



Foxbridge, Swindon

Written Scheme of Investigation

Archaeological Evaluation

April 2020

**Client: Environmental Dimension Partnership
Ltd on behalf of Dansecroft (PCDF IV Swindon)
LLP and Barratt David Wilson Homes SW**

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Foxbridge, Swindon

Written Scheme of Investigation for an Archaeological Evaluation

Centred on SU 19827 84476

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1 INTRODUCTION

1.1 Project details

- 1.1.1 Oxford Archaeology (OA) has been commissioned by The Environmental Dimension Partnership Ltd (EDP) on behalf of Danescroft (PCDF IV Swindon) LLP and Barratt David Wilson Homes South West to undertake a trial-trench evaluation on the site of proposed residential development.
- 1.1.2 The work is being undertaken to inform the Planning Authority in support of planning applications. Although the Local Planning Authority has not set a brief for the work, discussions between Jo Vallender of EDP and Melanie Pomeroy-Kellinger the Archaeological Advisor to Swindon Borough Council have established the scope of work required; this document outlines how OA will implement those requirements.
- 1.1.3 Although the allocated Foxbridge site is likely to be subject to two planning application, this WSI and the subsequent report should be considered comprehensive and sufficient for both planning applications.
- 1.1.4 All work will be undertaken in accordance with local and national planning policies and the Chartered Institute for Archaeologists Standard and Guidance for Archaeological Evaluation (ClfA 2014).

1.2 Location, topography and geology

- 1.2.1 The site lies on the eastern edge of Swindon in Wanborough Parish (Fig. 1; NGR: SU 19827 84476).
- 1.2.2 The area of the site proposed for development consists of several agricultural fields separated by hedges and covers a total area of 40ha. The central section of the site has been previously subjected to archaeological investigations. The northern part of the site lies within a Scheduled Monument (list entry 1004684) and as such will not be impacted by these works. The site consists of a roughly triangular parcel of land: it is bounded to the northeast by the Wanborough Road, to the south by agricultural fields and to the west by the A419. The site lies approximately between 95m above Ordnance Datum (aOD) and 98m aOD.
- 1.2.3 The geology of the central and southern part of the site is mapped as Gault Formation Mudstone, a sedimentary bedrock formed approximately 101 to 113 million years ago in the Cretaceous Period. In the northern part of the site the underlying geology is mapped as Kimmeridge Clay Formation Mudstone, a sedimentary bedrock formed approximately 152 to 157 million years ago in the Jurassic Period. A band of alluvium is recorded overlaying the Gault Formation in the center of the site along the route of a water course which functions as an open drain (BGS Online).

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND AND POTENTIAL

2.1 Archaeological and historical background

Previous archaeological work

- 2.1.1 The site is bisected by the route of the proposed Swindon Southern Connector Road and a recently installed water pipeline. Both projects have been subject to prior archaeological investigations, including a geophysical survey (AS 2017) and trial-trench evaluations (CA 2018 and WA 2017). Based on the results of these investigations, further archaeological work is proposed, including open-area excavation and strip, map and sample, as well as two areas identified for preservation *in situ*.
- 2.1.2 The following summary is derived from the desk-based assessment (CA 2016) produced for the Swindon Southern Connector Road and has been supplemented by the results of the associated archaeological investigations.

Prehistoric

- 2.1.3 No heritage assets dating to the prehistoric period were recorded within the site prior to the trial-trench evaluations, although features of a prehistoric date are known in the immediate vicinity. The evaluation works identified a Bronze Age cremation towards the northern end of the southern parcel of the proposed development (CA 2018). An assemblage of worked flints of prehistoric date were also recovered but were not considered to date any of the archaeological features identified. In addition, a Mesolithic flint tool was recovered from a pit immediately to the south of the site. The geophysical survey identified a cluster of suspected intercutting ring ditches within the route of the proposed connector road.

Roman

- 2.1.4 The Roman nucleated roadside settlement of *Durocornovium* (Scheduled Monument 1004684) lies within the site boundary and extends to the north and north-east. Wanborough Road, which forms the north-eastern boundary of the previously evaluated site, is broadly aligned on Roman Ermine Street. The nucleated settlement is known to have been occupied from the mid-1st century AD to the mid-4th century AD (Anderson *et al.* 2001). Geophysical survey of the evaluation area clearly shows that the settlement extended along either side of Ermine Street within the proposed development area and beyond. Excavations undertaken in the 1960s and 70s identified the remains of a substantial Roman roadside settlement. The earliest activity identified was the remains of large post-built structure suspected to have served a military function. This developed over the course of the late 1st and early 2nd centuries into a small town or nucleated settlement with the construction of several rectangular timber buildings and at least one stone building. The timber structures were formed of vertical sided foundation trenches which either contained ground-beams or uprights, the presence of packing stones in one of the trenches suggest the latter. Cobbled and mortar floor surface were also identified. Evidence for possible lead production or lime for mortar was identified with the remains of oven structures surviving and quantities of slag being recovered. The settlement underwent significant

development in the 3rd and 4th centuries with the focus of activity lying to the east of Ermine Street. Ermine Street was resurfaced and widened, and additional street extending from it constructed. Numerous additional stone buildings were built during this period, likely to reflect the increased wealth of the settlement. However, wooden structures were still built and comprised the placement of sill-beams on sarsen stones to elevate the structure above ground level to overcome damp ground conditions. A lack of roof tile suggests the buildings were predominately thatched and the recovery of daub indicates the continued use of timber framed structures during this period. Evidence for metal working was indicated by the presence of slag and the recovery of metal working tools.

- 2.1.5 Trial trenching in the vicinity revealed ditches, shallow pits and one inhumation burial, all dating to the Roman period; several possible industrial features are thought to have been related to the town (WA 2017). Further to the south, along the route of the connector road but beyond the limits of this site, two Romano-British farmsteads and associated agricultural features were identified by the geophysical survey and confirmed by the trial-trench evaluation, one c 75m to the south and the other c 700m (CA 2018).

Medieval/post-medieval

- 2.1.6 The village of Wanborough, c 1km to the southeast of the site, is suspected to have Saxon origins, and Saxon pottery sherds have been recovered from the village. The parish church of St Andrew is Grade I Listed and dates to the 14th century. A medieval moated site indicative of former settlement is located some 1.2km to the south of the site.
- 2.1.7 Areas of ridge and furrow are recorded on the HER within the northern part of the site and these are confirmed by the results of the geophysical survey. Its presence was also recorded in a significant number of trenches within the route of the proposed connector road (CA 2018).
- 2.1.8 No archaeological features dating to the early medieval period were identified during the previous evaluation works. A series of geophysical anomalies identified within the southeast corner of the site was interpreted as enclosure systems of possible Roman origin. Several linear ditches were identified in the trenches excavated across the anomalies, from which quantities of medieval pottery were recovered. The features were interpreted as representing a small medieval farmstead dating from the 11th to the 15th century, with some evidence for mid-16th- to 18th-century activity. It should be noted that sherds of pottery dated to the Roman period were also recovered from these features but in very small quantities.

2.2 Potential

- 2.2.1 Based on the results of the previous investigations there is low to moderate potential for archaeological remains of a prehistoric date to be present within the site. The presence of remains dating to the Roman and medieval periods has previously been confirmed.

3 PROJECT AIMS

3.1 General

3.1.1 The general aims of the evaluation are to:

- Undertake a programme of archaeological investigation targeted on known features of heritage significance and geophysical anomalies of suspected or unknown archaeological significance;
- To confirm the absence or presence of archaeological features in areas indicated to be devoid of archaeological remains in the results of the geophysical survey
- Make a competent record of the location and character of any such remains;
- Recover any archaeologically significant artefacts;
- Recover samples to assess material which has potential for the survival of paleoenvironmental or dating evidence from a range of archaeological features and significant deposits.
- Prepare a report on the findings and material recovered, and their significance;
- Make the report available through the Wiltshire HER and other online sources, and;
- Create and deposit with a suitable repository the written, drawn and photographic data along with artefactual and ecofactual evidence.

3.2 Specific aims and objectives

3.2.1 The specific aims and objectives of the evaluation are:

- To establish the character and preservation state of any remains present. This will include the archaeological features themselves and all types of organic and inorganic material identified;
- To assess how any proposed development works may impact on the preservation of the remains identified;
- Further refine our understanding of the development of *Durocornovium*, including the organisation of the settlement, structures and the relationship between the settlement and Ermine Street;
- If possible, identify any evidence of any industrial activities that may have occurred within the settlement, eg metalworking, with consideration given to appropriate paleoenvironmental sampling to aid identification;
- If present, further our understanding of the dark earth deposit identified during previous work (OA 2020), including date, means of accumulation and relationship between the deposit and any positive and negative features (eg raised buildings and ditches). This should include appropriate bulk and specialist sampling;
- To consider the remains identified within both the context of previous investigation of the settlement of *Durocornovium*, and the wider landscape.

3.3 SWARF and other research questions

3.3.1 In addition to the above, the evaluation has the potential to contribute to the regional research agenda as outlined in the South-West Archaeological Research Framework (Grove and Croft 2012).

How does the settlement sit within the wider landscape?

- 3.3.2 Theme A of the agenda highlights the importance of looking at the interaction between settlement and landscape. Two research aims within this theme are relevant to the evaluation: 'Improve understanding of non-villa Roman rural settlement' (Aim 29) and 'Improve understanding of early Roman urban settlement' (Aim 35).
- 3.3.3 The first phase of these works has confirmed the results of geophysical survey and demonstrated that Roman activity was concentrated along the edge of the development area, with the rest of the site forming the rural hinterland. No archaeological features were present in the hinterland. The geophysical survey suggests a similar layout within the area of the proposed works.
- 3.3.4 The evaluation has the potential to shed further light on the character of *Durocornovium's* periphery and its hinterland and contribute to our understanding of the development and chronology of the settlement and its wider landscape. Reference to the outputs of the Rural Settlement of Roman Britain (Allen et al. 2018; Smith *et al.* 2016) will be key to the interpretation of any remains.
- 3.3.5 In addition to the suspected significant remains in the eastern half of the site, any archaeological features identified within the hinterland should be fully investigated and subject to paleoenvironmental sampling.

Can the evaluation shed light on key periods of transition?

- 3.3.6 Aim 10 of the South-West Archaeological Research Framework highlights the need to address our currently poor understanding of key transitional periods, listing two periods that are relevant to the evaluation: the 2nd-3rd centuries and the late Roman to post-Roman period. Excavation of a range of archaeological features, and the recovery of artefactual and ecofactual evidence (notably from any 'dark earth' deposits) has the potential to contribute our knowledge of these periods in relation to *Durocornovium* and its wider landscape.

What evidence is for the evolution of the settlement and how do any remains identified relate to those previous investigated?

- 3.3.7 Located approximately 400m to the north of the proposed evaluation, the results of the excavations undertaken in the late 1960s and 1970s identified three broad phases of development. The evidence suggests that the settlement started as a small roadside settlement with possible military origins. It then developed into a nucleated settlement in the 1st century, before expanding in the late 3rd and 4th centuries. Previous investigation to the south suggests limited activity prior to the 1st century, suggesting that the settlement developed mainly to the north. The evaluation provides an opportunity to examine the development of the settlement.

Is there any evidence of suspected military origins to the settlement?

- 3.3.8 The location of the proposed evaluation is likely to lie beyond the extent of earliest known activity and the putative military settlement. Nevertheless, Aim 50 of the Research Framework, which looks to improve understanding of the effects of the Roman army on the local population, is relevant to the evaluation. Consideration should be given to the impact of the military activity on the surrounding landscape, for example through changes in agricultural practices and material culture.

What was the economic basis of the settlement?

- 3.3.9 The remains of a suspected *mansio* have been identified at *Durcornovium* through cropmark evidence. This would have provided a resting-place for travellers and state officials moving along Ermine Street, as well as a place to change horses, and suggests that the settlement had a significance that most other nucleated roadside settlements lacked. As a result, the settlement may have drawn greater resources from the local area and centralised key economic functions, such as agricultural processing, distribution of goods, and tax-collection.
- 3.3.10 At least one corndryer was identified during the excavation in the 1960s and '70s. However, it was noted in the results that agricultural tools were rare, suggesting that this area was not a focus of activity.
- 3.3.11 Through the excavation of wide range of archaeological features and the recovery of charred plant remains and animal bones, the evaluation provides an opportunity to identify evidence for agricultural and industrial activity. While interpretation of any enclosure systems would be limited, the results of this work should be considered together with the results of previous work to identify any enclosure patterns and help identify function.

How did Ermine street develop and what can this tell us about the development of the activity in this area?

- 3.3.12 Evidence to the north suggests that as the settlement developed, Ermine Street was expanded and improved. Should the remains of the road be identified during these works, it will be important to establish through excavation the development of the road surface and any adjacent roadside ditches. This will aid our understanding of the chronology and sequence of the road, as well as the development of adjacent features, such as field systems.

4 PROJECT-SPECIFIC EXCAVATION AND RECORDING METHODOLOGY

4.1 Scope of works

- 4.1.1 Based on the development proposals (Fig.2), 17.7ha of the 40ha site boundary has been identified as requiring further evaluation to supplement the results of the previous archaeological investigations. There are also several areas of dense woodland and trees within the proposed development area that are not available for trial trenching at this time.
- 4.1.2 As such, the works comprise the excavation of 59 trenches measuring 50m by 1.8m, equating to a 3% sample of the available area. The trenches have been positioned to provide an even coverage of the proposed development area and to ground truth the results of the geophysical survey. The works will be undertaken in two phases, the first comprising Trenches 1-33 but excluding Trenches 27 and 28, and the second phase Trenches 34-59 plus Trenches 27 and 28 (Fig. 3).
- 4.1.3 Trenches 8, 9, 17, 18 and 19 are to be excavated in the area suspected to contain the continuation of Durocornovium Roman Town, and as such have the potential to contain dense settlement remains (Fig. 3). Archaeological investigations in this area will be minimal (opening of trenches and initial cleaning) until a scope of works bespoke to the archaeological remains exposed has been agreed with Melanie Pomeroy-Killinger.
- 4.1.4 The presence of public rights of way, ecological exclusion zones and services have been taken into to consideration when producing the proposed trench layout (Fig. 3). However, minor alterations maybe required in the field due to previously unknown constraints.
- 4.1.5 Should it be required, a contingency will be maintained throughout the duration of the fieldwork for the excavation of up to six additional trenches. All additional trenching would be agreed between EDP and the Local Planning Archaeologist.
- 4.1.6 A third phase of trial trenching is to be undertaken within the area of the Scheduled Monument, these works are covered by a separate WSI (OA 2020). However, during the works a section of Trench 8 will be re-excavated to enable the recovery of previously identified human remains and palaeoenvironmental sampling of a buried soil.

4.2 Programme

- 4.2.1 It is anticipated that the fieldwork will take three weeks to complete, by a team consisting of a Project Supervisor directing up to four Project Archaeologists, under the management of John Boothroyd, Senior Project Manager.
- 4.2.2 All fieldwork undertaken by Oxford Archaeology South is overseen by the Head of Fieldwork, David Score MCifA.

4.3 Site-specific methodology

- 4.3.1 A summary of OA's general approach to excavation and recording can be found in Appendix A. Standard methodologies for geomatics and Survey, environmental

evidence, artefactual evidence and burials can also be found below (Appendices B, C, D and E respectively).

4.3.2 Site-specific methodologies will be as follows:

Trench excavation

- 4.3.3 The trenches will be laid out as shown in Figure 3 using a GPS with sub-15mm accuracy, except where minor adjustments are required due to ground conditions, site obstructions or ecological constraints (as above).
- 4.3.4 The trenches will be excavated using an appropriately powered mechanical excavator fitted with a toothless bucket under the direct supervision of an archaeologist. Spoil will be stored adjacent to, but at a safe distance from the trench edges. Trenches and the upcast spoil will be scanned with a metal detector as appropriate.
- 4.3.5 Machining will continue in even spits down to the top of the undisturbed natural geology or the first archaeological horizon depending upon which is encountered first. Once archaeological deposits have been exposed, further excavation will proceed by hand.
- 4.3.6 The exposed surface will be sufficiently cleaned to establish the presence/absence of archaeological remains. A sample of each feature or deposit type, for example pits, postholes, and ditches, will be excavated and recorded. In the event of the identification of an exceptional number and complexity of archaeological deposits, sample excavation will be more circumspect and will aim to be minimally intrusive. Excavation will, however, be sufficient to resolve the principal aims of the evaluation.
- 4.3.7 All features and deposits will be issued with unique context numbers, and context recording will be in accordance with established best practice and the OA Field Manual. Small finds and samples will be allocated unique numbers. Bulk finds will be collected by context.
- 4.3.8 Spoil produced from machine excavation, the surface or archaeological features and spoil from hand excavation will be scanned by a metal detector to enhance finds retrieval.
- 4.3.9 Digital photos will be taken of any archaeological features, deposits, trenches and evaluation work in general.
- 4.3.10 Plans will be produced at an appropriate scale (normally 1:50 or 1:100) with larger scale plans of features produced as necessary. Sections of features will be drawn at a scale of 1:20 and 1m-wide sample sections of stratigraphy will be drawn at a scale of 1:10. All section drawings will be located on the plan/s. The absolute height (m OD) of all principal strata and features, and the section datum lines, shall be calculated and indicated on the drawings.
- 4.3.11 The trench and sample sections will be located using either a GPS unit or total station. Co-ordinates relative to Ordnance Survey and Ordnance Datum will be obtained for each sampling location.
- 4.3.12 Upon completion of the works and in agreement with the Local Planning Archaeologist, the trenches will be backfilled with the arising in reverse order of excavation.

Paleoenvironmental sampling

- 4.3.13 Environmental sampling will be undertaken to characterise the modes of preservation and concentration of assemblages of biological material from different periods, areas and context types in order to inform the strategy during any further mitigation.
- 4.3.14 Soil samples, typically of 40l, will be taken from a variety of feature types and dates to assess the paleoenvironmental potential across all periods along the length of the scheme.
- 4.3.15 During the evaluation works, an emphasis will be placed on contexts that:
- are not believed to be contaminated or of mixed origin;
 - are known or thought likely to contain biological remains (eg charcoal, plant macrofossils, molluscs);
 - are representative of the range of feature types and periods present;
 - contain datable artefacts or have the potential to be dated (eg by radiocarbon analysis);
 - are interpretatively important at the context or site level, and;
 - are potentially of archaeological or historical significance.
- 4.3.16 Consideration will also be given to the collection of samples from waterlogged deposits that may be present within trenches adjacent to water courses. Samples, normally between 10–20l will be processed for the recovery of macroscopic plant remains and insects.
- 4.3.17 Although sampling will focus on features from which datable material has been recovered, additional sampling of undated features may be undertaken since datable material may not always be evident to the naked eye. This will be done on a case by case basis. Advice will be sought from OA's lead environmental archaeologist Dr Rebecca Nicholson BA (Hons) MA PhD MCIfA FSA Scot.
- 4.3.18 OA's approach to collection and processing of environmental samples is detailed below in Appendix C.
- 4.3.19 Environmental sampling will be undertaken in accordance with:
- Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post excavation, (2nd ed), Historic England 2011
 - Policy for Environmental Archaeology: Sampling, Reporting and Retention/Dispersal, Oxford Archaeology 2017

Human remains

- 4.3.20 Given the identification of a single cremation during a previous phase of evaluation there is potential for further human remains to be identified during these works. If human remains are encountered then EDP and Melanie Pomeroy-Kellinger Archaeological Advisor to Swindon Brough Council will be notified as soon as is

practicable. As far as possible, any human remains exposed during these works will be left *in situ*, protected and re-buried.

- 4.3.21 However, if necessary, the excavation of human remains will be carried out once an appropriate Home Office licence has been secured.
- 4.3.22 Human remains will be cleaned and placed in boxes by following the methods described by McKinley and Roberts (1993). Current guidance issued by English Heritage and the Church of England (2005, 43) states that human remains must be marked. However, the recent Code of Practice (<http://www.babao.org.uk/index/ethics-and-standards>), published by BABAO, acknowledges that marking bone is not always feasible and that there are economic, curatorial, conservational and ethical issues associated with this practice.
- 4.3.23 Any changes both to the above methodology will be agreed by EDP and the Local Planning Archaeologist.

5 PROJECT-SPECIFIC REPORTING AND ARCHIVE METHODOLOGY

5.1 Programme

- 5.1.1 The report will be completed within six weeks of the completion of the fieldwork.
- 5.1.2 Bound copies of the completed report will be provided to EDP and the Wiltshire County Archaeologist. A digital copy of the report will also be provided in Adobe Acrobat (.pdf) format.
- 5.1.3 A short note containing the results of the evaluation will be placed in the appropriate local journal.

5.2 Content

- 5.2.1 The content of this report will be as defined in Appendix F.

5.3 Specialist input

- 5.3.1 OA has a large pool of internal specialists, as well as a network of external specialists with whom OA have well-established working relationships. A general list of these specialists is presented in Appendix G; in the event that additional input should be required, an updated list of specialists can be supplied.

5.4 Archive

- 5.4.1 The site archive will be deposited with a Swindon Museum and Art Gallery (SM&AG) under the accession number SWIMG.2019.162 following completion of the project. The client will cover all charges levied by SM&AG for the deposition of the archive.
- 5.4.2 A summary of OA's general approach to documentary archiving can be found in Appendix H.

6 HEALTH AND SAFETY

6.1 Roles and responsibilities

- 6.1.1 The Senior Project Manager, John Boothroyd, has responsibility for ensuring that safe systems of work are adhered to on site. He delegates elements of this responsibility to the Project Supervisor, who implements these on a day-to-day basis.
- 6.1.2 The Director with responsibility for Health and Safety at OA is Dan Poore Tech IOSH (Chief Business Officer).

6.2 Method statement and risk assessment

- 6.2.1 A summary of OA's general approach to health and safety can be found in Appendix I. A risk assessment has also been undertaken and approved and will be kept on site, along with OA's standard Health and Safety file, which will contain all relevant health and safety documentation.
- 6.2.2 The Health and Safety file will be available to view at any time.

6.3 Monitoring of works

- 6.3.1 At least five days' notice of the commencement of the evaluation works will be given to Archaeological Advisor to Swindon Borough Council.
- 6.3.2 They will have free access to the site (subject to Health and Safety considerations) and all records to ensure the works are being carried out in accordance with this WSI and all other relevant standards.

7 BIBLIOGRAPHY

Anderson, A S, Wachter, J S, and Fitzpatrick, A P, 2001 *The Romano-British 'Small Town' at Wanborough, Wiltshire: Excavations 1966–76*, Britannia Monogr **19**, London

AS 2017, Eastern Villages Southern Connector Road Swindon, Magnetometer Survey Report, Archaeology Surveys Ltd, unpublished client report.

BGS Online, British Geological Survey Online Viewer, accessed Oct 2019

CA 2016, Swindon Southern Connector Road, Swindon, Wiltshire, Archaeological Desk-Based Assessment, Cotswold Archaeology, unpublished client report.

CA 2018, New Eastern Villages Southern Connector Road, Wanborough, Swindon, Archaeological Evaluation, Cotswold Archaeology, unpublished client report.

CifA 2014, Standard and Guidance for Archaeological Evaluation, Chartered Institute for Archaeologists.

English Heritage and the Church of England 2005??

McKinley, J, and Roberts, C, 1993 *Excavation and post-excavation treatment of cremated and inhumed human remains*, CifA Technical Paper No. 13

OA, 2020, Phase 2, Foxbridge Swindon Wiltshire, Written Scheme of Investigation for an Archaeological Evaluation, Oxford Archaeology

WA 2017, Southern Connector Road Scheme, Wanborough Road, Swindon: Archaeological Evaluation, Wessex Archaeology, unpublished client report

WA 2018, Axford and Ogbourne Licence Reduction Scheme, Blunsdon Hill Reservoir to Whitefield Reservoir, Swindon, Wiltshire, Post-excavation Assessment and Updated Project Design, Wessex Archaeology, unpublished client report.

OA STANDARD FIELDWORK METHODOLOGY APPENDICES

The following methods and terms will apply, where appropriate, to all OA fieldwork unless varied by the accompanying detailed Written Scheme of Investigation.

Copies of all OA internal standards and guidelines referred to below are available on request.

APPENDIX A GENERAL EXCAVATION AND RECORDING METHODOLOGY

A.1 Standard methodology – summary

Mechanical excavation

- A.1.1 An appropriate mechanical excavator will be used for machine excavation. This will normally be a JCB or 360° tracked excavator with a 1.5 m to 2 m wide toothless ditching bucket. For work with restricted access or working room a mini excavator may be used.
- A.1.2 All mechanical excavation will be undertaken under direct archaeological supervision.
- A.1.3 All undifferentiated topsoil or overburden of recent origin will be removed down to the first significant archaeological horizon, in successive, level spits.
- A.1.4 Following mechanical excavation, all areas that require examination or recording will be cleaned using appropriate hand tools.
- A.1.5 Spoil heaps will be monitored in order to recover artefacts to assist in the analysis of the spatial distribution of artefacts. Modern artefacts will be noted but not retained.
- A.1.6 After recording, evaluation trenches and test pits will usually be backfilled with excavated material in reverse order of excavation, and compacted as far as is practicable with the mechanical excavator. Area excavations will not normally be backfilled.

Hand excavation

- A.1.7 All investigation of archaeological levels will usually be by hand, with cleaning, examination and recording both in plan and section.
- A.1.8 Within significant archaeological levels the minimum number and proportion of features required to meet the aims of the excavation will be hand excavated. Pits and postholes will usually be subject to a 50% sample by volume. Linear features will be sectioned as appropriate. More complex features such as those associated with funerary activity will usually be subject to 100% hand excavation.
- A.1.9 In the case of evaluations, it is not necessarily the intention that all trial trenches will be fully excavated to natural stratigraphy, but the depth of archaeological deposits across the site will be assessed. The stratigraphy of a representative sample of the evaluation trenches will be recorded even where no archaeological deposits have been identified. Any excavation, both by machine and by hand, will be undertaken with a view to avoiding damage to any archaeological features or deposits, which appear to be worthy of preservation in situ.

Recording

- A.1.10 Written descriptions will be recorded on proforma sheets comprising factual data and interpretative elements.
- A.1.11 Where stratified deposits are encountered a Harris matrix will be compiled during the course of the excavation.
- A.1.12 Plans will normally be drawn at 1:100, but on urban or deeply stratified sites a scale of 1:50 or 1:20 will be used. Detailed plans will be at an appropriate scale. Burials will be drawn at scale 1:10 or recorded using geo-referenced digital photography.
- A.1.13 The site grid will be accurately tied into the National Grid and located on the 1:2500 or 1:1250 map of the area.
- A.1.14 A register of plans will be kept.
- A.1.15 Long sections of showing layers will be drawn at 1:50. Sections of features or short lengths of trenches will be drawn at 1:20.
- A.1.16 A register of sections will be kept.
- A.1.17 Generally, all sections will be tied in to Ordnance Datum.
- A.1.18 A full photographic record, illustrating in both detail and general context the principal features and finds discovered will be maintained. The photographic record will also include working shots to illustrate more generally the nature of the archaeological work.
- A.1.19 Photographs will be recorded on OA Photographic Record Sheets.

A.2 Relevant industry standards and guidelines

- A.2.1 The Chartered Institute for Archaeologists Standard and Guidance notes relevant to fieldwork are:
- Standard and Guidance for Archaeological Field Evaluation
 - Standard and Guidance for Archaeological Excavation
 - Standard and Guidance for an Archaeological Watching Brief.
- A.2.2 These will be adhered to at all times.

A.3 Relevant OA manual and other supporting documentation

- A.3.1 All fieldwork will be undertaken in accordance with the requirements of the OA Field Manual (ed. D Wilkinson 1992), and the revised OA fieldwork manual (publication forthcoming).
- A.3.2 Further guidance is provided to all excavators in the form of the OA 'Fieldwork Crib Sheets - a companion guide to the Fieldwork Manual'. These have been issued ahead of formal publication of the revised Fieldwork Manual.

APPENDIX B GEOMATICS AND SURVEY

B.1 Standard methodology - summary

- B.1.1 The aim of OA methodology is to provide comprehensive survey cover of all investigation areas. Additionally, it is designed to provide coverage for any areas, beyond the original scope of the project, which arise as a result of further work. It provides digital plans of all required elements of the project and locates them within an overall grid.
- B.1.2 It also maintains all necessary survey data and ensures that the relevant information is copied into the primary record, in order to ensure the integrity of the project archive. Furthermore, it ensures that all core data is securely stored and backed up. It establishes accurate project reference systems utilising a series of control stations and permanent base lines.
- B.1.3 The survey will be conducted using a combination of Total Station Theodolite (TST) survey utilising Reflectorless Electronic Distance Measurement (REDM) where appropriate, hand-measured elements and GPS (Global Positioning System), or photogrammetry.
- B.1.4 Before the main work commences, a network of control stations will be laid out encompassing the area. Control stations will be tied in to known points or existing features using rigorous metric observation. The control network will be set in using a TST to complete a traverse or using techniques as appropriate to ensure sufficient accuracy. A GPS, or other appropriate method, will be used to orientate the control network to National Grid or other recognised coordinate system.
- B.1.5 All control stations will be checked by closed traverse and/or GPS, as appropriate. The accuracy of these control stations will be accessed on a regular basis and re-established accordingly. All stations will be recorded on Survey Control Station sheets.
- B.1.6 Each control station will be marked with a PGM (Permanent Ground Marker). Witness diagrams will include the full 3-D co-ordinates generated, a sketch diagram and measurements to at least three fixed details, written description of the mark and a photograph of the control point in its environs.
- B.1.7 Prior to entry into the field all equipment will be checked, and all pre-survey information will be logged onto the field computer and uploaded onto survey equipment as appropriate. The software in the field computer will be verified and all cabling between the GPS and/or TST and computer will be checked. Prior to conducting the survey, the site will be reconnoitred for locations for a viable control network and check the line of sight and any possible hindrance to survey. Daily record sheets will be kept to record daily tasks and conditions.
- B.1.8 All spatial data will be periodically downloaded onto a field computer, and backed up onto CD, or DVD. It will be cleaned, validated and inspected.
- B.1.9 All survey data will be documented on daily survey record sheets. Information entered on these sheets includes key set up information (Instrument height etc.) as well as daily variables and errors/comments. All survey data will be digitally recorded in a raw

format and translated during the download process this shall allow for any errors to be cross referenced with the daily survey record and corrected accordingly.

- B.1.10 A weekly summary of survey work will be produced to access development and highlight problems. This information also will be recorded on the weekly survey journal. Technical support for the survey equipment and download software shall be available at all times. In those instances, where sites are remotely operated, all digital data will be backed up regularly and a copy returned to Oxford on a weekly basis.
- B.1.11 A site plan will initially be created by a rapid survey of relevant archaeological features by mapping their extent using a combination of TST and GPS. This will form the basis for deciding excavation strategy and will be updated as the excavation clarifies the extent of, and relationships between, archaeological features.
- B.1.12 Excavated archaeological interventions and areas of complex stratigraphy will be hand drawn. At least two Drawing Points (DPs) will be set in as a baseline and measurements taken off this by tape and offset. The hand drawn plans will be referenced to the digitally captured pre-site plan by measuring in the DPs with a TST or GPS. These hand drawn elements will then be scanned in, geo-referenced using the DPs as reference points and digitised following OA's digitising protocols. For further details on hand planning procedure please refer to the fieldwork guidelines.
- B.1.13 Where appropriate photogrammetry or rectified photography may be used to record standing structures or burials. This will be carried out in line with Standard OA procedures for photogrammetry or rectified photography.
- B.1.14 Survey data recorded in the field will be downloaded using appropriate downloading software, and saved as an AutoCAD Map DWG file, or an ESRI Shapefile. These files will be regularly updated and backed up with originals being stored on an OA server in Oxford.
- B.1.15 All drawings will be composed of closed polygons, polylines or points in accordance with the requirements of GIS construction and OA Geomatics protocols. Once created, additional GIS/CAD work will normally be carried out at the local OA central office or at on-site remote locations when appropriate. Support for all GIS/CAD work will be available from OA's Oxford Office during normal office hours. The aim of the GIS/CAD work is to produce workable draft plans, which can be produced as stand-alone products, or can be readily converted to GIS format. Any hand-drawn plans will be scanned and digitised on site in the first instance. Subsequent plans will be added to the main drawing as it develops.
- B.1.16 All plan scans will be numbered according to their plan site number. Digital plans will be given a standard new plan number taken out from the site plan index.
- B.1.17 All digital data will be backed up incrementally on CD or DVD. On each Friday the entire data directory will be backed up and returned to Oxford where it will be copied onto the OA projects server. Each CAD drawing will contain an information layout which will include all the relevant details appertaining to that drawing. Information (metadata) on all other digital files will be created and stored as appropriate. At the end of the survey all raw measurements will be made available as hard copy for archiving purposes.

B.2 Relevant industry standards and guidelines

- B.2.1 Historic England (2007) Understanding the Archaeology of Landscapes A Guide to Good Recording Practice.
- B.2.2 Historic England (2015), Metric Survey Specifications for Cultural Heritage.
- B.2.3 Historic England (2016), Understanding Historic Buildings A Guide to Good Recording Practice.
- B.2.4 Historic England (2017), Photogrammetric Applications for Cultural Heritage. Guidance for Good Practice.

B.3 Relevant OA manual and other supporting documentation

- B.3.1 OA South Metric Survey, Data Capture and Download Procedures
- B.3.2 OA South Digitising Protocols
- B.3.3 OA South GIS Protocols
- B.3.4 These will be superseded by the OA South Geomatics Manual (in progress).

APPENDIX C ENVIRONMENTAL EVIDENCE

C.1 Standard methodology – summary

- C.1.1 Different environmental and geoarchaeological sampling strategies may be employed according to established research targets and the perceived importance of the strata under investigation. Where possible an environmental specialist(s) will visit the site to advise on sampling strategies. Sampling methods will follow guidelines produced by Historic England and Oxford Archaeology. A register of samples will be kept. Specialists will be consulted where non-standard sampling is required (e.g. TL, OSL or archaeomagnetic dating) and if appropriate will be invited to visit the site and take the samples.
- C.1.2 Geoarchaeological sampling methods are site specific, and methodologies will be designed in consultation with the geoarchaeological manager on a site by site basis.
- C.1.3 Bulk soil samples, where possible of 40 litres or 100% of a deposit if less is available, will be taken from potentially datable features and layers for flotation for charred plant remains and for the recovery of small bones and artefacts. Larger soil samples (up to 100L) may be taken for the complete recovery of animal bones, marine shell and small artefacts from appropriate contexts. Smaller bulk samples (general biological samples) of 10-20 litres will be taken from any waterlogged deposits present for the recovery of macroscopic plant remains and insects. Series of incremental 2L samples may be taken through buried soils and deep feature fills for the recovery of snails and/or waterlogged plant remains, depending on the nature of the stratigraphy and of the soils and sediments. Columns will be taken from buried soils, peats and waterlogged feature fills for pollen and/or phytoliths, diatoms, ostracods and foraminifera if appropriate. Soil samples will be taken for soil investigations (particle size, organic matter, bulk chemistry, soil micromorphology etc.) and possibly for metallurgical analysis in consultation with the appropriate specialists.
- C.1.4 Bulk samples from dry deposits will be processed by standard water flotation using a modified Siraf-style machine and meshes of 0.25mm (flot) and 0.5 or 1mm depending on sediment type and like modes of preservation (residue). Heavy residues will be wet sieved, air dried and sorted. Samples taken exclusively for the recovery of bones, marine shell or artefacts will be wet sieved to 2mm. Waterlogged samples (1L sub-sample) and snail samples (2L) will be processed by hand flotation with flots and residues collected to 0.25mm (waterlogged plants) and 0.5mm (snails) respectively; these flots and residues will be sorted by the specialist. Samples specifically taken for insects, pollen, other microflora and microfauna, metallurgy and soil analysis will be submitted as whole earth to the appropriate specialists or processed following their instructions.

C.2 Relevant industry standards and guidelines

- C.2.1 Historic England 2010. Waterlogged Wood: Guidelines on the recording, sampling, conservation and curation of waterlogged wood.
- C.2.2 Historic England 2011. Environmental Archaeology. A guide to the theory and practice of methods, from sampling and recovery to post excavation, (2nd ed)

- C.2.3 Historic England 2004. Dendrochronology: Guidelines on Producing and Interpreting Dendrochronological Dates (revision due 2020).
- C.2.4 University of Bradford 2019 Archaeomagnetism: Magnetic Moments in the Past <https://www.brad.ac.uk/archaeomagnetism/>
- C.2.5 Historic England 2008. Luminescence Dating. Guidelines on Using Luminescence Dating in Archaeology (revision due 2020).
- C.2.6 Historic England 2008. Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains (currently being revised).
- C.2.7 Historic England 2015. Archaeometallurgy. Guidelines for Best Practice.
- C.2.8 Historic England 2015 Geoarchaeology. Using Earth Sciences to Understand the Archaeological Record.
- C.2.9 Historic England 2017. Organic Residue Analysis and Archaeology.
- C.2.10 Baker, P and Worley, F 2019. Animal Bones and Archaeology: Recovery to Archive. Historic England

C.3 Relevant OA manual and other supporting documentation

- C.3.1 Oxford Archaeology 2017. Environmental Sampling Guidelines, 4th ed.

APPENDIX D ARTEFACTUAL EVIDENCE

D.1 Standard methodology - summary

- D.1.1 Before a site begins arrangements concerning the finds will be discussed with the Finds Team Leader. Information will be provided by the project manager about the nature of the site, the expected size and make-up of the finds assemblage and any site specific finds retrieval strategies. On-site requirements will be discussed and a conservator appointed who can be called on to make site visits if required. Special requirements regarding particular categories of material will be raised at this early stage for instance the likelihood of recovering assemblages of waterlogged material, large timbers, quantities of structural stone or ceramic building material. Specialists may be required to visit sites to discuss retrieval strategies.
- D.1.2 The project manager will supply the Finds Team Leader with contact details of the landowner of the site so that consent to deposit any finds resulting from the investigation can be sought.
- D.1.3 The on-site retrieval, lifting and short term packaging of bulk and small finds will follow the detailed guidelines set out in the OA Finds Manual (sections 2 and 3), First Aid for Finds and the UKIC conservation guidelines No.2.
- D.1.4 All finds recovered from site will be transported to an OA regional office for processing; local sites will return finds at the end of each day, away based sites at the end of each week. Special arrangements can be discussed for certain sites with the Team Leader before the start of a project. Larger long running sites may in some instances set up on-site processing units to deal with the material from a particular site.
- D.1.5 All finds qualifying as Treasure will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act (1996), and the Treasure (Designation) Order 2002. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the finds from theft.
- D.1.6 Each box of finds will be accompanied by a finds context checklist itemising the finds within each box. The number of bags of finds from each context and individual small find from each context will be recorded. A member of the processing team will check the list when it arrives in the department. There are separate forms for finds recovered from fieldwalking.
- D.1.7 The processing programme is reviewed on a weekly basis and priorities are worked out after discussions with the Fieldwork Team Leader and the Post-excavation Team Leader. Project managers will keep the Finds Team Leader informed of any pressing deadlines that they are aware of. All finds from evaluations are dealt with as a matter of priority.
- D.1.8 All bulk finds are washed (where appropriate), marked, bagged and boxed by the processing team according to the guidelines set out in section 4 and 5 of the OA Finds Manual, First-aid for finds and the UKIC guidelines No.2. They must also take into account the requirements of the receiving museum. Primary data recording count and weight of fragments by material from each context is recorded on the site database.

- D.1.9 Unstable and sensitive objects are recorded onto the database and then packaged and stored in controlled environments according to their individual requirements. The advice of a conservator will be sought for sensitive objects in need of urgent conservation. All metalwork will be x-rayed prior to assessment (and to meet the requirements of most receiving museums).
- D.1.10 Finds recovered from the environmental sample processing will be incorporated into the main assemblage and added to the database.
- D.1.11 On completion of the processing and data entry a finds file for each archaeological investigation will be produced, a summary of which is available for the project manager. The assemblage is allocated an OA number for storage purposes. Bulk finds are stored on a roller racking system, metals in a secure controlled storage and organic finds are refrigerated where possible.
- D.1.12 The movement of finds in and out of the storage areas is strictly monitored and recorded. Carbon copy transit forms exist to record this information. Finds will not be removed from storage without the prior knowledge of the Finds Team Leader.
- D.1.13 Finds information summarised in the finds compendium is used to assess the finds requirements for the post excavation stages of the project. The Team Leader holds a list of all specialists used by OA (see below) both internal and external.
- D.1.14 On completion of the post excavation stage of the project the team prepares the finds assemblage for deposition with the receiving museum. Discussions will be held with the museum, the excavator and the Finds Team Leader to finalise any selection, retention or discard policy. Most museums issue strict guidelines for the preparation of archives for deposition with their individual labelling, packaging and recording requirements.

D.2 Relevant industry standards and guidelines

- D.2.1 UKIC, 1983, Packaging and Storage of Freshly-Excavated Artefacts from Archaeological Sites. Conservation Guidelines No.2. Archaeology Section, United Kingdom Institute for Conservation.
- D.2.2 UKIC, 1988, Excavated Artefacts and Conservation: UK sites Revised Edition. Conservation Guidelines No.1. Archaeology Section, United Kingdom Institute for Conservation.
- D.2.3 Society of Museum Archaeologists, 1993, Selection, retention and dispersal of Archaeological Collections. Download available via <http://www.socmusarch.org.uk/publica.htm>)
- D.2.4 Watkinson, D E & Neal, V, 1998, First Aid for Finds (3rd edition). RESCUE & UKIC

D.3 Relevant OA manual and other supporting documentation

- D.3.1 Allen, L, and Cropper, C (internal publication only) Oxford Archaeology Finds Manual.

APPENDIX E HUMAN REMAINS

E.1 Standard methodology - summary

- E.1.1 Human remains will not be excavated without a relevant licence/faculty and, where applicable (for example, a post medieval cemetery), a risk assessment from the local environmental officer.
- E.1.2 All human remains will be treated with due care and regard to the sensitivities involved, and will be screened from the public throughout the course of the works.
- E.1.3 Excavation will be undertaken in accordance with ClfA (Roberts and McKinley 1993), Historic England (2018) and the Advisory Panel on the Archaeology of Burials in England (APABE, 2015, 2017). For crypts and post-medieval burials, the recommendations set out by the ClfA (Cox 2001) and by the Association of Diocesan and Cathedral Archaeologists and APABE (2010) are also relevant.
- E.1.4 In accordance with recommendations set out in the Historic England and Church of England (2005) and updated by the Advisory Panel on the Archaeology of Burials in England (2017), skeletons will not be excavated beyond the limits of the trench, unless they are deemed osteologically or archaeologically important.
- E.1.5 Where any soft tissue survives and/or materials (for example, inner coffins, mattresses and other paddings) soaked in body liquor, no excavation or handling of the remains will take place until an appropriate risk assessment has been undertaken. Relevant protocols (i.e. Cox 2001) for their excavation, recording and removal will be adhered to.
- E.1.6 OA does not excavate or remove modern burials (those less than 100 years old) and does not remove or open sealed lead coffins. Appropriate PPE (e.g. chemical suit, latex gloves) will be worn by all staff when working with lead coffins.
- E.1.7 Graves and their contents will be hand excavated in plan. Each component (for example, skeleton, grave cut, coffin (or remains of), grave fill) will be assigned a unique context number from a running sequence. A group number will also be assigned to all of these, and small finds numbers to features such as coffin nails, hobnails and other grave goods (as appropriate).
- E.1.8 Soil samples will be normally taken during the excavation of inhumations, usually from the region of the skull, chest, right hand, left hand, abdomen and pelvis, right foot and left foot. Infants (circa. less than 5 years) will normally be recovered as bulk samples. Soil samples will also be taken from graves that appear to contain no human bone.
- E.1.9 Burials (including the skeleton, cremation, coffin fittings, coffin, urn, grave goods / other) will be recorded by photographic and written record using specialised pro forma context sheets, although these records may only include schematic representations of the location and position of the skeletons, depending on the nature and circumstances of the burial.
- E.1.10 Where necessary, hand drawn plans (usually at 1:10, sometimes 1:5) will be made, especially of contexts where required details cannot be adequately seen using photography (for example, urned cremations; undisturbed hob nails).

- E.1.11 Levels will be taken. For inhumations this will be on the skull, pelvis and feet as a minimum.
- E.1.12 Human remains that are exhumed will be bagged and labelled according to skeletal region and carefully packed into suitable containers (for example, acid free cardboard boxes) and transported to a suitable storage location. Any associated coffins and coffin fittings will be contained with the human remains wherever possible.
- E.1.13 Unurned cremations will not usually be half sectioned, but excavated in spits and/or quadrants (i.e. large deposits or spreads), or recovered as a bulk sample.
- E.1.14 Wherever possible, urned cremations will be carefully bandaged, recovered whole and will be excavated in spits in the laboratory, as per the recommendations of McKinley (2004, 2017).
- E.1.15 Unless deemed osteologically or archaeologically important disarticulated bone / charnel will be collected and reserved for re-burial if immediate re-internment as close to its original position is not practicable. In some instances, a rapid scan of this material may be undertaken by a qualified osteologist, if deemed relevant.
- E.1.16 If undisturbed, pyre sites will normally be excavated in quadrants, at the very least in 0.5 m blocks of 0.5 m spits.
- E.1.17 Pyre debris dumps will be half sectioned or quadrant and will be subject to 100% sampling.
- E.1.18 Wooden and lead coffins and any associated fittings, including fixing nails will be recorded on a pro forma coffin recording sheet. All surviving coffin fittings will be recorded by reference to Reeve and Adams (1993) and the unpublished master catalogue that is being compiled by OA. Where individual types cannot be paralleled, they will be drawn and/ or photographed and assigned a style number. Biographical details obtained from legible departum plate inscriptions will be recorded and further documentary research will be made.
- E.1.19 Funerary structures, such as brick shaft graves and/or vaults will be recorded by photogrammetry or hand-drawn at a scale of 1:10 or 1:20, as appropriate. Location, dimensions and method of construction will be noted, and the structure added to the overall trench plan.
- E.1.20 Memorials, including headstones, revealed within the areas of development will be recorded irrespective of whether they are believed to be in situ.
- E.1.21 Where required, memorials will be accorded an individual context number and will also be included as part of the grave group, if the association with a burial is clear.
- E.1.22 Memorials will be recorded on pro-forma context sheets, based on and following the guidelines set out by Mytum (2002), and will include details of:
- Shape
 - Dimensions
 - Type of stone used

- Condition, completeness and fragmentation of stones, no longer in original positions
- Iconography (an illustration may best describe these features)
- Inscription (verbatim record of inscription; font of the lettering)
- Stylistic type

E.2 Relevant industry standards and guidelines

- E.2.1 Advisory Panel on the Archaeology of Burials in England, 2013, Science and the Dead. A guideline for the destructive sampling of archaeological human remains for scientific analysis. English Heritage Publishing.
- E.2.2 Advisory Panel on the Archaeology of Burials in England, 2017 Guidance for Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England
- E.2.3 Advisory Panel on the Archaeology of Burials in England, 2015 Large Burial Grounds. Guidance on sampling in archaeological fieldwork projects
- E.2.4 Association of Diocesan and Cathedral Archaeologists and APABE. 2010 Archaeology and Burial Vaults. A guidance note for churches. Guidance Note 2
- E.2.5 British Association of Biological Anthropology and Osteoarchaeology. 2010a Code of Practice
- E.2.6 British Association of Biological Anthropology and Osteoarchaeology. 2010b Code of Ethics
- E.2.7 Cox, M, 2001 Crypt archaeology. An approach. ClfA Paper No. 3
- E.2.8 English Heritage, 2002 Human Bones from Archaeological Sites. Guidelines for producing assessment documents and analytical reports
- E.2.9 Historic England, 2018 The Role of the Human Osteologist in an Archaeological Fieldwork Project. Swindon, Historic England
- E.2.10 McKinley, J, and Roberts, C, 1993 Excavation and post-excavation treatment of cremated and inhumed human remains, ClfA Technical Paper No. 13
- E.2.11 McKinley, J, 2004 Compiling a skeletal inventory: cremated human bone. In Brickley, M, and McKinley, J (eds) Guidelines to the Standards for Recording Human Remains, ClfA Technical Paper No. 7. 9-13
- E.2.12 McKinley, J, 2017 Compiling a skeletal inventory: cremated human bone. In Mitchell P, and Brickley, M (eds) Updated Guidelines to the Standards for Recording Human Remains, ClfA 14-19
- E.2.13 Mitchell P, and Brickley, M (eds) Updated Guidelines to the Standards for Recording Human Remains, CIFA 2017
- E.2.14 Mytum, H, 2000 Recording and Analysing Graveyards. CBA Handbook No. 15.
- E.2.15 Reeve, J, and Adams, M, 1993 The Spitalfields Project. Volume I – The Archaeology Across the Styx. CBA Research Report No. 85

E.2.16 The Human Tissue Act 2004

E.3 Relevant OA manual and other supporting documentation

- E.3.1 Loe, L, 2008 The Treatment of Human Remains in the Care of Oxford Archaeology. Oxford Archaeology internal policy document
- E.3.2 Excavating and recording of buried human remains. Oxford Archaeology internal guidelines document

APPENDIX F REPORTING

F.1 Standard methodology - summary

F.1.1 For Watching Briefs and Evaluations, the style and format of the report will be determined by OA, but will include as a minimum the following:

- A location plan of trenches and/or other fieldwork in relation to the proposed development.
- Plans and sections of features located at an appropriate scale.
- A section drawing showing depth of deposits including present ground level with Ordnance Datum, vertical and horizontal scale.
- A summary statement of the results.
- A table summarising the features, classes and numbers of artefacts contained within, spot dating of significant finds and an interpretation.
- A reconsideration of the methodology used, and a confidence rating for the results.
- An interpretation of the archaeological findings both within the site and within their wider landscape/townscape setting.

F.1.2 For Excavations, a Post-Excavation Assessment and Project Design will generally be prepared, as prescribed by Historic England Management of Research Projects in the Historic Environment (MoRPHE) 2006, Section 2.3. This will include a Project Description containing:

- A summary description and background of the project.
- A summary of the quantities and assessment of potential for analysis of the information recovered for each category of site, finds, dating and environmental data. Detailed assessment reports will be contained within appendices.
- An explicit statement of the scope of the project design and how the project relates to any other projects or work preceding, concurrent with or following on from it.
- A statement of the research aims of the fieldwork and an illustrated summary of results to date indicating to what extent the aims were fulfilled.
- A list of the project aims as revised in the light of the results of fieldwork and the current post-excavation assessment process.

F.1.3 A section on Resources and Programming will also be produced, containing:

- A list of the personnel involved indicating their qualifications for the tasks undertaken, along with an explanation of how the project team will communicate, both internally and externally.
- A list of the methods which will be used to achieve the revised research aims.

- A list of all the tasks involved in using the stated methods to achieve the aims and produce a report and research archive in the stated format, indicating the personnel and time in days involved in each task. Allowance should be made for general project-related tasks such as monitoring, management and project meetings, editorial and revision time.
- A cascade or Gantt chart indicating tasks in the sequence and relationships required to complete the project. Due allowance will be made for leave and public holidays. Time will also be allowed for the report to be read by a named academic referee as agreed with the County Archaeological Officer, and by the County Archaeological Officer.
- A report synopsis indicating publisher and report format, broken down into chapters, section headings and subheadings, with approximate word lengths and numbers and titles of illustrations per chapter. The structure of the report synopsis should explicitly reflect the research aims of the project.

F.1.4 The Project Design will be submitted to the County Archaeological Officer or equivalent for agreement.

F.1.5 Under certain circumstances (e.g. with very small mitigations), and as agreed with the County Archaeological Officer or equivalent, a formal Assessment and Project Design may not be required and either the project will continue straight to full analysis, or a simple Project Proposal (MoRPHE 2006 Section 2.1) will be produced prior to full analysis. This proposal may include:

- A summary of the background to the project
- Research aims and objectives
- Methods statement outlining how the aims and objectives will be achieved
- An outline of the stages, products and tasks
- Proposed project team
- Estimated overall timetable and budget if appropriate.

F.1.6 Once the post-excavation Project Design or Project Proposal has been accepted, the County Archaeological Officer or his appointed deputy will monitor the progress of the post-excavation project at agreed points. Any significant variation in the project design will be agreed with the County Archaeological Officer.

F.1.7 The results of the project will be published in an appropriate archaeological journal or monograph. The appropriate level of publication will be dependent on the significance of the fieldwork results and will be agreed with the County Archaeological Officer. An OASIS (Online Access to the Index of Archaeological Investigations) form will be completed for each project as per Historic England guidelines.

F.2 Relevant industry standards and guidelines

F.2.1 Oxford Archaeology (OA) adheres to the national standards in post-excavation procedure as outlined in Historic England's Management of Research Projects in the Historic Environment (MoRPHE; EH 2006). Furthermore, all post-excavation projects

take into account the appropriate regional research frameworks as well as national research agendas such as the Framework for Historic Environment Activities & Programmes in Historic England (SHAPE; EH 2008).

APPENDIX G LIST OF SPECIALISTS REGULARLY USED BY OA

G.1.1 Below are two tables, one containing 'in-house' OA specialists, and the other containing a list of external specialists who are regularly used by OA.

Internal archaeological specialists used by OA

Specialist	Specialism	Qualifications
John Cotter	Medieval and Post Medieval pottery, Clay Pipe and CBM	BA (Hons), MCIfA
Cynthia Poole	CBM and Fired Clay	BA (Hons), MSc
Edward Biddulph	Roman Pottery	BA (Hons), MA, MCIfA
Kate Brady	Roman Pottery	BA, ACIfA
Ian Scott	Metalwork and Glass	BA (Hons)
Leigh Allen	Metalwork and worked bone	BA (Hons), PGDip
Dr Ruth Shaffrey	Worked stone artefacts	BA, PhD, MCIfA
Julian Munby	Architectural Stone	BA, FSA
Dr Rebecca Nicholson	Fish and Bird Bone	BA (Hons), MA, D.Phil, MCIfA, FSA Scot
Dr Mairead Rutherford	Pollen	BSc, MSc
Dr Alex Davies	Prehistoric Pottery	BA (Hons), MA, PhD, ACIfA
Dr Lee Broderick	Animal bone	BA (Hons), MA, MSc, FZG, SAC Dip (ecology), PhD
Victoria Sainsbury	Glass	BA (Hon), MSc
Julia Meen	Charred and waterlogged plant remains and charcoal	BSc (Hons), MA
Dr Denise Druce	Charred plant remains, charcoal and pollen	BA (Hons), PhD, MCIfA
Sharon Cook	Charred plant remains	BSc, MSc, ACIfA
Elizabeth Stafford	Geoarchaeology and land snails	BA (Hons), MSc
Carl Champness	Geoarchaeology	BA (Hons), MSc, ACIfA
Ian Smith	Animal Bone	BA (Hons), MSc, PCIfA
Nicola Scott	Archaeological archive deposition	BA (Hons Dunelm)
Mike Donnelly	Flint	BSc, MCIfA
Dr Louise Loe	Human Bone	D.Phil, BA, MCIfA
Helen Webb	Human Bone	MSc, BSc
Mark Gibson	Human Bone	MSc, BA
Dr Lauren McIntyre	Human Bone	D.Phil, MSc, BSc

External archaeological specialists regularly used by OA

Specialist	Specialism	Qualifications
Lynne Keys	Slag	BA (Hons)
Quita Mould	Leather	BA, MA
Penelope Walton Rogers, The Anglo Saxon Laboratory	Identification of Medieval Textiles	FSA, Dip.Acc
Dana Goodburn-Brown	Conservation	BSc (Hons), BA, MSc
Steve Allen, York Archaeological Trust	Conservation	BA, MA, MAAIS
Dr Richard Macphail	Soils, especially Micromorphology	BA (Hons), MSc, PhD
Dana Challinor	Charcoal	MA, MSc
Dr Nigel Cameron	Diatoms	BSc, MSc, PhD
Dr David Smith	Insects	BA (Hons), MA, PhD
Professor Adrian Parker	Phytoliths and pollen	BSc (Hons), D.Phil
Dr David Starley	Metalworking Slag	BSc (Hons), PhD
Wendy Carruthers	Charred and waterlogged plant remains	BA (Hons)
Dr John Whittaker	Ostracods and Foraminifera	BA (Hons), PhD
Dr John Crowther	Soil Chemistry	MA, PhD
Dr Martin Bates	Geoarchaeology	BSc, PhD
Dr Dan Miles	Dendrochronology	D.Phil, FSA
Dr Jean-Luc Schwenninger	Optically Stimulated Luminescence Dating	PhD
Dr David Higgins	Clay Pipe	BA, PhD, MCifA
Dr Hugo Anderson- Wymark	Flint	BSc, PhD, FSA Scot, MCifA
Dr Damian Goodburn- Brown	Ancient Woodwork	BA, PhD

APPENDIX H DOCUMENTARY ARCHIVING

H.1 Standard methodology – summary

- H.1.1 The documentary archive constitutes all the written, drawn, photographic and digital records relating to the set up, fieldwork and post-excavation phases of the project. This documentary archive, together with the artefactual and environmental ecofact archive collectively forms the record of the site. The report is part of the documentary archive, and the archive must provide the evidence that supports the conclusions of the report, but the archive may also include data which exceeds the limitations of research parameters set down for the report and which could be of significant value to future researchers.
- H.1.2 At the outset of the project OA Archive manager will contact the relevant local receiving museum or archive repository to notify them of the imminent start of a new fieldwork project in their collecting area. Relevant local archiving guidelines will be observed and site codes, which integrate with the receiving repository, will be agreed for labelling of archives and finds.
- H.1.3 Where there is currently no receiving museum for the project archive, although responsibility for the archive ultimately lies with the client, OA will hold the archive on their behalf for a period of up to 3 years after completion of the report, after which time (in the event that a suitable depository has not been secured) provision for further storage of the archive will be made in agreement with Oxford Archaeology, the client and the relevant planning archaeologist.
- H.1.4 During the course of the project the Archive team will assist the Project Manager in the management of the archive including the cataloguing and development technique suitable for photographic archive requirements.
- H.1.5 The hard copy site archive will be security copied by scanning to PdFA and a copy of this will be housed on the OA Archive Server. A full digital copy of the archive, including scanned hard copy and born digital data, will be deposited with and made publicly available on-line through the ADS. A further copy will be maintained on the OA server and if requested a copy on disk will also be sent to the receiving museum with the hard copy. This will act as a safeguard against the accidental loss and the long-term degeneration of paper records and photographs.
- H.1.6 Born digital data will only be printed to hard copy for the receiving museum where practical. Archive elements that need maintaining in digital form will be sent to ADS in accordance with Arches Standard and ADS guidelines. A copy will be sent to the receiving museum by CD and back-up copies will be stored on the OA digital network. In most cases a digital copy of the report will be included in the OASIS project library hosted by ADS.
- H.1.7 Prior to deposition the Archive team will contact the museum regarding the size and content of the archive and discuss any retention and dispersal policies which may be applicable in line with local and SMA Guidelines ' Selection, Retention & Dispersal of Archaeological Collections' 1993.

- H.1.8 The site archive will then be deposited with the relevant receiving museum or repository at the earliest opportunity unless further archaeological work on the site is expected. The documentary archive will include correspondence detailing landowner consent to deposit the artefacts and any copyright licences in accordance with the receiving museum guidelines. Deposition charges will be required from the client as part of the project costs but the level of the fee is set by the receiving body, and may be subject to change during the lifespan of the project. Changes to archiving charges beyond OA's control will be passed across to the client.
- H.1.9 Oxford Archaeology will retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it will provide the receiving repository or museum for the archive with a full licence for use to the client in all matters directly relating to the project as described in the Written Scheme of Investigation, and in line with the relevant receiving body guidelines.
- H.1.10 OA will advise the receiving repository or museum for the archive of 3rd party materials supplied in the course of projects which are not OA's copyright.
- H.1.11 OA undertakes to respect all requirements for confidentiality about the client's proposals provided that these are clearly stated. It is expected that such conditions shall not unreasonably impede the satisfactory performance of the services required. Archaeological findings and conclusions can be kept confidential for a limited period but will be made publicly available in line with the above procedure either after a specified time period agreed with the client at the outset of the project, or where no such period is agreed, after a reasonable period of time. It is expected that clients respect OA's general ethical obligations not to suppress significant archaeological data for an unreasonable period.

H.2 Relevant industry standards and guidelines

- H.2.1 At the end of the project the site archive will be ordered, catalogued, labelled and conserved and stored according to the following national guidelines:
- H.2.2 The 2014 EAC Guidelines A Standard and Guide to the Best Practice for Archaeological Archiving in Europe (GB) Perrin K, Brown E et al.
- H.2.3 The 2014 CIFA Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives.
- H.2.4 The 2011 AAF guide Archaeological Archives A Guide to Best Practice in Creation, Compilation, Transfer and Curation. Brown D.
- H.2.5 The UKIC's Guidelines for the preparation of excavation archives for long-term storage.
- H.2.6 The MGC's Standards in the museum care of archaeological collections.
- H.2.7 Local museum guidelines such as Museum of London Guidelines: (<http://www.museumoflondonarchaeology.org.uk/English/ArchiveResearch/DeposRe> source) will be adopted where appropriate to the archive collecting area.
- H.2.8 The site archive will be prepared to at least the minimum acceptable standard defined in Management of Archaeological Projects 2, Historic England 1991.

H.3 Relevant OA manual and other supporting documentation

H.3.1 The OA Archives Policy.

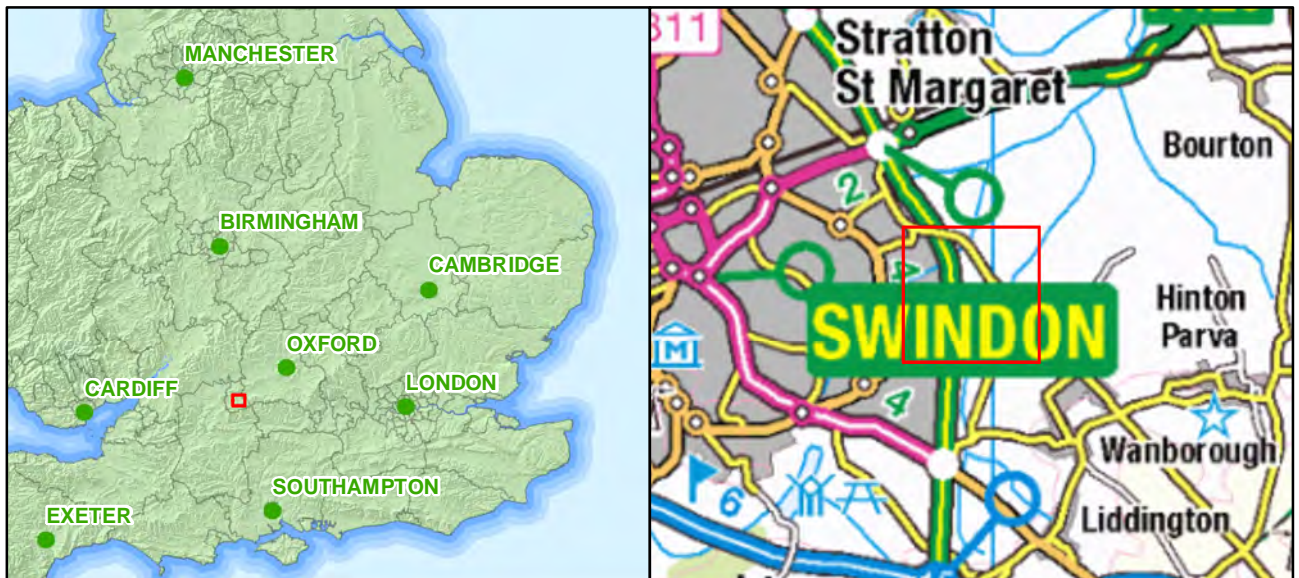
APPENDIX I HEALTH AND SAFETY

I.1 Standard Methodology - summary

- I.1.1 All work will be undertaken in accordance with the current OA Health and Safety Policy, the OA Site Safety Procedures Manual, a site-specific Risk Assessment and, if required, Safety Plan or Method Statement. Copies of the site-specific documents will be submitted to the client or their representative for approvals prior to mobilisation, and all relevant H and S documentation will be available on site at all times. The Health and Safety documentation will be read in conjunction with the project WSI.
- I.1.2 Where a project falls under the Construction (Design and Management) Regulations (2015), all work will be carried out in accordance with the Principal Contractor's Construction Phase Plan (CPP).

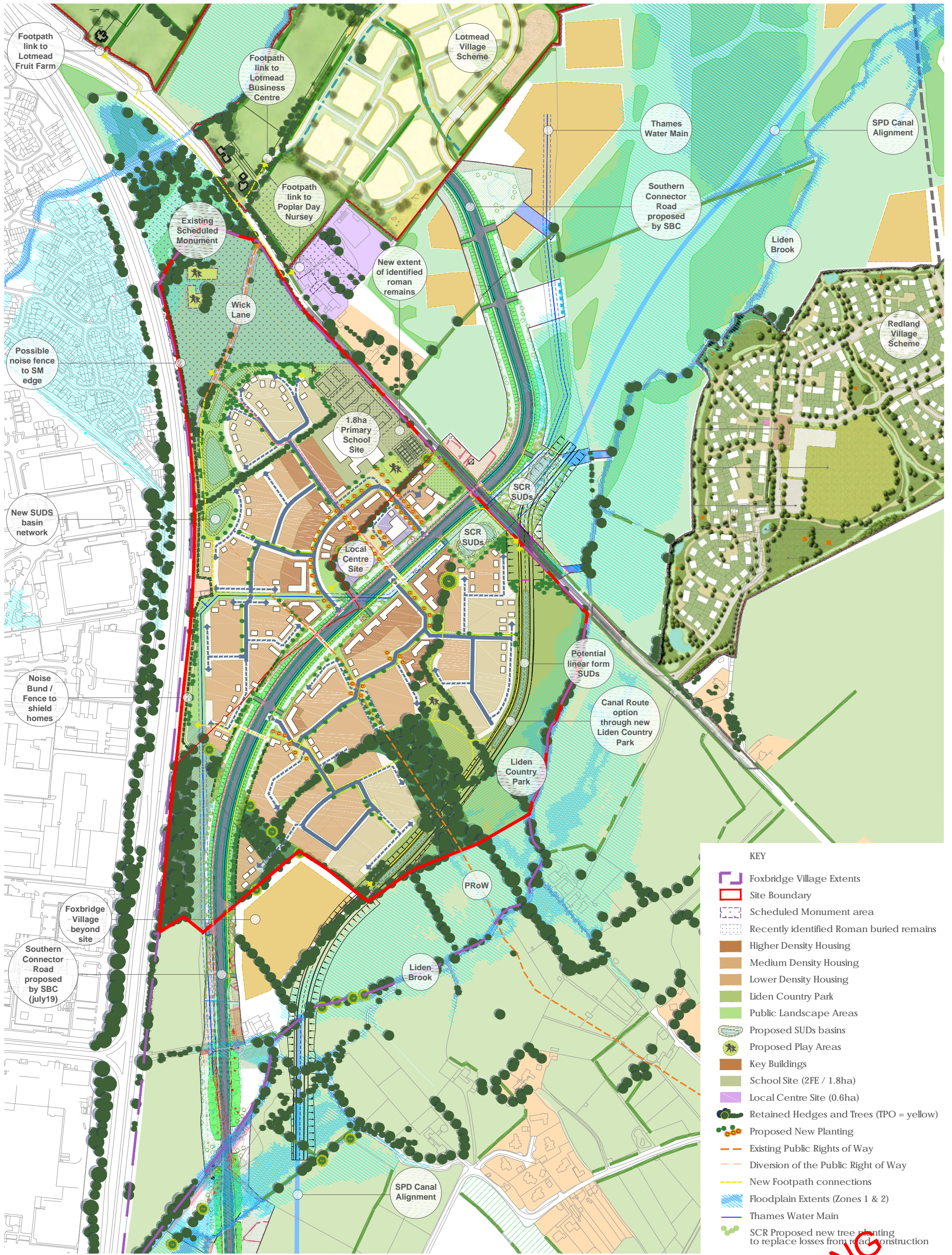
I.2 Relevant industry standards and guidelines

- I.2.1 All work will be carried out according to the requirements of all relevant legislation and guidance, including, but not exclusively:
 - I.2.2 The Health and Safety at Work Act (1974).
 - I.2.3 Management of Health and Safety at Work Regulations (1999).
 - I.2.4 Manual Handling Operations Regulations 1992 (as amended).
 - I.2.5 The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (2013).
 - I.2.6 The Construction (Design and Management) Regulations (2015).
 - I.2.7 Relevant OA manual and other supporting documentation
 - I.2.8 The OA Health and Safety Policy.
 - I.2.9 The OA Site Safety Procedures Manual.
 - I.2.10 The OA Risk Assessment templates.
 - I.2.11 The OA Method Statement template.
 - I.2.12 The OA Construction Phase Plan template.



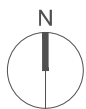
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Figure 1: Site location



proj: 18-032 drg: 405 date: 22/07/2019 rev: B (23.07.19 Wanborough Road links & new SCR added)

ORIGIN3
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 Clifton, Bristol,
 BS8 1PB
 0117 980 4900
 www.origin3.co.uk
 info@origin3.co.uk



Foxbridge, New Eastern Villages, Swindon Masterplan (with SBC SCR Revised Design)

Danescroft (Swindon PCDF IV) LLP & David Wilson Homes

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 Sketch proposals are illustrative purposes only & such are subject to detailed site investigation including ground conditions/contaminants, drainage, design & planning/density negotiations. Setting proposals may be based on enlargements of OS sheets & visual estimations of existing site features, as such they therefore need to be verified by survey.

1:2500 @ A1 / 1:5000 @ A3
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W:\PLANNING\18-032 Foxbridge, New Eastern Villages, Swindon\Urban Design\3 Drawings & Plans\12 Drawings in Progress\CAD\18032_405B_illustrative Masterplan.dwg

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