *Current Archaeology* 248: 36-43

Wilkins, B. 2010. When the Celtic Tiger Roared: the golden years of Irish archaeology. *Current Archaeology* 247: 12-19

O'Sullivan, J., Tierney, J., and Wilkins, B. and 2010. The Early Medieval Settlement Cemetery in Co. Galway. In Corlett, C., and Potterton, M. (eds.) *Medieval Rural settlement in Ireland in light of recent excavations: Research papers in Irish Archaeology No. 1*. Wordwell and the Royal Society of Antiquaries of Ireland: Dublin

Wilkins, B. 2010. Excavating Death in Galway: Newford, Ballykeeran and Carrowkeel. *Current Archaeology* 246: 36-43

O'Sullivan, J., Tierney, J., and Wilkins, B. 2009. Two vernacular industrial sites in rural county Galway: a water-powered forge or 'spade mill' at Coola and a brick-making site at Brusk. *Industrial Heritage Association of Ireland*.

Wilkins, B. 2009. Rumsfeldian Archaeology. *Current Archaeology*. 231: 43.

Wilkins, B and Lalonde, S. 2008. An early Medieval settlement cemetery enclosure at Carrowkeel, Co. Galway. *Journal of Irish Archaeology*. 17: 57-58.

Wilkins, B. 2007. Time and tide: five millennia of environmental change and human activity on the banks of the Suir. In O'Sullivan, J and Stanley, M. (eds.) *New Routes to the Past: Archaeology and the National Roads Authority*.

## SELECTED CONFERENCE PAPERS

Wilkins, B. 2012. Social Contract Archaeology: a business case for the future. EAA. Helsinki/TAG Birmingham

Wilkins, B. 2011. Excavating Death on the N6: 3500 BC to 1500 AD. Past Times, Changing Fortunes. NRA Conference, Gresham Hotel, Dublin.

Wilkins, B. 2010. Recently reported road deaths on the N6: 3500 BC to 1500 AD. Awards for the Presentation of Heritage Research. British Museum, London, UK.

Wilkins, B. 2009. Heritage in Danger. Archaeology Festival 2009, Cardiff University. Session organiser and chair.

Wilkins, B. 2008. Knowledge, value and the Celtic Tiger. World Archaeology Congress 6. Dublin.

Wilkins, B. 2008. The spatial segregation of children in an early Medieval cemetery settlement at Carrowkeel, Co. Galway. Theoretical Archaeology Group, Columbia University, New York.

Wilkins, B. 2008. Known knowns, known unknowns and unknown unknowns: Rumsfeldian archaeology on the Irish Road Schemes. Archaeology '08, British Museum, London, UK.

Wilkins, B. 2007. Borderline archaeology: quantity and quality in the commercial sector. Theoretical Archaeology Group. York, UK.

Wilkins, B. 2007. Where the rubber hits the road: a critical evaluation of archaeological decision making on highways projects in Ireland. 13th Annual EAA meeting, Zadar, Croatia.

# Lisa Westcott Wilkins MA FRSA

## PRINCIPAL HERITAGE CONSULTANT



### EDUCATION AND QUALIFICATIONS

- **Institute for Archaeologists Registered Organisation** 2013
- **Fellow in Heritage and Conservation, Clore Leadership Programme** 2010 - 2011
- **Fellow of the Royal Society of Arts** 2011
- **MA in Archaeology** (Distinction) UCL Institute of Archaeology 2001 - 2002
- **BA Communications** Ithaca College USA 1989 - 1993

### CAREER SUMMARY

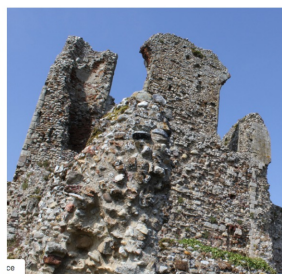
Lisa has extensive experience delivering successful, high-profile projects and programmes in the heritage and culture sectors, having held leadership posts in several organisations. An accredited coach and facilitator, Lisa is skilled in brokering and developing partnership working relationships and building communities. She has a thorough knowledge of evaluation, interpretation, education, events and visitor services, and is a sector innovator in engagement with digital technology and consumer trends in a heritage context.

### KEY COMPETENCIES

- Heritage Consultancy
- Project design and delivery
- Audience evaluation design and analysis
- Stakeholder relationship management across the media, public, private and third sectors
- Fundraising and marketing campaign execution
- Community archaeology
- Historic Research (Desk Based Assessment)
- Digital Heritage



Archaeological Fieldwork



Heritage Consultancy



Field Skills Training



Audience Development



Community Participation

### SELECTED PROJECTS

#### The Grave Trade

Date: Feb 13 - Oct 13

Engaged as Specialist Factual Consultant for Observational Documentary television series. Completed historical research to identify eight UK and European sites. Developed over-arching archaeological narrative for the series, as well as individual site storylines encompassing live archaeology and scientific research. Assistant Producer on all shoots.

Client: ITV/The History Channel

#### Saints & Secrets

Date: Mar 13 - July 13

Raised over £18k from bespoke crowdfunding campaign to complete the first-ever programme of excavation and audience evaluation at medieval Leiston Abbey, a Scheduled Ancient Monument located in Suffolk. Completed first-ever audience research for heritage attraction, and compiled initial heritage plan for site, including strategic development of physical asset.

Client: Pro Corda

#### Flag Fen Lives

Date: Feb 12 - Aug 12

Designed and delivered the world's first ever crowdfunded and crowdsourced archaeological excavation, raising more than £30k for a field school at the Bronze Age monument of Flag Fen. Engaged an international community of digital and on-site funders and participants. Raised visitor numbers by over 30%, and increased revenues by 29%, earning 1/3 of the total site income for 2012. Coordinated stakeholder group including English Heritage, academic advisory committee, monument stewards, city and county statutory archaeologists, landowners, press, and participants from 11 countries.

Client: Vivacity

### RECENT PROFESSIONAL BACKGROUND

#### Managing Director

Nov 11 - present

DigVentures is an innovative organisation committed to providing seed capital and building audiences for archaeology projects worldwide. In 2013, we launched the 'DigStarter' funding platform, and were the first-ever community archaeology business to achieve Institute for Archaeologists Registered Organisation status. We are also the first organisation to receive IfA National Vocational Qualification Field School Accreditation.

DigVentures

#### Project Manager

May 11 - Oct 12

Commissioned the Institute for Cultural Capital to complete evaluation of the £118m, four-year Cultural Olympiad programme. Managed process including brief, monitoring, reporting and budget. Coordinated the Steering Group, comprising LOCOG senior staff, DCMS, Arts Council, Legacy Trust, Greater London Authority, commercial sponsors and external consultants.

London 2012 (LOCOG)

#### Editor

2007 - 2010

Responsible for the production of Britain's best-selling archaeology magazine, including writing, editing, and management of the design team. Initiated and grew social media communities to over 5,000 participants within four months. Delivered sold-out Archaeology Live! 2008 - 2011 conferences at the British Museum in partnership with the Portable Antiquities Scheme.

Current Archaeology

# Raksha Dave BSc

## PROJECT SUPERVISOR



### EDUCATION AND QUALIFICATIONS

- BSc Archaeology UCL Institute of Archaeology 1996-1999
- Trustee, Council for British Archaeology, London
- Patron and Advocate, Young Archaeologists' Club, UK

### KEY COMPETENCIES

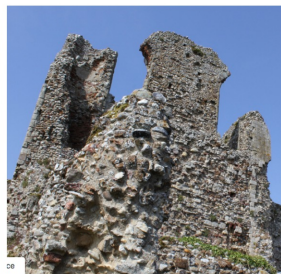
- Archaeological Desk-Based Assessment
- Fieldwork and Survey Management
- Community Outreach and Volunteer Coordination
- Extensive multi-period excavation experience from prehistory to Second World War conflict archaeology
- Interpretation of the historic environment in a broadcasting context
- Community Archaeology

### CAREER SUMMARY

Raksha is an experienced field archaeologist, broadcaster and researcher, with a focus on communities and outreach within the heritage and education sector. With over a decade of project management and leadership experience on high profile archaeological and community projects, Raksha has a successful track record of supervising teams, meeting project design objectives, and delivering training. As an on-screen member of the Time Team for ten years, Raksha is one of the UK's most well-known archaeologists.



Archaeological Fieldwork



Heritage Consultancy



Field Skills Training



Audience Development



Community Participation

### SELECTED PROJECTS

#### Saints & Secrets

Date: Mar 13 - July 13

Managed field school of over 100 participants at a previously unexcavated medieval abbey in Suffolk. Delivered hands-on archaeological skills training, conducted one-to-one skills assessments and exit interviews, and acted as primary interface for public outreach including the Young Archaeologists' Club, local archaeological societies, other interest groups and casual visitors. Responsible for executing daily trench work plans, coordination with specialists, and regular YouTube broadcasts.

Client: Pro Corda

#### Flag Fen Lives

Date: Feb 12 - Aug 12

Field School Manager for the world's first-ever crowdfunded and crowdsourced archaeological excavation. Trained over 125 participants in archaeological field skills and specialist techniques. Key point of contact for local organisations and schools to enable access to heritage attraction. Coordinated 'DigTent' for children, hosting 60 young learners over three weeks.

Client: Vivacity

#### Çatalhöyük Research Project

Date: 2003

Supervisory role managing a team of 40 international students and local staff as part of joint university research project with Berkeley University (USA) and University College London. Supervision and excavation of a deep urban stratigraphy multi-period tell settlement dating from the Chalcolithic to the Byzantine periods. Teaching and mentoring international students in excavation techniques and field methodology. Liaison with specialists and Turkish government heritage officials.

Koyuk, Turkey

#### Field Archaeologist

2000-2003; 2011 - present

Field archaeologist for high-profile commercial companies based in London. Experience in Desk-based Assessments, Environmental Impact Assessment, pro-forma recording, post excavation analysis, finds processing, surveying, archiving, report writing and research. Projects include St Mary Spital, Spitalfields; Blossoms Inn, Gresham Street; Plantation House, Fenchurch Street.

MOLA, PCA, AOC

#### Archaeologist (on-screen)

2000 - 2010

Archaeologist and presenter for internationally televised programme. Extensive knowledge of rural, deep urban stratigraphy, SSSI and scheduled sites. UK projects include: Westminster Abbey (World Heritage Site) and the Royal Palaces of Holyrood House and Windsor Castle. Other UK experience in Wales, Channel Islands, Isle of Man, Scotland and Northern Ireland. International projects include D-Day excavations Gold Beach, Normandy and the Liedse Rijn Roman Boat.

Time Team

#### Deputy Manager

2003 - 2010

Delivered government strategies and policies in Early Years and Extended Services within a local authority. Marketing and communications lead for the Westminster's Early Years department and Children's Centres. Project Manager for community, training and family outreach projects and events.

Westminster City Council

Family Information Service

# Emily Woodburn

## OPERATIONS MANAGER



### KEY COMPETENCIES

- Operations and Logistics
- First Aid Emergency Responder
- Health & Safety
- Visitor Services, Group and VIP Management
- Private Pilot's License for Helicopters
- PADI Advanced Open Water

### CAREER SUMMARY

A non-archaeologist, Emily's two decades of experience in Operations and Production in the media industry are essential in management of complex on-site logistics, stakeholder relationship management and liaison with the media. She is the first point of contact for all visitors, and ensures that public interface with the archaeology is handled safely and efficiently. Emily's administrative talent is proven through her leadership of budget control, health and safety, information management and on-site welfare.



Archaeological Fieldwork



Heritage Consultancy



Field Skills Training



Audience Development



Community Participation

### RELATED PROFESSIONAL EXPERIENCE

#### Operations Manager

DigVentures

Mar 13 – present

Responsible for non-archaeological logistics and operations, including delivery of Leiston Abbey Saints & Secrets field school. Duties specific to field school included oversight of budgets, landowner liaison, health and safety, public tours, customer care, catering, and facilities. Dedicated point of contact for Pro Corda, English Heritage, Institute for Archaeologists, and other heritage sector representatives, as well as external stakeholder groups including media. Led audience evaluation data collection and information management, as well as one-to-one participant exit interviews. Supported broadcast team with daily content production, including maintenance of online communities.

#### Senior Production Coordinator

Time Team

2005 – 2010

Responsible for the successful delivery of 43 episodes of popular television series, including foreign locations, documentaries and live specials. Key functions included arranging all aspects of travel, accommodation, equipment, security and welfare for crews of up to 60 people; organising and supervising tours of archaeological excavations for media and public; completion of all legal paperwork; key production representative on location for VIPs and any external stakeholders. Managed shoots on complex, multi-period archaeological sites across the UK and Europe, including Westminster Abbey, Buckingham Palace, Lincoln's Inn, Salisbury Cathedral, Binchester, Shooters Hill, Piercebridge, Ulnaby, Scargill Castle, St. Georges Island, Caerwent, Llangibby Castle, Hopton Castle, Dinmore Hill, Groby Hall, Mont Orgueil Castle and Utrecht (Netherlands).

#### Senior Production Coordinator

WildfireTelevision

2010 – 2011

##### 'Tony Robinson's Gods and Monsters'

Factual documentary series exploring the origins of belief throughout the UK, and the bizarre ancestral customs which survive in today's world. In addition to administrative and logistical oversight, this programme called for significant input into research, as well as the reconstruction of historical material in a dramatic and factually accurate format.

#### Production Coordinator

WildfireTelevision

2009

##### 'Dan Brown's Lost Symbol'

Documentary discussing the claims about Freemasonry in Dan Brown's book, 'The Lost Symbol'. This programme required an extremely high level of effectiveness in organising location clearances and confidentiality for top-security sites, including the US Capitol Building, Washington Memorial, US Library of Congress and the White House.

#### Producer

Freelance

1996 – 2009

Worked as a freelancer in production for commercials, music videos, brand development and other campaign materials. Client list included Saatchi & Saatchi and other agencies, as well as production and post-production companies. Solid background in building strong brand images and communicating across multimedia channels.

### EDUCATION AND QUALIFICATIONS

- PhD Archaeology University of East Anglia, 2003
- BA Archaeology (Hons)  
UCL Institute of Archaeology 1990-1993
- Secretary, Council for British Archaeology East

### ARCHAEOLOGICAL TEACHING ACTIVITIES

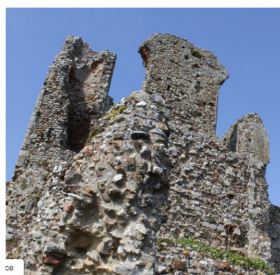
- Designed and delivered archaeology modules for UEA students
- Developed and delivered a range of archaeological workshops, evening classes and talks for members of the public
- Developed and delivered archaeology workshops to KS1 & 2 children
- Delivered a range of 'living history' and object handling workshops for KS1 and 2 children
- Delivered AIM Higher workshops for year 8, 9 & 10 pupils
- Led high-school Archaeology Clubs
- Wrote over 100 web-page texts for a British Museum 'World Timelines' project aimed at students aged 10-14

### CAREER SUMMARY

Natasha is one of the UK's premier archaeological educators, with a long career in museums, material culture studies and cultural heritage. As a specialist in British Prehistory, she has worked in the archaeology and heritage sector for 20 years. Natasha's professional strengths include designing training programmes for learners of all ages, museum and educational curriculum programme development, and a passion for creative learning experiences.



Archaeological Fieldwork



Heritage Consultancy



Field Skills Training



Audience Development



Community Participation

### PROFESSIONAL BACKGROUND

#### Director 2014 - present

Director of new enterprise focused on delivering high-quality archaeology learning opportunities for both adults and children, including developing curriculum-focused resources, school workshops, teacher training and CPD events and support for museums on developing innovative use of their archaeology collections. AU currently works with the Norwich Castle Learning team delivering workshops, talks and handling sessions for learners of all ages. Other projects include Associate-level cultural consultancy for 'A Different View', and consulting with KS2 teachers to develop resources aligned to the new curriculum.

#### Regional Museum Development Manager SHARE Museums East, Norfolk Museum Service 2009 - 2014

Responsible for developing a programme of support for museums across the East of England region. Managed a team of four and an operational budget of over one million pounds. Supported regional museums in the development of a range of projects, including the 'Something Borrowed' partnership project between the British Museum and regional museums in the East, and an animation on collections rationalisation. Developed and delivered a range of archaeology workshops and talks to schools, museums, University of East Anglia and local historical groups. Successfully bid for funding from ACE and HLF, including recent Catalyst award of £240,000 for the 'SHARED Enterprise: developing business-minded museums' project. Between 2009 and 2011, acted as the Arts Council England Museums Accreditation advisor for the East of England.

#### Archaeology Unlimited

#### Archaeology and Heritage Consultant 2007 - 2009

Delivered a range of training for MLA East of England, edited archaeological reports and completed desk-top assessments for NAU Archaeology. Tutored in archaeology at the UEA and Maddingley College, Cambridge.

#### Museum Development Officer Norfolk Museum Service 2005 - 2007

Supported independent museums to develop their public offers, including new projects, CPD training activities and advising on funding bids.

#### Associate Tutor in Material Culture and Archaeology School of World Art Studies University of East Anglia 2001 - 2005

Created and taught a range of undergraduate and postgraduate modules at the University of East Anglia, including an introduction to archaeology and an 'artefacts in practice' course. Coordinated a seminar series on 'visual culture', lectured on aspects of British prehistory, and delivered an MA on Cultural Heritage. Directed an excavation at Snettisham in Northwest Norfolk.

#### Archaeologist/Finds Supervisor 1993 - 1999

Worked with companies including the Portable Antiquities Scheme, Canterbury Archaeological Trust, Wessex Archaeology, and UCL.

## **Appendix 2 – Archaeological and Historical Background**

The following background for Leiston Abbey is adapted from the English Heritage National Heritage List (English Heritage 1996), based on original excavation reports produced from work detailed in section 1.4.

### ***The Site Location***

The second site of Leiston Abbey is on a gentle, south facing slope c.1.75km north of the centre of Leiston and c.3km south west of the site of its original foundation in the coastal marshes south of Minsmere. It is located on the northern fringe of the parish of Leiston at approximately 15m AOD, and includes most of the standing and buried remains of the monastic church and conventual buildings, together with adjacent earthworks and water control features, including a moated site.

The ruined walls of the church and conventual buildings, which are Listed Grade I and are in the care of the Secretary of State, form the core of the monument, and immediately to the east of these are the buried remains of other features, including the masonry foundations of buildings. To the north and west there are various earthworks, also believed to be of medieval origin, including two ponds and a partly ditched enclosure, which forms an outer court with upstanding remains of two more buildings of monastic date. The principal entrance to the monastic precinct was probably to the north or north east of the church, on the line of the track, which still provides access.

### ***Leiston Abbey and the Premonstratensians***

From the time of St Augustine's mission to re-establish Christianity in AD 597 to the reign of Henry VIII, monasticism formed an important facet of both religious and secular life in the British Isles. Settlements of religious communities, including monasteries, were built to house communities of monks, canons, and sometimes lay brothers, living a common life of religious observance under some form of systematic discipline. It is estimated from documentary evidence that over 700 monasteries were founded in England. The Premonstratensian orders, or "White Canons", were not monks in the strict sense but rather communities of priests living together under a rule. The first Premonstratensian establishments were double houses (for men and women), but later they founded some 45 houses for men in England. The Premonstratensian order modelled itself on the Cistercian values of austerity and seclusion and founded all its monasteries in rural locations.

Leiston Abbey, dedicated to the Blessed Virgin, was founded at Minsmere in 1182 for 26 canons of the Premonstratensian order by Ranulph de Glanville, Chief Justiciary to Henry II. The original endowment included the manor of Leiston and the churches of St Margaret, Leiston and St Andrew Aldringham, both of which, according to the foundation charter, had formerly been granted to the Augustinian canons of Butley Abbey, of which de Glanville was also patron, and the abbey was further enriched by later endowments and appropriations. The annual value of the abbey holdings is given in the taxation roll of 1292 as 130 pounds 15s 7d, and in the valuation of 1535 as 181 pounds 17s 1d, the largest part of which derived from the manor of Leiston.

In its original location, the abbey was prone to flooding, so the canons were granted a papal licence in 1363 to move to a more favourable spot inland at Leiston and, although the original site was retained as a monastic cell, the church and other buildings on it were demolished and stone from them reused in the construction of the new abbey, built at the expense of Robert de Ufford, who had been granted

patronage of the abbey by the crown in 1350. In 1380 the new buildings, with the exception of the church, were extensively damaged by fire. During the second half of the 15th century the numbers of canons recorded present at official visitations ranged between 13 and 18, including the abbot. The abbey was among those suppressed in 1536 and in 1537 was granted, with its possessions, to Charles Brandon, Duke of Suffolk. The site was later occupied by a farmstead, and parts of the church and monastic buildings incorporated in the farmhouse and various associated outbuildings.

### ***The Claustal Complex and Inner Precinct***

The church, which is c.63m in length overall, is cruciform in plan and includes an aisled nave c.28m long at the western end, a central crossing where the canons' choir will have been situated, with transepts to north and south, and a square ended presbytery flanked by two square ended chapels at the eastern end. The north chapel, called the Lady Chapel, is in ecclesiastical use and is excluded from the scheduling, although the ground beneath it is included. The walls of the nave and the arcades, which separated the nave from the aisles, are no longer visible, although foundations will survive below the ground surface. Most of the outer walls of the south aisle and the eastern part of the north aisle wall, comprising more than half its total length, were incorporated in post-medieval buildings, however, and still stand to almost their full height, displaying the remains of original features which include the blocked openings of large windows with pointed arches. The earliest part of Abbey House, dated to the 17th century and Listed Grade II was built on to the south aisle wall, within the area of the aisle itself, and this building is excluded from the scheduling, together with those parts of the medieval standing structure, which it contains.

The eastern piers of the central crossing of the church, parts of the walls of the transepts on either side, the walls at the eastern end of the presbytery, and of the chapels to either side of it also stand to almost their full height and contain original features which include the remains of a pair of window openings at clerestory level in the south wall of the south transept, the arch of a large window with the stubs of stone tracery in the opposite wall of the north transept, window openings at the east end of the presbytery and the two chapels, also with the remains of tracery, an arcaded niche in the south wall of the presbytery, and a double arched arcade between the presbytery and the Lady Chapel to the north of it. The arches of this arcade, the window openings in the outer north wall of the chapel, and the arched opening between the chapel and the transept to the west and the choir to the south of it, are all blocked. The chapel, which was used as a granary in the post-medieval period, has been reroofed. The south wall of the southern chapel, dedicated to St Michael, includes two arched doorways to what was probably a sacristy (used for the storage of vestments and church vessels), the walls of which no longer survive above ground, although the outer face of the chapel wall shows traces where they abutted.

The remains of the conventual buildings of the abbey, which include walls standing in many places to a height of at least 4m, are ranged around three sides of a cloister c.27m square adjoining the south wall of the church. Parts of a string course, marking the upper edge of the pentice roof above the cloister alleys, can be seen in the inward facing walls, and remains of the cloister arcade will be preserved below ground, although nothing of it is recorded standing above ground except a pier in the north west angle, within the area now occupied by the modern extension of Abbey House. The principal entry to the cloister from the outer part of the precinct is

a passage through the west range, fronted by a porch, which is dated to the late 15th or early 16th century and is the latest identifiable structure of the monastic period on the site.

The eastern range of the cloister, opposite, contained the dorter (canons' dormitory) on the upper floor, which no longer survives. The plan of the ground floor is defined on the west side by standing walls, and on the east side by exposed wall footings and buried foundations. The most important component, facing centrally on to the cloister, is the chapter house, where the canons met to discuss the business of the abbey. This is rectangular in plan, measuring c.13.5m east-west by c.7.5m and is entered from the cloister through the remains of a door opening with arched windows to either side of it, one of them retaining a moulded stone surround. At the southern end of the east range, running east-west, are the remains of the reredorter (latrine block), including the upstanding masonry of the lower part of the north wall and a high, arched opening in the eastern end wall. Wall footings at the west end suggest a corresponding opening, probably for an east-west drain to carry water to flush the latrines. Excavations have revealed also a narrow drain running north-south below an arch, now blocked, in the north wall.

The south claustral range is the best preserved of the three, with outer walls standing to a height of up to c.12m and displaying many features, including evidence of a complex sequence of alterations, some of which are of post-medieval date. It includes the remains of two storeys; an undercroft which is built, like the southern end of the west range, into a terrace in the natural slope, and the refectory above it, on a level with the cloister alley. At the extreme eastern end of the south range, between the through passage and the east range, are the remains of the day stairs from the cloister to the dorter. The monastic kitchen probably lay to the south of the refectory, where the uneven ground surface indicates the survival of buried foundations.

In the ploughed field east of the claustral buildings aerial photographs have shown the presence of the buried remains of a large rectangular structure, probably the infirmary hall, and the survival of masonry foundations and robbed foundation trenches, representing more than one phase of construction, has been confirmed by a geophysical survey and a limited excavation. Beyond these, the excavation also discovered a ditch up to 4m wide and c.1.6m deep running SSW-NNE and thought to mark the eastern boundary of the monastic precinct. From approximately the point where the projected line of this ditch meets the field boundary to the north, c.67m north east of the abbey church, a slight bank c.0.5m high, which appears to be a continuation of this boundary, runs westwards, following the southern side of the access track from the road (B1122) to a point c.60m north of Abbey House. Slight rectilinear earthworks between the western end of this bank and Abbey House probably mark the site and buried foundations of another building or buildings, perhaps including a gatehouse.

### **The Outer Court**

To the north west of the claustral complex, c.57m from the west end of the monastic church, are the remains of an outer court, surrounded on three sides by a ditch and including two stone buildings which are partly of monastic date. The first building, which is Listed Grade II and was used as a barn in the post-medieval period, is on the east side of the court and is rectangular with dimensions of c.23m north-south by c.10m. The east and west walls, although much patched and altered, display original features which include the blocked opening of an arched doorway and the north

jamb and sill of an adjacent blocked window opening in the west wall, and an arched niche in the interior face of the east wall. The second building, known as the Guesten Hall, which is aligned ENE-WSW and stands on the north side of the enclosure, c.10m east of the north end of the first, and incorporates the south wall and a large part of the north wall of another medieval building of two storeys, identified as probably a guest hall of later 14th century date.

The ditch around the north, west and south sides of the court is c.5m wide and c.1.5m deep and is now dry, but it is considered to be the remains of a moat, possibly predating the construction of the abbey on the site. The enclosure, including the ditch, has maximum overall dimensions of c.77m north-south by c.53m east-west. The southern arm of the ditch terminates at the east end in a rectangular pond, c.32m east-west by 22m, which is probably a later enlargement. A channel links the east end of the northern arm to a large, rectilinear pond to the north east. This pond, which measures c.62m north east-south west by 12m overall, is one of a pair. Both are more than 2m deep and fed by surface drainage, and are thought to be the remains of another moat, although it is possible that they were adapted for use as fish ponds or supply ponds during the monastic period. The second pond, which is rectangular and measures c.30m north-south by c.10m, lies east of the first at a distance of c.10m at the northern and c.27m at the southern end, and the two together define the east and west sides and the south west angle of an enclosure, with maximum overall dimensions of c.65m east-west by c.55m north-south. The surface of the interior of the enclosure is raised c.0.5m above the level of the ground to the south.

Further, regular earthworks believed to be of medieval date are visible under pasture in a paddock immediately to the south of the first enclosure. They include two rectangular terraced platforms, c.0.5m high, one above the other on a south facing slope. The platforms each measure c.50m east-west by up to 45m and are bordered on the east side by a shallow ditch c.5m wide, which connects with east end of the pond at the southern end of the enclosure ditch to the north and will have functioned as an outlet channel.

### Appendix 3 – 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 1) and detailed below.

| Key Questions and Objectives | Lidar Survey | Photogrammetry and Building Condition Survey | Geophysical Survey (Magnetometry and resistivity) | Ground Penetrating Radar | Earthwork Survey and GIS Modelling | Archaeological Excavation | Sampling | Environmental Assessment | Finds Assessment | Synthesis and Data integration |
|------------------------------|--------------|----------------------------------------------|---------------------------------------------------|--------------------------|------------------------------------|---------------------------|----------|--------------------------|------------------|--------------------------------|
| Q.1                          | ✓            | ✓                                            | ✓                                                 | ✓                        |                                    |                           |          |                          |                  |                                |
| Q.2                          | ✓            |                                              |                                                   |                          | ✓                                  |                           |          |                          |                  |                                |
| Q.3                          | ✓            | ✓                                            |                                                   |                          |                                    |                           |          |                          |                  |                                |
| Q.4                          | ✓            | ✓                                            | ✓                                                 | ✓                        | ✓                                  |                           |          |                          |                  |                                |
| Q.5                          |              |                                              |                                                   |                          |                                    | ✓                         | ✓        |                          |                  |                                |
| Q.6                          |              |                                              |                                                   |                          |                                    | ✓                         | ✓        |                          |                  |                                |
| Q.7                          |              |                                              |                                                   |                          |                                    | ✓                         | ✓        |                          |                  |                                |
| Q.8                          |              |                                              |                                                   |                          |                                    | ✓                         | ✓        | ✓                        | ✓                |                                |
| Q.9                          |              |                                              |                                                   |                          |                                    |                           | ✓        | ✓                        |                  |                                |
| Q.10                         |              |                                              |                                                   |                          |                                    |                           | ✓        | ✓                        | ✓                |                                |
| Q.11                         |              |                                              |                                                   |                          |                                    |                           |          | ✓                        |                  | ✓                              |
| Q.12                         |              |                                              |                                                   |                          |                                    |                           |          | ✓                        |                  | ✓                              |
| Q.13                         |              |                                              |                                                   |                          |                                    |                           |          |                          |                  | ✓                              |
| Q.14                         |              |                                              |                                                   |                          |                                    |                           |          |                          |                  | ✓                              |
| Q.15                         |              |                                              |                                                   |                          |                                    |                           |          |                          |                  | ✓                              |
| Q.16                         |              |                                              |                                                   |                          |                                    |                           |          |                          |                  | ✓                              |
| Q.17                         |              |                                              |                                                   |                          |                                    |                           |          |                          |                  | ✓                              |

**Table 7** – Linking methods with objectives

## **Remote Sensing**

Non-invasive surveys will commence on 29<sup>th</sup> June and are scheduled for 2 days. This work will be used to accurately position trenches on the unscheduled area to the north west of the claustral complex (Area 1), and subject to the granting of scheduled monument consent, will also be undertaken in advance of small-scale ground truthing interventions at the edge of the scheduled area (Areas 2 and 3 – see section 5.1.2 above). If time permits, further non-invasive work will be undertaken on Area 4, subject to landowner permissions and scheduled monument consents. Specific techniques and methodologies related to the remote sensing phase of the project are detailed below.

### **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.

### **Geophysical Survey**

The project team will establish and tie-in (to permanent landscape features) the survey areas (30m by 30m grids) using tapes and a Trimble GPS; where appropriate, semi-permanent marker pegs will be left on site, so that the grid can be accurately re-located by a third party. On rare occasions where this methodology is not practicable, a combination of Total Station, optical square, ranging rods and tape measures may be used.

Readings will be stored in the memory of the instruments and are later downloaded to computer for processing and interpretation. Geoplot 3 (Geoscan Research), Mala Rslicer, GPRslice and/or in-house GSB software will be used to process and present the data. The data will be interpreted and presented at suitable scales and located on Ordnance Survey base maps as appropriate. Large scale, typically 1:500, reference plots (minimally processed greyscales for resistance / magnetic data as well as XY trace plots for the latter with radargrams and minimally processed time-slices for the GPR data) will also be presented on CD. Where applicable the CD will also include animated versions of the GPR datasets.

The survey methodology, report and any recommendations will comply with current guidelines outlined by English Heritage (Geophysical Survey in Archaeological Field Evaluation, Research and Professional Services Guidelines No 1, compiled by A David, April 2008) and by the Institute of Field Archaeologists (The Use of Geophysical Techniques in Archaeological Evaluations, IFA Paper No 6, C Gaffney, J Gater and S Ovenden, 2002)

| Technique                      | Traverse Separation | Reading Interval | Instrument            |
|--------------------------------|---------------------|------------------|-----------------------|
| Magnetometer – Detailed        | 1.00m               | 0.25m            | Bartington Grad 601-2 |
| Resistance – Twin Probe        | 1.00m               | 1.00m            | Geoscan RM15          |
| Ground Penetrating Radar (GPR) | 0.50m               | 0.05m            | Mala X3M 500MHz       |
| Ground Penetrating Radar (GPR) | 0.08m               | 0.08m            | Mala MIRA 400MHz      |

**Table 8** – Geophysical survey techniques and equipment

### 3D Modelling and Building Condition Survey

A comprehensive building condition survey will be undertaken on the upstanding Abbey remains (Abbey church and claustral buildings), to produce a metrically accurate 3D digital surface model (DSM). The resulting DSM will provide an accurate and versatile record of the form and condition of the upstanding structure for immediate analysis as well as providing a baseline dataset for comparison with future surveys to determine weathering rates and potential damage.

#### Photogrammetry Survey

The proposed methodology for data collection will meet the equivalent requirements of a level 4 survey, as specified in Understanding Historic Buildings: A Guide to Good Recording Practice (English Heritage 2006a). This work is not expected to revise existing phasing or interpretation (see Appendix 1) but to provide metrically accurate baseline information for future reference and analysis. The 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 (inside walls and towers) 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:

- Aerial-Cam: High quality digital photography using a vehicle mounted telescopic mast.
- Mast-Cam: High quality digital photography using a tripod mounted telescopic mast.
- Pole-Cam: High quality digital photography using a hand held telescopic mast.
- Rectified: High quality digital photography from ground level.
- Gigapan: Extreme high quality mosaic photography.

**Aerial-Cam**

This device consists of an extendable 22m hollow aluminium mast operated by cable and electronic winch, permanently mounted on a Land Rover. On top of the mast a professional standard high resolution DSLR camera with separate viewfinder video feed, is positioned via pan/tilt and zoom mechanisms. The cameras are positioned via a motorised pan and tilt head by cable connection to a monitor control box at ground level. The camera has a second spy camera fitted into the viewfinder, which feeds the lens view to the monitor to allow correct framing prior to releasing the shutter. Via a long boosted USB connection the camera settings (white balance, focus area, shutter speed, aperture etc.) are controlled with Nikon software on a laptop.

**Mast-Cam**

This device consists of an extendable 15m pneumatic hollow aluminium mast operated by hand pump or compressor. This equipment is mounted on a heavy-duty tri-frame turntable trolley, it is light enough to be manoeuvred by one person and is designed to ensure no damage occurs to structures and surfaces in the work area. This equipment is best utilised inside large buildings such as churches, where vehicular access is not possible, but photographing the interiors at height without the need for scaffolding and other equipment which may obscure the subject features. Once set up inside a building the Mast-Cam can be repositioned with relative ease for a variety of viewpoints. The equipment to control, position, capture and review is the same as used by Aerial-Cam. Viewfinder screen display, joystick controlled camera position, mechanical zoom, tethered laptop manual control of all camera settings and large screen image review at ground level.

**Pole-Cam**

This device consists of an extendable 9m hollow fibreglass pole operated by hand, with a lightweight high-resolution camera with video feed to a monitor for the operator to frame the shots. The camera is set to remote control shutter release or interval exposures every 30 seconds. The mast is extended by the operator pushing up each section and locking it securely into position. The camera can then be moved into position above or perpendicular to the subject. The video feed to the monitor attached to the mast at eye level provides a real-time view through the lens of the camera. This allows each shot to be framed while the camera goes through a series of shutter releases, storing each image onto the camera's memory card. The Pole-Cam is light enough to be easily moved and controlled by the operator ensuring that a no-contact policy is maintained.

**Ground-level and Gigapan**

If necessary, an automatic robotic camera positioning device and ground-level tripod rig will be utilised. This enables the precise capture of multiple and detailed images to a user defined pattern, for extreme resolution large format mosaic and

panoramic compositions. Each set of images (which can run into hundreds) are then automatically stitched together using the Gigapan software, to create images which have a wide area perspective and fine detail which can be zoomed into. This equipment has demonstrable benefits inside buildings where large areas of masonry with damage need to be assessed; it has also proven very effective at recording works of art in fine detail, such as the Triptych by Lucas van Leyden, in Highnam Church, Gloucestershire.

### **Archaeological Excavation**

A limited number of targeted machine trenches (Area 1) and hand dug test pits (Area's 2 and 3) will be excavated, with their final position determined by the results of remote sensing, in collaboration with Will Fletcher, English Heritage Inspector of Ancient Monuments (Figure 1). Three 5 x 20 metre trenches will be excavated in Area 1 (unscheduled area); one 2 x 5 metre trench will be excavated in Area 2 (potential kitchen/infirmary); and one 2 x 5 metre trench will be excavated in Area 3 (potential gate house). A further trench will be excavated across the potential moat at the edge of the scheduled area (Area 1 – 3 x 5 metres) to recover any evidence for an earlier phase of activity on the Site.

### **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 EH, 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**

Where deposits with good palaeoenvironmental potential are noted, 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*' (English Heritage 2011) and with reference to the Association for Environmental Archaeology's '*Working Paper No. 2, Environmental Archaeology and Archaeological Evaluations*' (1995).

Bulk samples will usually be in the range of 40-60 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 hammer scale;
- 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.

**Zooarchaeology**

If large deposits of bone or marine shell are encountered advice of the project Zooarchaeologist 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 (as found in previous excavations, for example Hooper 2010), 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**

If 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**

If The Finds will be treated in accordance with the relevant guidance given in the Institute of Field 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. The X-raying 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**

If 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*. 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**

Although the relocation and dissolution of the Abbey is well dated historically, earlier phases on the Site remain unknown. The moated feature on the edge of the outer court will be investigated to recover potential samples for dating, and firmly establish the presence or otherwise of earlier activity. All structural timber considered suitable for dendrochronology will be assessed on site by the appropriate specialist and retained for analysis if required. 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 English heritage and the relevant specialists.

**Synthesis and Data Integration**

The results of the project will be integrated and synthesised with those from the previous investigations (see Section 1.4), and other relevant work within the region and further afield (see Section 1.5). This will include a literature review of other pertinent sites.

**Appendix 4 – Risk Log**

(To be updated weekly)

| <b>Risk number</b>  | <b>1</b>                                                 | <b>2</b>                                             | <b>3</b>                                                       | <b>4</b>                                                       |
|---------------------|----------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|
| Description         | Inclement Weather - Prolonged periods of Rain            | Exceptional Weather (Drying exposed Archaeology)     | Absence of Core Team Member                                    | Absence of Specialist Team Member                              |
| Probability         | Medium                                                   | Medium-low                                           | Low                                                            | Low                                                            |
| Impact              | Delay programme of work                                  | Slow progress                                        | Delay programme of work                                        | Delay programme of work                                        |
| Countermeasures     | Provision of Indoor Archiving Tasks + Flexible programme | Provision of Water Bowser + Spray                    | Reallocation of responsibilities or appointment of alternative | Reallocation of responsibilities or appointment of alternative |
| Estimated time/cost | 3 Days                                                   | None                                                 | Minimal if done by adjustment                                  | Minimal if done by adjustment                                  |
| <b>Owner</b>        | <b>BW/LWW</b>                                            | <b>BW/LWW</b>                                        | <b>BW/LWW</b>                                                  | <b>BW/LWW</b>                                                  |
| <b>Risk number</b>  | <b>5</b>                                                 | <b>6</b>                                             |                                                                |                                                                |
| Description         | Equipment Theft/Breakages                                | Serious Site Injury                                  |                                                                |                                                                |
| Probability         | Medium                                                   | Medium                                               |                                                                |                                                                |
| Impact              | Delay programme of work                                  | Delay programme of work                              |                                                                |                                                                |
| Countermeasures     | Secure Lock-up for all digital equipment                 | Detailed H&S Risk Assessment + daily safety briefing |                                                                |                                                                |
| Estimated time/cost | 3 days                                                   | 3 days                                               |                                                                |                                                                |
| <b>Owner</b>        | <b>BW/LWW/KE</b>                                         | <b>BW/LWW/KE</b>                                     |                                                                |                                                                |

