

Archaeological Desk Based Assessment



Begbroke Science Park, Begbroke, Oxfordshire

On behalf of University of Oxford

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EXECUTIVE SUMMARY

Development proposals for the site known as Begbroke Science Park, Begbroke, Oxfordshire comprise outline planning permission, with all matters except for access reserved.

In line with the policies of the local planning authority and national government guidance as set out in the NPPF, an archaeological desk based assessment was prepared to clarify the archaeological potential of the Site and the potential impacts the proposed development could have on the significance of any off-site designated archaeological assets through a change to their setting.

This archaeological desk based assessment concludes that the Site does not contain any world heritage sites, scheduled monuments, registered parks and gardens, or registered battlefields where there would be a presumption in favour of their physical preservation in situ and against development.

Potential impacts upon the designated archaeological assets in the Site's wider zone of influence have been considered, and this assessment concludes that the implementation of the proposed development will not result in an adverse impact on, harm to, or loss of significance from any of the identified designated archaeological assets, either in terms of an effect on their physical fabric or through changes to their wider setting.

Based on the information within the HER, supplemented by historic mapping has shown that there is a negligible potential for archaeological deposits of significance to be encountered across the Site. It is also noted that the Site was the subject of a comprehensive archaeological trial trench evaluation in 2001 comprising 19 trial trenches across much of the site not occupied by buildings or other structures at the time of the works. One only archaeological feature was found as a result of this exercise, this being a small pit containing charcoal within its fill which was cut into the natural gravel, and as interpreted as possibly being related to agricultural use of the land, not necessarily being of any great antiquity ¹ and thus of negligible archaeological significance. The trial trenching report concludes that the 'site therefore would appear to have no

¹ TVAS 2001

archaeological potential' ², a position corroborated by the OHER, whose record for the trial trenching goes further by stating there is 'no archaeological potential in the area'.

On the basis of available evidence, it is considered that the proposed development accords with current heritage legislation, those planning policies contained within the NPPF which relate to the historic environment and the policies of the adopted Cherwell Local Plan which relate to archaeology. Furthermore, it is concluded that no further archaeological works would be warranted, given the results of the trial trench evaluation in 2001 as noted above.

² Ibid

1.0 INTRODUCTION

- 1.1 This archaeological desk based assessment has been prepared by John Lord BSc MSc MCIfA, Associate Director at Archaeology Collective on behalf of the Chancellor, Masters and Scholars of the University of Oxford ('the University of Oxford'), the Applicant and owners of the Science Park.. Documentary Research was carried out by the author.
- 1.2 The subject of this assessment is the site known as Begbroke Science Park, Begbroke, Oxfordshire (Appendix 1). The area which the site occupies is approximately 4.8ha and is centred at National Grid Reference (NGR) 447884, 213520 hereafter referred to as the 'Site'. The Site lies to the north of Oxford.
- 1.3 The purpose of this assessment is to consider the archaeological potential of the area in question, to highlight any areas of known or suspected archaeological potential and to consider whether the proposed development will affect the significance of any off site archaeological assets, through a change to their setting. This assessment will not consider listed buildings, conservation areas or registered parks and gardens, which will be subject to a separate assessment.
- 1.4 The University of Oxford has commissioned Archaeology Collective to establish the archaeological potential of the site, to identify any particular areas of archaeological potential or significance and to provide guidance on ways to accommodate any relevant constraints identified. This assessment is in accordance with the National Planning Policy Framework (NPPF) and the procedures set out in CIfA's 'Standard and Guidance for Historic Environment Desk-based Assessment'³.
- 1.5 This desk-based assessment comprises an examination of evidence on the Oxfordshire Historic Environment Record together with a range of archives. The report incorporates the results of a comprehensive map regression exercise in order to review the impacts of existing and previous development on potential underlying archaeological deposits.

³ CIfA. Standard and Guidance for Historic Environment Desk-based Assessment 2017

- 1.6 The assessment thus enables all relevant parties to assess the archaeological potential of the site and to consider the need for design, civil engineering and archaeological solutions to the potentials identified.

Geology and Topography

Geology

- 1.7 The British Geological Survey identifies the underlying solid geology across the Site as being chalk undifferentiated mudstone of the Oxford Clay Formation and West Walton Formation ⁴. Superficial deposits are recorded as being sand and gravel of the Summertown-Radley Sand and Gravel Member.
- 1.8 The deposits across the site would be conducive for settlement and utilisation for farming from an early period.

Topography

- 1.9 The Site occupies an area of c.4.8ha situated towards the west of Kidlington and the east of Woodstock Road.
- 1.10 The site is broadly rectangular in shape and is presently occupied by a number of mid and late 20th century and early 21st century buildings and associated infrastructure such as access roads and car parking along with an early to mid 19th century farm complex which has been converted for office use.
- 1.11 The ground level across the Site is at c.69m above Ordnance Datum.

⁴ British Geological Society Online Viewer

2.0 LEGISLATION AND PLANNING FRAMEWORK

Introduction

- 2.1 This section sets out existing legislation and planning policy, governing the conservation and management of the historic environment, of relevance to this application.
- 2.2 In terms of "*effects on the historic environment*", the following paragraphs summarise the principal legislative instruments and planning policy framework.

Current Legislation

Scheduled Monuments

- 2.3 The relevant legislation concerning the treatment of scheduled monuments is the Ancient Monuments and Archaeological Areas Act 1979 (HMSO 1979).
- 2.4 This Act details the designation, care and management of scheduled monuments, as well as detailing the procedures needed to obtain permission for works which would directly impact upon their preservation. The Act does not confer any statutory protection on the setting of scheduled monuments, with this considered as a policy matter in Paragraph 132 of the National Planning Policy Framework (NPPF).
- 2.5 The balancing exercise to be performed – between the harm arising from a proposal and the benefits which would accrue from its implementation – is then subsequently presented in Paragraphs 133 and 134 of the NPPF.

National Planning Policy

- 2.6 The NPPF sets out the Government's approach to the conservation and management of the historic environment, through the planning process, with the opening paragraph of Section 12 [126] emphasising the need for local authorities to set out a clear strategy for the conservation and enjoyment of the historic environment, where heritage assets are recognised as a finite and irreplaceable resource, to be preserved in a manner appropriate to their significance.
- 2.7 Paragraph 128 concerns planning applications, stating that:

"...local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation".

2.8 Designated assets are addressed in Paragraph 132, which states that:

"...when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional."*

2.9 With regard to the decision making process, paragraphs 133 and 134 are of relevance. Paragraph 133 states that:

"Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

- the nature of the heritage asset prevents all reasonable uses of the site;*
- and*

- *no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and*
- *conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and*
- *the harm or loss is outweighed by the benefit of bringing the site back into use.”*

2.10 Paragraph 134 states that:

“Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.”

2.11 The threshold between substantial and less than substantial harm has been clarified in the courts. Whilst the judgement cited relates specifically to the impact of development proposals on a listed building, Paragraphs 24 and 25 of *Bedford BC v Secretary of State for Communities and Local Government [2013] EWHC 2847* remain of relevance here in the way they outline the assessment of ‘harm’ for heritage assets:

“What the inspector was saying was that for harm to be substantial, the impact on significance was required to be serious such that very much, if not all, of the significance was drained away.

Plainly in the context of physical harm, this would apply in the case of demolition or destruction, being a case of total loss. It would also apply to a case of serious damage to the structure of the building. In the context of non-physical or indirect harm, the yardstick was effectively the same. One was looking for an impact which would have such a serious impact on the significance of the asset that its significance was either vitiated altogether [i.e. destroyed] or very much reduced”.

2.12 In other words, for the ‘harm’ to be ‘substantial’ – and therefore require consideration against the more stringent requirements of Paragraph 133 of the NPPF compared with Paragraph 134; the proposal would need to result in the asset’s significance either being “vitiating altogether or very much reduced”. Quite evidently, this represents a very high threshold to be reached.

2.13 Paragraph 137 advises that:

"...local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites and within the setting of heritage assets to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably."

2.14 With regard to non-designated heritage assets, Paragraph 135 states that:

"The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset."

Local Policies

2.15 Cherwell District Council is currently in the process of preparing its Local Plan, and adopted Part 1 of this document in July 2015 (Cherwell Local Plan 2011-2031 (Part 1)). Subsequent parts of the Plan are still at the preparation stage. Whilst this process is ongoing, certain policies within the previously adopted Cherwell Local Plan 1996 (Adopted November 1996) along with those policies within the Cherwell Local Plan 2011-2031 (Part 1) constitute the development plan for the area.

Cherwell Local Plan 2011-2031 Part 1

Policy ESD 15: The Character of the Built and Historic Environment

Successful design is founded upon an understanding and respect for an area's unique built, natural and cultural context. New development will be expected to complement and enhance the character of its context through sensitive siting, layout and high quality design. All new development will be required to meet high design standards. Where development is in the vicinity of any of the District's distinctive natural or historic assets, delivering high quality design that complements the asset will be essential.

New development proposals should:

- *Be designed to deliver high quality safe, attractive, durable and healthy places to live and work in. Development of all scales should be designed to improve the quality and appearance of an area and the way it functions*
- *Deliver buildings, places and spaces that can adapt to changing social, technological, economic and environmental conditions*
- *Support the efficient use of land and infrastructure, through appropriate land uses, mix and density/development intensity*
- *Contribute positively to an area's character and identity by creating or reinforcing local distinctiveness and respecting local topography and landscape features, including skylines, valley floors, significant trees, historic boundaries, landmarks, features or views, in particular within designated landscapes, within the Cherwell Valley and within conservation areas and their setting*
- *Conserve, sustain and enhance designated and non designated 'heritage assets' (as defined in the NPPF) including buildings, features, archaeology, conservation areas and their settings, and ensure new development is sensitively sited and integrated in accordance with advice in the NPPF and NPPG. Proposals for development that affect non-designated heritage assets will be considered taking account of the scale of any harm or loss and the significance of the heritage asset as set out in the NPPF and NPPG. Regeneration proposals that make sensitive use of heritage assets, particularly where these bring redundant or under used buildings or areas, especially any on English Heritage's At Risk Register, into appropriate use will be encouraged*
- *Include information on heritage assets sufficient to assess the potential impact of the proposal on their significance. Where archaeological potential is identified this should include an appropriate desk based assessment and, where necessary, a field evaluation.*
- *Respect the traditional pattern of routes, spaces, blocks, plots, enclosures and the form, scale and massing of buildings. Development should be designed to integrate with existing streets and public spaces, and buildings*

configured to create clearly defined active public frontages

- *Reflect or, in a contemporary design response, re-interpret local distinctiveness, including elements of construction, elevational detailing, windows and doors, building and surfacing materials, mass, scale and colour palette*
- *Promote permeable, accessible and easily understandable places by creating spaces that connect with each other, are easy to move through and have recognisable landmark features*
- *Demonstrate a holistic approach to the design of the public realm to create high quality and multi-functional streets and places that promotes pedestrian movement and integrates different modes of transport, parking and servicing. The principles set out in *The Manual for Streets* should be followed*
- *Consider the amenity of both existing and future development, including matters of privacy, outlook, natural lighting, ventilation, and indoor and outdoor space*
- *Limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation*
- *Be compatible with up to date urban design principles, including *Building for Life*, and achieve *Secured by Design* accreditation*
- *Consider sustainable design and layout at the masterplanning stage of design, where building orientation and the impact of microclimate can be considered within the layout*
- *Incorporate energy efficient design and sustainable construction techniques, whilst ensuring that the aesthetic implications of green technology are appropriate to the context (also see *Policies ESD 1 - 5* on climate change and renewable energy)*

- *Integrate and enhance green infrastructure and incorporate biodiversity enhancement features where possible (see Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment and Policy ESD 17 Green Infrastructure). Well designed landscape schemes should be an integral part of development proposals to support improvements to biodiversity, the micro climate, and air pollution and provide attractive places that improve people's health and sense of vitality*
- *Use locally sourced sustainable materials where possible.*

The Council will provide more detailed design and historic environment policies in the Local Plan Part 2.

The design of all new development will need to be informed by an analysis of the context, together with an explanation and justification of the principles that have informed the design rationale. This should be demonstrated in the Design and Access Statement that accompanies the planning application. The Council expects all the issues within this policy to be positively addressed through the explanation and justification in the Design & Access Statement. Further guidance can be found on the Council's website.

The Council will require design to be addressed in the pre-application process on major developments and in connection with all heritage sites. For major sites/strategic sites and complex developments, Design Codes will need to be prepared in conjunction with the Council and local stakeholders to ensure appropriate character and high quality design is delivered throughout. Design Codes will usually be prepared between outline and reserved matters stage to set out design principles for the development of the site. The level of prescription will vary according to the nature of the site.

Cherwell Local Plan 1996 (Adopted November 1996)

- 2.16 The Cherwell Local Plan 1996 contains a number of saved policies, one of which relates to archaeology.

Policy C25 Development affecting the site or setting of a scheduled ancient

monument

In considering proposals for development which would affect the site or setting of a scheduled ancient monument, other nationally important archaeological sites and monuments of special local importance, the council will have regard to the desirability of maintaining its overall historic character, including its protection, enhancement and preservation where appropriate

- 2.17 In the absence of adopted local plan policies, the contents of NPPF are used to inform this assessment where appropriate.
- 2.18 The above Acts, plans and policies have been taken into account in the preparation of this assessment.

3.0 METHODOLOGY

Archaeological Assessment Methodology

- 3.1 This report has been produced in accordance with the Standard and Guidance for Historic Environment Desk-Based Assessment issued by the Chartered Institute for Archaeologists (CIfA, 2017). These guidelines provide a national standard for the completion of desk-based assessments.
- 3.2 The assessment principally involved consultation of readily available archaeological and historical information from documentary and cartographic sources. The major repositories of information comprised:
- *Information held by the Oxfordshire Historic Environment Record on known archaeological sites, monuments and findspots within 1km of the Site;*
 - *Maps and documents held by the Oxfordshire History Centre and online;*
 - *The National Heritage List for England curated by Historic England;*
 - *Records made during a site visit in February 2018.*
- 3.3 This report provides a synthesis of relevant information for the site derived from a search area extending up to 1km from its boundary, hereafter known as the 'study area', to allow for additional contextual information regarding its archaeological interest or potential to be gathered.
- 3.4 The information gathered from the repositories and sources identified above was checked and augmented through the completion of a site visit and walkover. This walkover considered the nature and significance of known and/or potential archaeological assets within the site, identified visible historic features and assessed possible factors which may affect the survival or condition of known or potential assets.
- 3.5 In addition, the report also considers the nature and significance of any effects arising beyond the boundary of the application site; i.e. through potential changes to the settings of designated heritage assets, as defined in Annex 2 of the NPPF (see below).
- 3.6 In that regard, the site walkover also considered, where appropriate, the contribution (if any) made by the land within the site to the settings of designated heritage assets situated within its wider zone of influence.

- 3.7 The report concludes with (1) an assessment of the site's likely archaeological potential, made with regard to current best practice guidelines, and (2) an assessment of the likely effects of the proposed development upon designated and undesignated archaeological assets, whether direct or indirect.

Assessment of Heritage Significance and Importance

- 3.8 Heritage assets are assessed in terms of their significance and importance, following the requirement in NPPF paragraph 128, and taking account of Historic England's guidance in *Managing Significance in Decision-Taking in the Historic Environment* (GPA2). Significance, in relation to heritage policy, is defined by the NPPF as:

"the value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting."

- 3.9 As noted above, setting is defined in Annex 2 of the NPPF as:

"the surroundings in which an asset is experienced. All heritage assets have a setting, irrespective of the form in which they survive and whether they are designated or not. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance, or may be neutral."

- 3.10 Where potential impacts on the settings of heritage assets are identified, the assessment of significance includes assessing 'the degree to which these settings and views make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated', following Step 2 of the staged approach to setting recommended in Historic England's guidance in *The Setting of Heritage Assets* (GPA3). Attributes of an asset's setting which can contribute to its significance or allow significance to be appreciated are listed on page 11 of GPA3. The methodology for assessing setting is described within the Setting Assessment Methodology below.

- 3.11 The *importance* of a heritage asset is the overall value assigned to it based on its heritage significance, reflecting its statutory designation or, in the case of undesignated assets, the professional judgement of the assessor (Table 1). Historic England guidance also refers to an asset's 'level of significance' (GPA2, paragraph 10), which in this usage

has the same meaning as importance. Nationally and internationally designated assets are assigned to the highest two levels of importance. Grade II Listed Buildings and Grade II Registered Parks & Gardens are considered of medium importance, reflecting the lower level of policy protection provided by the NPPF (paragraph 132). Conservation Areas are not assigned to either level of importance by the NPPF but their status as local designations and their omission from the National Heritage List justifies their classification here as assets of medium importance. Other non-designated assets which are considered of local importance only are assigned to a low level of importance. Following the NPPF (Annex 2), a historic feature which lacks ‘a degree of significance meriting consideration in planning decisions, because of its heritage interest’ is not considered to be a heritage asset; it may also be said to have negligible heritage importance.

Table 1: Criteria for Assessing the Importance of Heritage Assets

Importance of the asset	Criteria
Very high	World Heritage Sites and other assets of equal international importance
High	Grade I and II* Registered Parks and Gardens, Scheduled Monuments, Protected Wreck Sites, Registered Battlefields, Grade I and II* Listed Buildings, and undesignated heritage assets of equal importance
Medium	Conservation Areas, Grade II Registered Parks and Gardens, Grade II Listed Buildings, heritage assets on local lists and undesignated assets of equal importance
Low	Undesignated heritage assets of lesser importance

Potential for unknown heritage assets

3.12 Archaeological features are often impossible to identify through desk-based assessment. The likelihood that significant undiscovered heritage assets may be present within the application site is referred to as archaeological potential. Overall levels of potential can be assigned to different landscape zones, following the criteria in Table 2, while recognising that the archaeological potential of any zone will relate to particular historical periods and types of evidence. The following factors are considered in assessing archaeological potential:

- The distribution and character of known archaeological remains in the vicinity, based principally on an appraisal of data in the OHER;

- The history of archaeological fieldwork and research in the surrounding area, which may give an indication of the reliability and completeness of existing records;
- Environmental factors such as geology, topography and soil quality, which would have influenced land-use in the past and can therefore be used to predict the distribution of archaeological remains;
- Land-use factors affecting the survival of archaeological remains, such as ploughing or commercial forestry planting; and
- Factors affecting the visibility of archaeological remains, which may relate to both environment and land-use, such as soils and geology (which may be more or less conducive to formation of cropmarks), arable cultivation (which has potential to show cropmarks and create surface artefact scatters), vegetation, which can conceal upstanding features, and superficial deposits such as peat and alluvium which can mask archaeological features.

Table 2: Archaeological potential

Potential	Definition
High	Undiscovered heritage assets of high or medium importance are likely to be present.
Medium	Undiscovered heritage assets of low importance are likely to be present; and it is possible, though unlikely, that assets of high or medium importance may also be present.
Low	The study area may contain undiscovered heritage assets, but these are unlikely to be numerous and are highly unlikely to include assets of high or medium importance.
Negligible	The study area is highly unlikely to contain undiscovered heritage assets of any level of importance.
Nil	There is no possibility of undiscovered heritage assets existing within the study area.

3.13 In light of the above, the assessment of heritage significant heritage within Sections 4 and 5 of this report has been prepared in a robust manner, employing current best practice professional guidance and giving due regard to the methodology detailed above.

Setting Assessment Methodology

- 3.14 The assessment process has given due consideration to Historic England guidance on setting as set out in Historic Environment Good Practice Advice in Planning, Note 3, The Setting of Heritage Assets ⁵.
- 3.15 When assessing the impact of proposals on designated heritage assets, it is not a question of whether there would be a direct physical impact on that asset, but instead whether change within its 'setting' would lead to a loss of 'significance'.
- 3.16 In simple terms, setting is defined as 'the surroundings in which a heritage asset is experienced'. The Historic England Good Practice Advice guidance on setting establishes that it has a 'twin role' in both contributing to significance, and allowing heritage significance to be appreciated. It therefore must be recognised from the outset that 'setting' is not a heritage asset, and cannot itself be harmed. Its importance relates to the contribution it makes to the significance of the designated heritage asset and the extent to which it allows that significance to be appreciated.
- 3.17 Historic England guidance ⁶ identifies that "change to heritage assets is inevitable, but it is only harmful when significance is damaged".
- 3.18 In that regard, 'significance' is defined in Annex 2 of the NPPF as "the value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic".
- 3.19 As such, when assessing the impact of proposals on designated heritage assets beyond the boundary of a development site, it is not a question of whether setting would be affected, but rather a question of whether change within an asset's 'setting' would lead to a loss of 'significance' or the ability to appreciate 'significance' based on the above 'heritage interest' as defined in the NPPF.
- 3.20 Set within this context, where the objective is to determine the impact of proposals on designated heritage assets beyond the boundary of a development site, it is necessary to first define the significance of the asset in question - and the contribution made to that significance or the ability to appreciate that significance by its 'setting', in order to establish whether there would be a loss, and therefore harm. The guidance identifies

⁵ Historic England 2017

⁶ Historic England 2015

that change within a heritage asset's setting need not necessarily cause harm to that asset - it can be positive, negative or neutral.

- 3.21 In light of the above, the assessment of potential setting effects, arising from the proposed scheme, has followed the guidance set out in 'Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets' published by Historic England in 2017. Part 1 of this guidance reproduces the definition of setting as outlined in the Glossary of NPPF, which observes that the setting of a heritage asset is:

"The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral."

- 3.22 The guidance states that the importance of setting "lies in what it contributes to the significance of the heritage asset or the ability to appreciate that significance."

- 3.23 It goes on to note:

"All heritage assets have significance, some of which have particular significance and are designated. The contribution made by their setting to their significance also varies. Although many settings may be enhanced by development, not all settings have the same capacity to accommodate change without harm to the significance of the heritage asset or the ability to appreciate it."

- 3.24 Whilst identifying that elements of an asset's setting can make an important contribution to its significance, the guidance states that: "Setting is not itself a heritage asset, nor a heritage designation, although land comprising a setting may itself be designated". It continues by adding that: "Conserving or enhancing heritage assets by taking their settings into account need not prevent change; indeed change may be positive...".

- 3.25 On a practical level, the Historic England guidance ⁷ identifies an approach to assessing setting in relation to development management which is based on a five-step procedure; i.e.:

⁷ Historic England 2017

1. Identify which heritage assets and their settings are affected;
2. Assess the degree to which these setting make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated;
3. Assess the effects of the proposed development, whether beneficial or harmful, on that significance or on the ability to appreciate it;
4. Explore ways to maximise enhancement and avoid or minimise harm; and
5. Make and document the decision and monitor outcomes.

3.26 As far as Step 2 is concerned, the guidance makes the following observations:

“The second stage of any analysis is to assess whether the setting of an affected heritage asset makes a contribution to its significance and the extent and/or nature of that contribution; both setting, and views which form part of the way a setting is experienced, may be assessed additionally for the degree to which they allow significance to be appreciated. ...this assessment should first address the key attributes of the heritage asset itself and then consider:

- *The physical surroundings of the asset, including its relationship with other heritage assets;*
- *the asset’s intangible associations with its surroundings, and patterns of use*
- *the asset’s intangible associations with its surroundings, and patterns of use; and*
- *the asset’s intangible associations with its surroundings, and patterns of use.”*

3.27 Thereafter, the guidance notes that “...this assessment of the contribution to significance made by setting will provide the baseline for establishing the effects of a proposed development on significance, as set out in ‘Step 3’ below”

3.28 Having established the baseline, the following guidance is provided in respect of an assessment of the effect upon ‘setting’; i.e.:

“In general...the assessment should address the key attributes of the proposed development in terms of its:

- *location and siting;*
- *form and appearance;*
- *wider effects; and*
- *permanence”.*

3.29 Appeal decisions, e.g. Javelin Park, Gloucestershire (Ref 12/0008/STMAJW), have clarified the interpretation of existing guidance, establishing that the ability to see a proposed development, either from the heritage asset itself or from within its setting, should not be equated with harm to the significance of the asset. The key issue is whether and to what extent the proposed development would affect the contribution that setting makes to the significance of the heritage asset.

3.30 In light of the above, the assessment of potential setting effects, employed in the preparation of this report, focused on the completion a of site survey, which was undertaken in February 2018 and concentrated on the following three main areas:

- a. Identifying those heritage assets that are capable of being affected by the proposed scheme and the manner (if any) in which they would be affected;
- b. Defining the contribution made to their *significance* by their setting; and
- c. Assessing the likely impact upon their *significance or the ability to appreciate it* as a result of the form of development proposed being implemented.

3.31 As far as identifying the heritage assets capable of being affected by the proposed scheme is concerned, this was determined in the first instance through desk-assessment; then verified during the subsequent field visit.

3.32 In light of the above, the setting assessment within Sections 4 and 5 of this report has been prepared in a robust manner, employing current best practice professional guidance and giving due regard to the methodology detailed above.

4.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Introduction

- 4.1 The Site does not contain any designated archaeological assets, such as scheduled monuments or registered battlefields, where there would be a presumption in favour of preservation in situ and against development proceeding. Furthermore, there are no designated archaeological assets within the 1km study area.
- 4.2 There are no known non-designated heritage assets within the application site, and 37 records within 1km of the boundary. These will be discussed in more detail below.

Previous Archaeological Work

- 4.3 There is one record for previous archaeological work which includes the area of land occupied by the Site and a further eight records within the 1km study area.
- 4.4 Of that one within the Site, this relates to a trial trench evaluation carried out in 2001 (EOX848). This exercise comprised the excavation of 19 trial trenches across much of the site not occupied by buildings or other structures at the time of the works. Only one archaeological feature was found, this being a small pit containing charcoal within its fill which was cut into the natural gravel, and as interpreted as possibly being related to agricultural use of the land, not necessarily being of any great antiquity ⁸. The trial trenching report concludes that the 'site therefore would appear to have no archaeological potential' ⁹, a position corroborated by the OHER, whose record for the trial trenching goes further by stating 'no archaeological potential in the area'.

Non-Designated Heritage Assets

- 4.5 This section considers the archaeological finds and features from within the 1km study area, held within the OHER, together with a map regression exercise charting the history of the site from the 19th century to the present day.
- 4.6 Timescales used in this section:

Prehistoric

⁸ TVAS 2001

⁹ Ibid

Palaeolithic	450,000	- 12,000	BC
Mesolithic	12,000	- 4,000	BC
Neolithic	4,000	- 1,800	BC
Bronze Age	1,800	- 600	BC
Iron Age	600 BC	- AD	410

Historic

Roman	AD	43	- 410
Saxon/Early Medieval	AD	410	- 1066
Medieval	AD	1066	- 1485
Post Medieval	AD	1486	- 1800
Modern	AD	1800	- Present

- 4.7 The HER map and list are included in this report at Appendix 2, showing the distribution of entries within the 1km study area.

Prehistoric

- 4.8 The OHER contains no records for early prehistoric activity within the Site and 16 within the 1km study area. Of these, eleven represent finds of either single or small assemblages of worked flint and pottery found in the general area. There seems to be not particular focus to this distribution, with records being reasonably evenly distributed between Rowel Brook and Sandy Lane, but with a particular correlation with records of previous archaeological work. Of the other seven records, one (MOX3908) represents an Iron Age hut, one (MOX3912) possible Bronze Age ring ditches identified by a faint crop mark of a double concentric ditch visible on a vertical aerial photograph, one (MOX3952) the site of a series of enclosures dating to the Bronze Age and confirmed by trial trenching, and two (MOX39924 and MOX3993) represent up to three possible round barrow identified by crop marks of two pairs of adjacent ditches visible on a aerial photographs.
- 4.9 The wider Yarnton/Begbroke area is relatively low-lying land adjacent to water sources and on relatively well-draining geologies. The number and location of features from the later prehistoric periods have led to the conclusion that the wider area was settled during the Bronze and Iron Ages. However, it is clear from the earlier trial trenching exercise on the Site that either this activity did not extend into the Site, or that later activity has destroyed such evidence. Consequently it is concluded that the Site has a

negligible potential for archaeological activity of significance from the prehistoric periods.

Roman

- 4.10 The OHER contains no records for the Roman period for the Site and only two within the study area. Of these, one is for a scatter of pottery sherds (MOX3925), with the second being the site of a Romano-British settlement identified by pottery found within a series of pits interpreted as being storage pits, with the fills being identified as being hearth debris (MOX3909). This was located within a gravel pit in 1935, so it is presumed that any remaining evidence for the settlement within the area of the gravel pit has been lost as a result of its excavation. The HER record goes on to suggest that the area also contains the remains of a possible Iron Age hut, perhaps hinting at a continuation of settlement from the late Iron Age into the Roman period.
- 4.11 Similar to the prehistoric period described above, the wider Yarnton/Begbroke area is relatively low-lying land adjacent to water sources and on relatively well-draining geologies. The number and location of features from the later prehistoric periods, and the likely continuation of these into the Roman period, have led to the conclusion that the wider area was settled throughout the later prehistoric and into the Roman period. However, it is clear from the earlier trial trenching exercise on the Site that either this activity did not extend into the Site, or that later activity has destroyed such evidence. Consequently it is concluded that the Site has a negligible potential for archaeological activity of significance from the Roman period.

Early Medieval

- 4.12 The OHER contains no records for the Early Medieval period for either the Site or the 1km study area.
- 4.13 The Domesday survey of 1086 indicates that both Yarnton and Begbroke were in existence as separate manors at this time, and go on to indicate that both manors were in existence at the time of the Norman invasion of 1066, suggesting that both were established by or during the early medieval period. Yarnton was the larger of the two manors, containing 26 households, to Begbroke's nine. The Open Domesday website indicates that although the population of the manor of Begbroke was 'quite small', the

total tax assessed was 'quite large', whereas it indicates the equivalent figures for Yarton indicate a 'quite large' population and total tax assessed to be 'very large' ¹⁰.

- 4.14 It seems most likely that the settlements associated with the manors assessed by the Domesday were in the vicinity of the modern settlement of Begbroke and Yarnton, and thus well away from the Site. The number and location of features from earlier periods, and the likely continuation of these into the early medieval period, have led to the conclusion that the wider area was settled throughout the early medieval period. However, it is clear from the earlier trial trenching exercise on the Site that either this activity did not extend into the Site, or that later activity has destroyed such evidence. Consequently it is concluded that the Site has a negligible potential for archaeological activity of significance from the early medieval period

Medieval

- 4.15 The OHER contains no records for the Medieval period for the Site and 5 in the 1km study area. Two of these, MOX3927 and MOX3928, represent finds of pottery and other items. These two records are the nearest to the Site. The three remaining records, MOX3963, MOX3964 and MOX3994 all represent evidence for areas of more substantial settlement, being records for (respectively) fishponds, a moated site and a shrunken village. These are all some distance from the Site, with the nearest, MOX3964, being c.795m to the east.
- 4.16 The HER evidence suggests that the Site was some distance from areas of settlement, with the two areas of pottery and other finds probably representing either chance losses or manuring, or other agricultural activities associated with the use of the area as fields. It seems most likely that the centres of settlement were in the vicinity of the modern settlement of Begbroke and Yarnton, and thus well away from the Site. The number and location of features from earlier periods, and the likely continuation of these into the medieval period, have led to the conclusion that the wider area was settled throughout the medieval period. However, it is clear from the earlier trial trenching exercise on the Site that either this activity did not extend into the Site, or that later activity has destroyed such evidence. Consequently it is concluded that the Site has a negligible potential for archaeological activity of significance from the medieval period.

¹⁰ <http://opendomesday.org/>

Post Medieval & Modern

- 4.17 The OHER contains no records for Post Medieval and Modern activity within the Site, and eight records within the 1km study area. Two of these, MOX3969 and MOX3970, are for milestones situated alongside the A44 Woodstock Road. One, MOX3885, is for a bridge and wharf, one, MOX3995, is for a hollow way, one, MOX23588, is for ditches and a field boundary, as is MOX24503. Finally, two, MOX3996 and MOX12415, are for World War II military installations, respectively a pill box and an anti aircraft gun emplacement.
- 4.18 The first available map which shows the whole Site in any detail is the 1811 Ordnance Survey Surveyors Drawing (Appendix 4.1). This shows the site as being part of three fields.
- 4.19 By the Ordnance Survey of 1878-80 (Appendix 4.2) a number of buildings with associated gardens and called Begbroke Hill is depicted, which probably represents a farmstead. The majority of the Site is still fields. This site layout continues until the 1970-72 Ordnance Survey map (Appendix 4.6), by which time additional buildings had been constructed surrounding the earlier buildings, which have been retained within the development. A reservoir is depicted in the north eastern corner of the Site.
- 4.20 By the Ordnance Survey map of 1994 (Appendix 4.9) a number of those buildings depicted on the 1970-72 mapping had been removed, with other buildings being constructed throughout the Site. By the Google Earth image of 2018 (Appendix 4.10) some of those buildings depicted on the OS map of 1994 had either been replaced or extended. The reservoir in the north eastern corner had been filled in. This is the site layout observed during the site visit.
- 4.21 The map regression and other records suggest that the land within the Site was farmland since at least the early-19th century up to the development of the southern portion of the Site for a complex of buildings, most likely a farmstead, in the mid-19th century. The site was further developed in the latter part of the 20th century for scientific research buildings.
- 4.22 The Site seems to have been predominantly in agricultural use throughout this period. Furthermore, it is clear from the earlier trial trenching exercise on the Site that either settlement activity did not extend into the northern, western and eastern portion of the Site, or that later activity has destroyed such evidence. Consequently it is concluded

that the Site has a negligible potential for archaeological activity of significance from the post medieval and modern periods.

5.0 SITE CONDITIONS AND THE PROPOSED DEVELOPMENT

Site Conditions

- 5.1 The Site occupies an area of c.4.8ha situated to the north of Oxford.
- 5.2 The Site is predominantly occupied by buildings and other infrastructure associated with its use as an applied scientific facility for the energy, nanotechnology, aerospace and automotive sectors.
- 5.3 Archaeological evidence from the surrounding area suggests that the Site and its immediate environs were in agricultural use from at least the early 19th century and probably from an early period. There is no evidence suggest that the Site was a settlement until the construction of a building, probably a farmstead, in the mid-19th century.
- 5.4 Previous impacts on archaeological potential will derive largely from the use of the Site for agricultural purposes and from the construction of the various phases of the Science Park in the latter half of the 20th century.

Proposed Development

- 5.5 The application to which this Assessment relates is for outline planning permission, with all matters except for access reserved for subsequent approval, for up to 12,500m² of B1a / b / c floorspace and ancillary D1 floorspace, retention of and improvements to the existing vehicular, public transport, pedestrian and cycle access including internal circulation routes; associated car parking including re-disposition of existing car parking; associated hard and soft landscape works; any necessary demolition; and associated drainage, infrastructure and ground re-modelling works.

Non-Designated Heritage Assets

Based on the information within the HER, supplemented by historic mapping, it is considered that the Site was in agricultural use since at least the medieval period, and probably much earlier. It is clear from the archaeological trial trenching exercise undertaken in 2001 that those parts of the Site which are not built on are largely devoid of surviving archaeological deposits. It seems likely that the construction of the existing buildings on the Site would have destroyed any archaeological deposits that may have been present within their footprint.

6.0 CONCLUSIONS

- 6.1 Development proposals for the site known as Begbroke Science Park, Oxford comprise outline planning permission, with all matters except for access reserved.
- 6.2 In line with the policies of the local planning authority and national government guidance as set out in the NPPF, an archaeological desk based assessment was prepared to clarify the archaeological potential of the Site and the potential impacts the proposed development could have on the significance of any off-site designated archaeological assets through a change to their setting.
- 6.3 This archaeological desk based assessment concludes that the Site does not contain any world heritage sites, listed building scheduled monuments, registered parks and gardens, or registered battlefields where there would be a presumption in favour of their physical preservation in situ and against development.
- 6.4 Potential impacts upon the designated archaeological assets in the site's wider zone of influence have been considered, and this assessment concludes that the implementation of the proposed development will not result in an adverse impact on, harm to, or loss of significance from any of the identified designated archaeological assets, either in terms of an effect on their physical fabric or through changes to their wider setting.
- 6.5 Based on the information within the HER, supplemented by historic mapping has shown that there is a negligible potential for archaeological deposits of significance to be encountered across the Site. It is also noted that the Site was the subject of a comprehensive archaeological trial trench evaluation in 2001 comprising 19 trial trenches across much of the site not occupied by buildings or other structures at the time of the works. One only archaeological feature was found as a result of this exercise, this being a small pit containing charcoal within its fill which was cut into the natural gravel, and as interpreted as possibly being related to agricultural use of the land, not necessarily being of any great antiquity ¹¹ and thus of negligible archaeological significance. The trial trenching report concludes that the 'site therefore would appear to have no archaeological

¹¹ TVAS 2001

potential' ¹², a position corroborated by the OHER, whose record for the trial trenching goes further by stating there is 'no archaeological potential in the area'.

- 6.6 On the basis of available evidence, it is considered that the proposed development accords with current heritage legislation, those planning policies contained within the NPPF which relate to the historic environment and the policies of the adopted Cherwell Local Plan which relate to archaeology. Furthermore, it is concluded that no further archaeological works would be warranted, given the results of the trial trench evaluation in 2001 as noted above.

¹² Ibid

SOURCES CONSULTED

The British Library Online Gallery
Oxfordshire Historic Environment Record

Primary Sources

1811 Ordnance Survey Surveyors Drawing
1878-80 OS Map
1899 OS Map
1922-11 OS Map
1936 OS Map
1970-72 OS Map
1974-76 OS Map
1978 OS Map
1980 OS Map
1983 OS Map
1981-86 OS Map
1985-87 OS Map
1994 OS Map

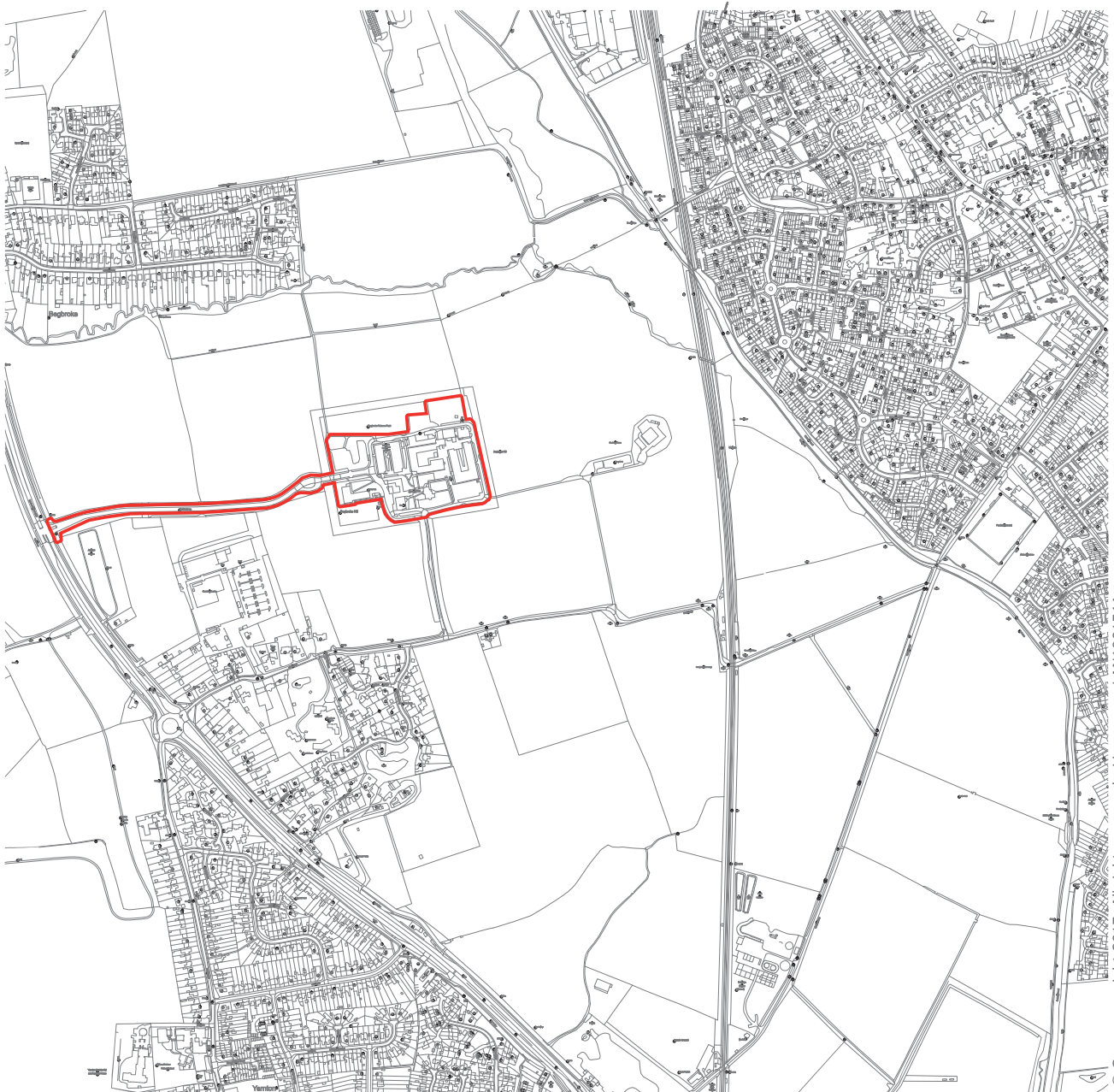
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Cotswold Archaeology (2011) Begbroke Science Park Access Road, Begbroke, Oxfordshire: Archaeological Evaluation
Mills, D. (1991) Dictionary of English Place Names. Oxford Univ Press
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www.bgs.ac.uk/data/mapViewers/home.html
Google Earth www.googleearth.co.uk

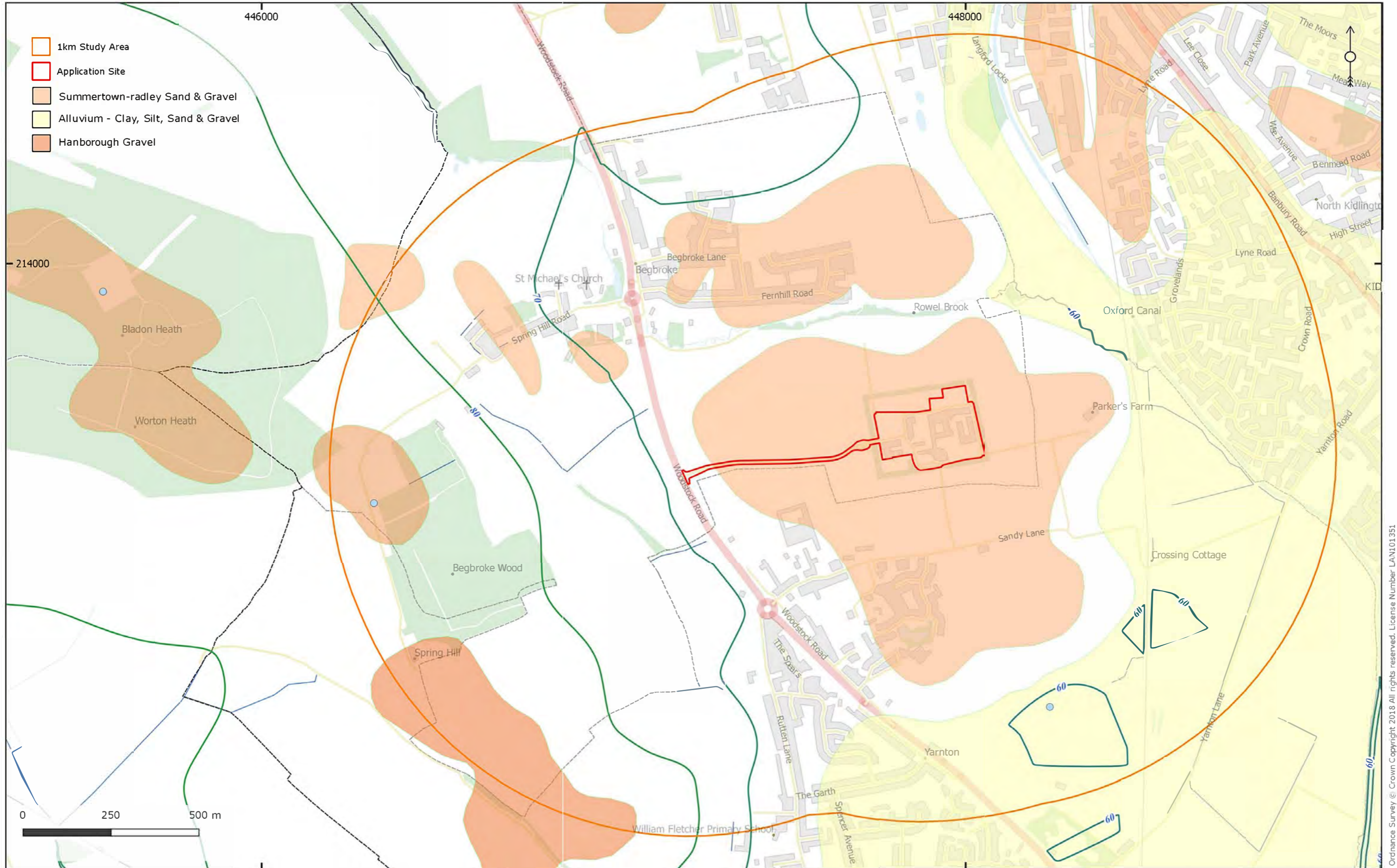
Appendix 1: Site Location



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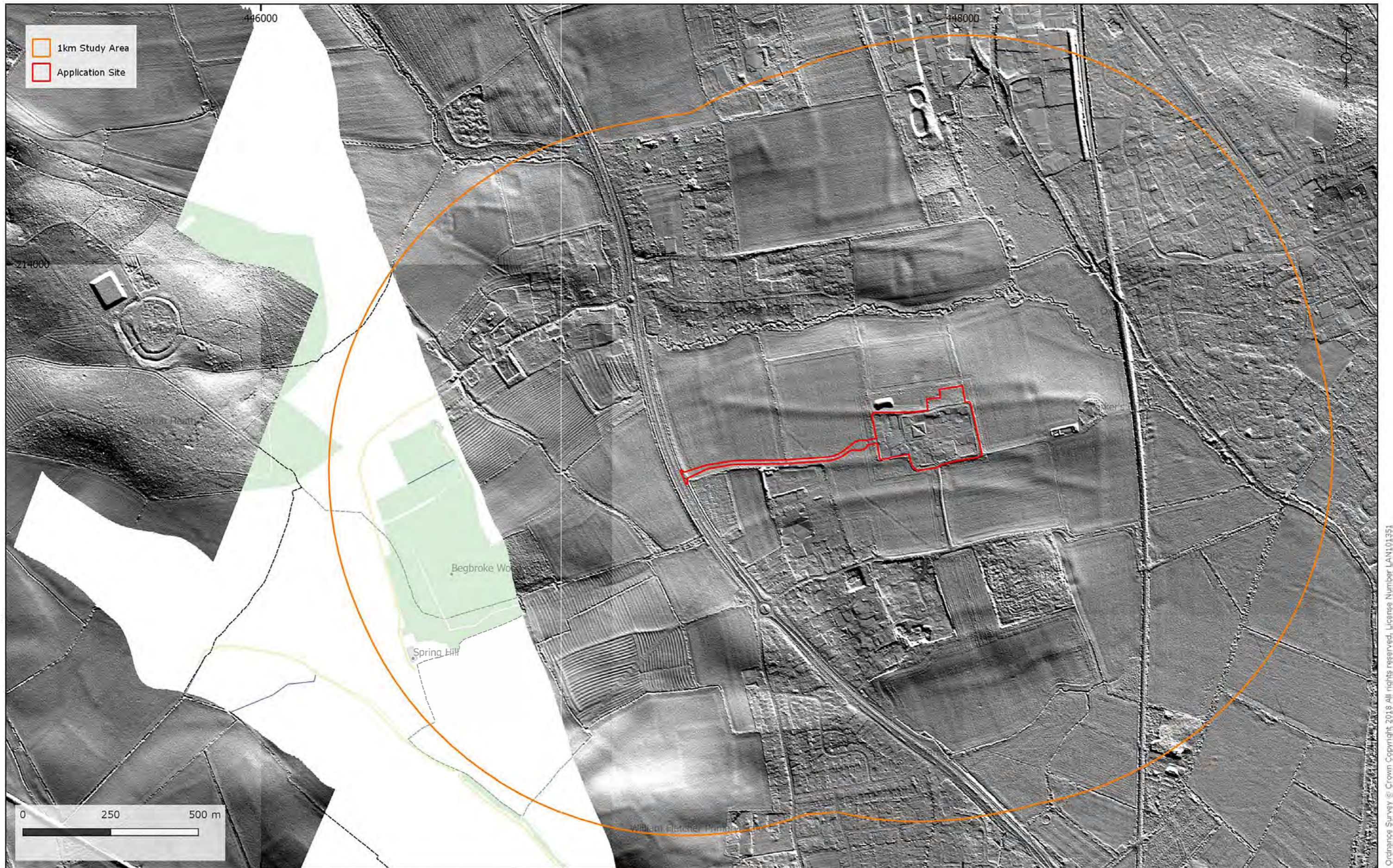
Appendix 1.1: Site Location

Appendix 2: Geology & Topography



Appendix 2.1: Terrain and Superficial Geology

1:10,000

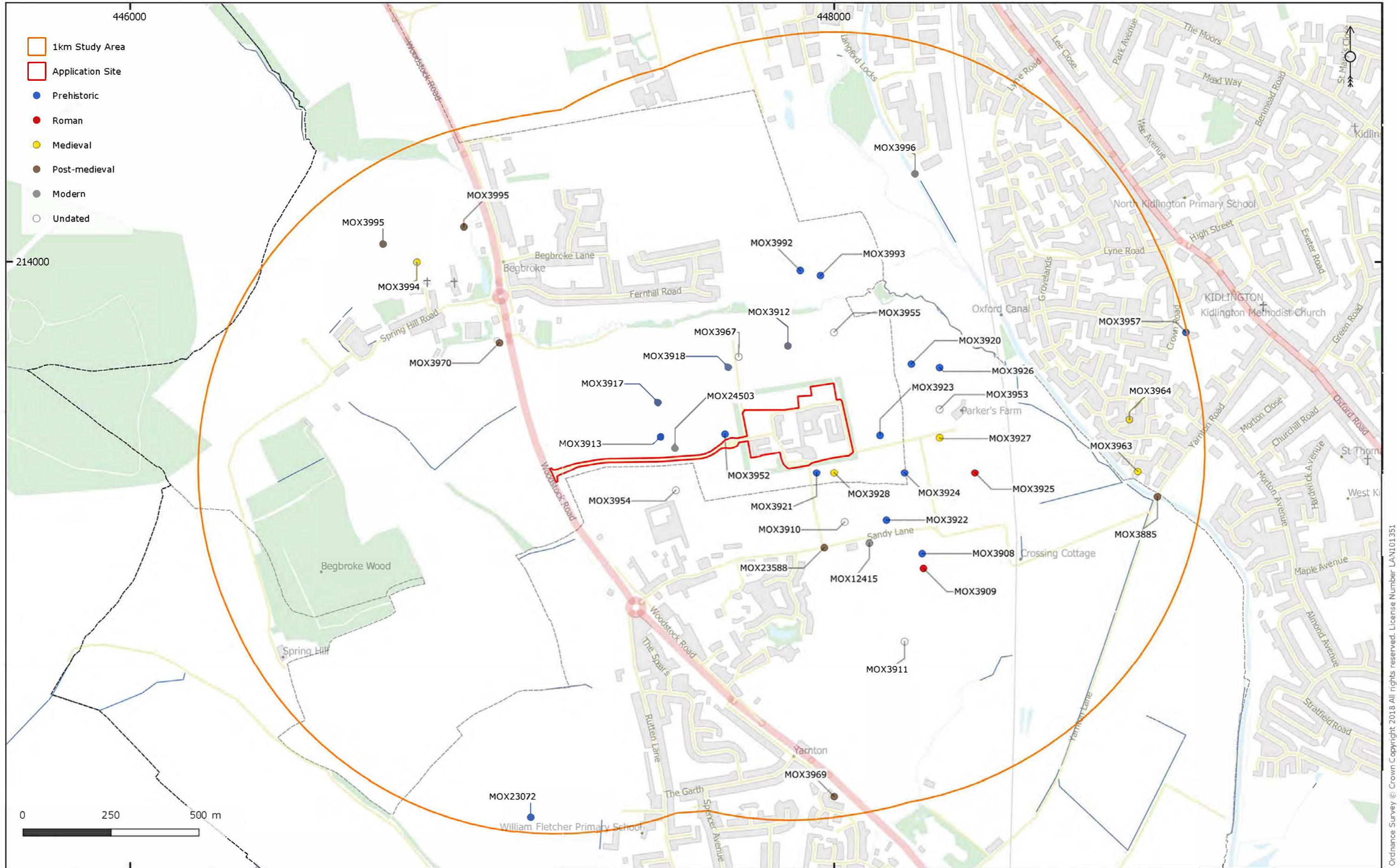


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Appendix 2.2: LiDAR

1:10,000

Appendix 3: Historic Environment Record



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Appendix 3.1: Non-Designated Assets

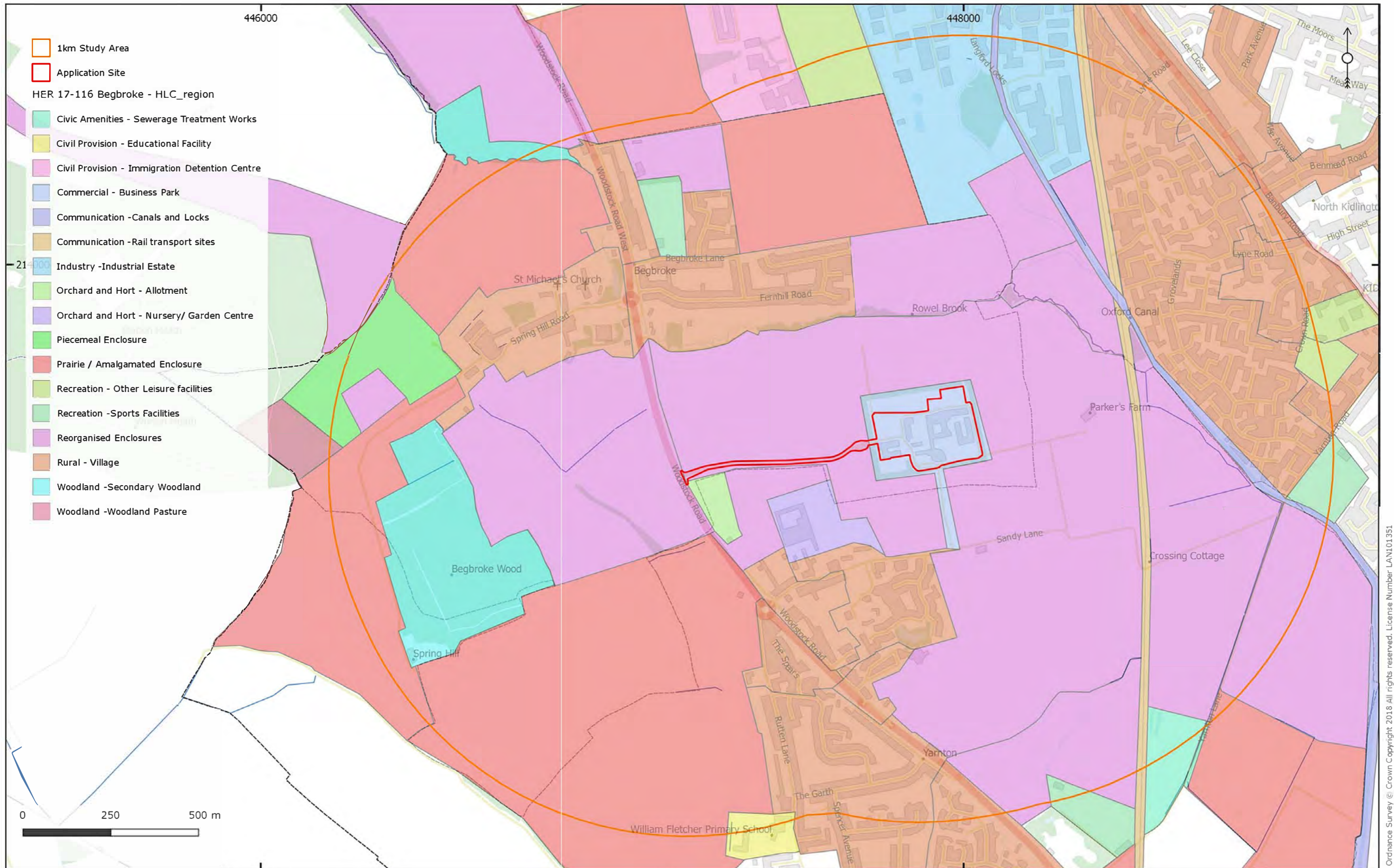
1:10,000



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Appendix 3.2: Events

1:10,000



Appendix 3.3: Historic Landscape Characterisation

Appendix 2.4: Historic Environment Record

Non-Designated Assets

Prehistoric

ID	PrefRef	Name	Monument type	from	to
MOX3908	2371	Iron Age Hut	Hut, Ditch, Pit	-800	42
MOX3912	2640	Possible Bronze Age Ring Ditch (Sands, Begbroke Hill)	Ring Ditch	-2350	-701
MOX3913	3357	Prehistoric Flint Tool	Findspot	-500000	42
MOX3917	3932	Prehistoric Scrapers and Struck Flints	Findspot	-500000	42
MOX3918	3933	Neolithic Leaf-Shaped Arrowheads	Findspot	-4000	-2351
MOX3920	4163	Neolithic Pottery	Findspot	-4000	-2351
MOX3921	4164	Neolithic Leaf-Shaped Arrowhead	Findspot	-4000	-2351
MOX3922	4165	Neolithic Surface Finds	Findspot	-4000	-2351
MOX3923	4166	Neolithic Hollow-Based Flint Arrowhead	Findspot	-4000	-2351
MOX3924	4167	Prehistoric Flint Implements	Findspot	-500000	42
MOX3926	4169	Iron Age and Roman Pottery	Findspot	-800	409
MOX3952	7336	Bronze Age Enclosures (Wrenches, Begbroke Hill)	Circular Enclosure, Oval Enclosure	-2350	-701
MOX3957	8003	Bronze Age Flint Arrowhead	Findspot	-2350	-701
MOX3992	13294	Possible Bronze Age Round Barrow (N of Rowel Brook)	Round Barrow?	-2350	-701
MOX3993	13295	Smaller of pair of possible Bronze Age Round Barrows (N of Rowel Brook)	Round Barrow?	-2350	-701
MOX23072	17103	Late Prehistoric to Medieval Scatter	Findspot	-4000	1539

Roman

ID	PrefRef	Name	Monument type	from	to
MOX3909	2372	Romano British Settlement	Settlement, Findspot	43	409
MOX3925	4168	Roman Pottery	Findspot	43	409

Medieval

ID	PrefRef	Name	Monument type	from	to
MOX3927	4171	Medieval Pottery	Findspot	1066	1539

MOX3928	4172	Medieval/Post Med Pottery and other finds	Findspot	1066	1900
MOX3963	D9201	Medieval Fishponds, Moat Cottage	Fishpond	1066	1539
MOX3964	D9219	Medieval Moat (Moat Cottage)	Moat	1066	1539
MOX3994	13296	Shrunken Medieval Village	Shrunken Village	1066	1539

Post-medieval

ID	PrefRef	Name	Monument type	from	to
MOX3885	729	Bridge and Wharf	Bridge, Wharf	1540	1900
MOX3969	10045	Milestone	Milestone	1540	1900
MOX3970	10046	Milestone	Milestone	1540	1900
MOX3995	13297	Post Med Hollow Way (N side of Image Ground or Priory Field)	Hollow Way	1540	1900
MOX23588	26182	Undated ditches and post medieval field boundary	Ditch, Field Boundary?	1540	1900
MOX24503	27977	Ditch And Gully Features Found At Begbroke Science Park			

Modern

ID	PrefRef	Name	Monument type	from	to
MOX3996	13925	World War II Pillbox (beside canal N of Roundham Lock)	Pillbox	1901	2050
MOX12415	16680	Partridge Pit Heavy Anti Aircraft Second World War Gunsite	Anti Aircraft Battery	1901	2050

Unknown

ID	PrefRef	Name	Monument type
MOX3910	2588	Undated Square Enclosure (Deal Ground, Begbroke Hill)	Square Enclosure
MOX3911	2622	Undated Cropmarks (Further Sand, S of Sandy Lane)	Rectilinear Enclosure, Linear Feature, Pit
MOX3953	7350	Undated Drove and Field System (Boddington Barn & Parkers)	Drove Road, Field System
MOX3954	7533	Undated Enclosure, Linear Feature, Pit (1st & 2nd Sand, near Begbroke Hill)	Oval Enclosure, Linear Feature, Pit
MOX3955	7536	Undated Enclosures & Linear Marks (Lankets, Begbroke Hill)	Enclosure, Linear Feature
MOX3967	9599	Undated Enclosures & Pits (Sands, Begbroke Hill)	Rectilinear Enclosure, Oval Enclosure, Pit

Archaeological Events

ID	Site Name	Type	Organisation	Location
EOX16	Begbroke Rising Main	Watching Brief	Foundations Archaeology	Begbroke, Oxfordshire
EOX100	Park Farm Barns	Building Survey	Cotswold Archaeology	Kidlington
EOX848	Begbroke Business and Science Park	Evaluation	Thames Valley Archaeological Services	Sandy Lane, Yarnton
EOX1109	Papaver, 13 Sandy Lane, Yarnton	Evaluation	Thames Valley Archaeological Services	13 Sandy lane, Yarnton
EOX1378	The Coach House, 25 Spring Hill Road	Watching Brief	John Moore Heritage Services	25 Spring Hill Road
EOX2302	An Archaeological Evaluation at Begbroke Science Park Access Road	Evaluation	Museum of London Archaeological Service	Located S of Sandy Lane and E of Woodstock Road
EOX3191	Begbroke Science Park Access Road	Evaluation	Cotswold Archaeology	
EOX3387	Begbroke Science Park Access Road	Excavation	Cotswold Archaeology	
EOX3541	Yarnton Nurseries	Evaluation	Oxford Archaeology	

Appendix 4: Historic Maps & Images



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Appendix 4.1: 1811 Ordnance Surveyor's Drawing (William Stanley)



Appendix 4.2: 1878-80 Ordnance Survey Map



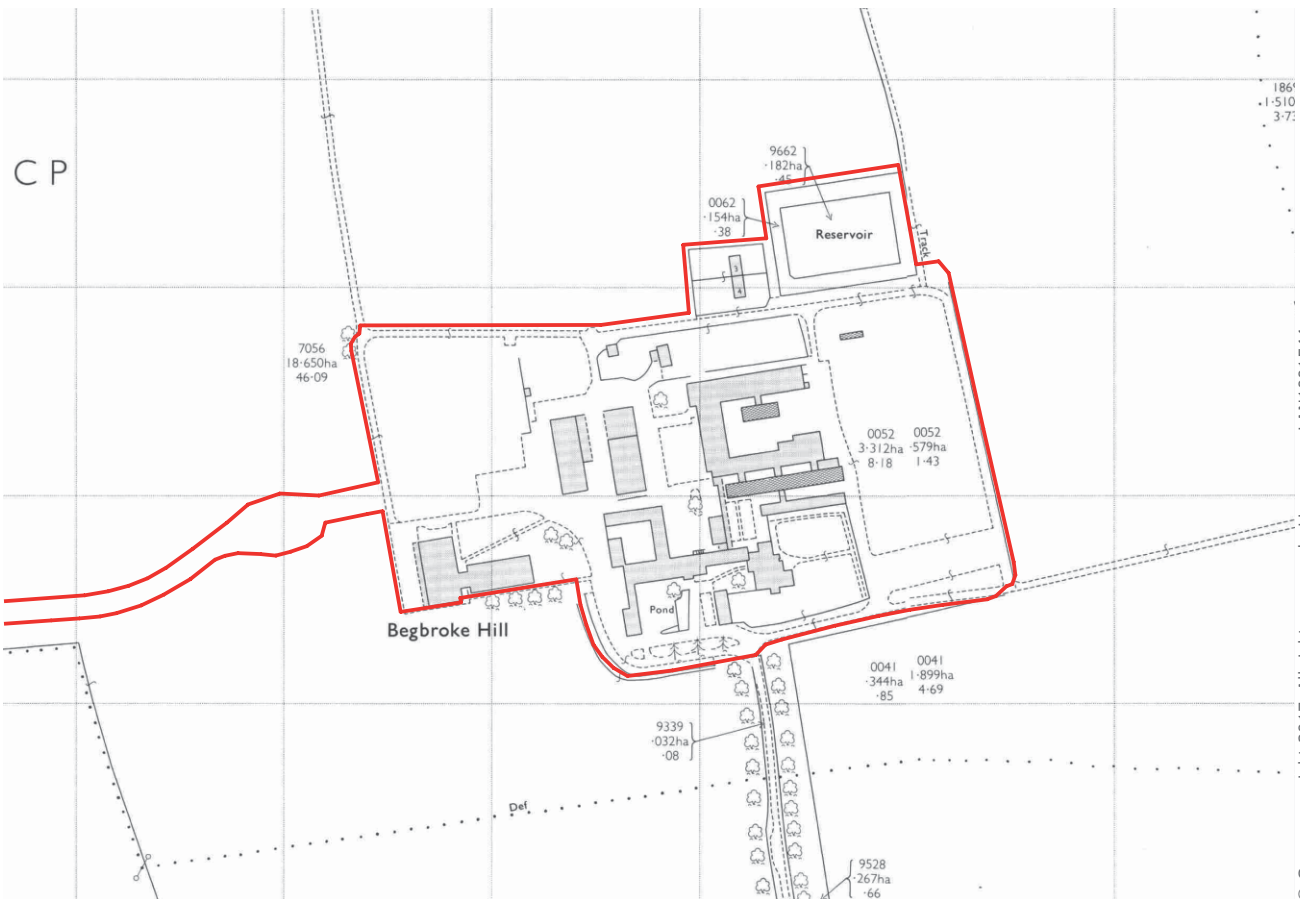
Appendix 4.3: 1899 Ordnance Survey Map



Appendix 4.4: 1922 Ordnance Survey Map

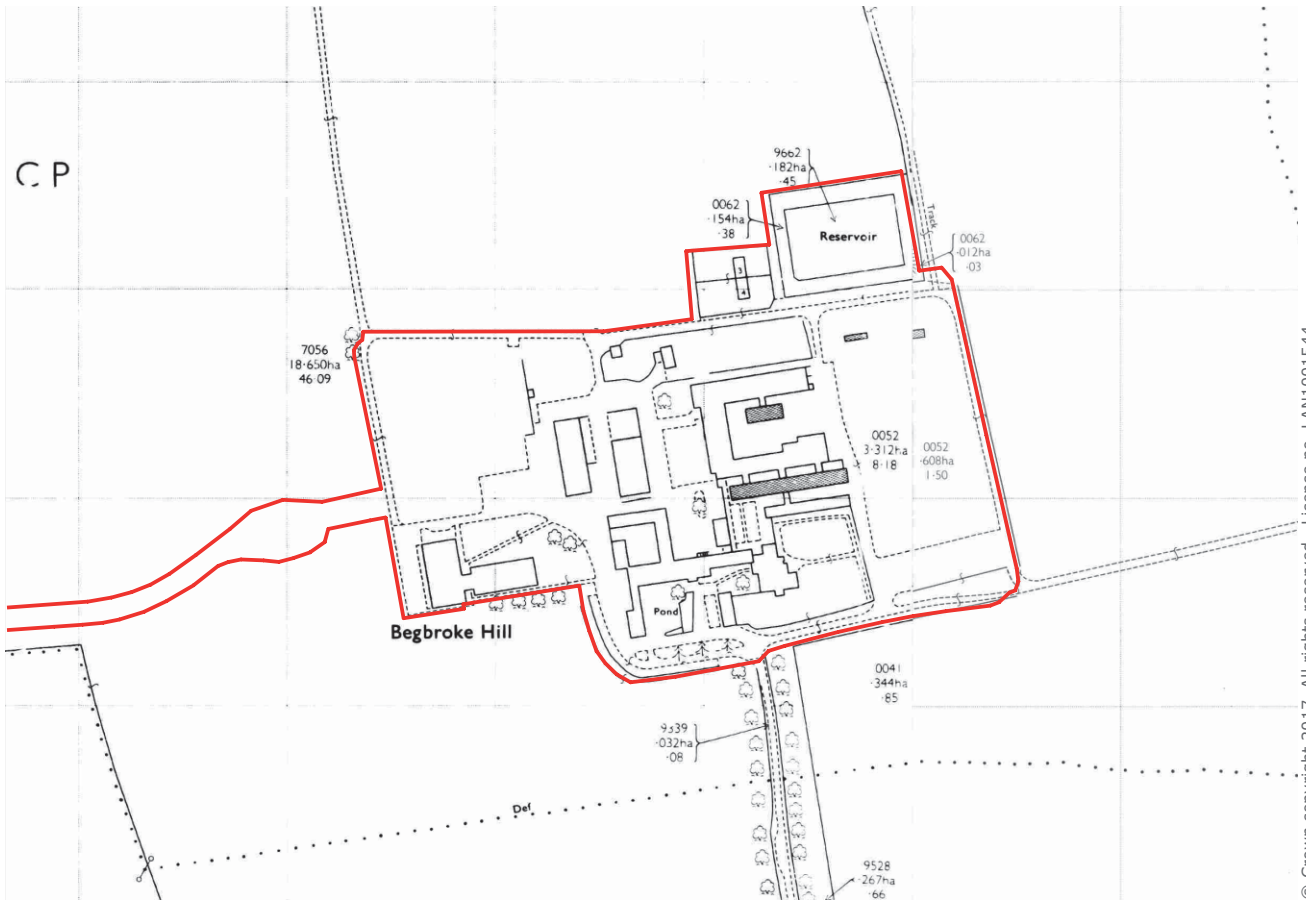


Appendix 4.5: 1936 Ordnance Survey Map



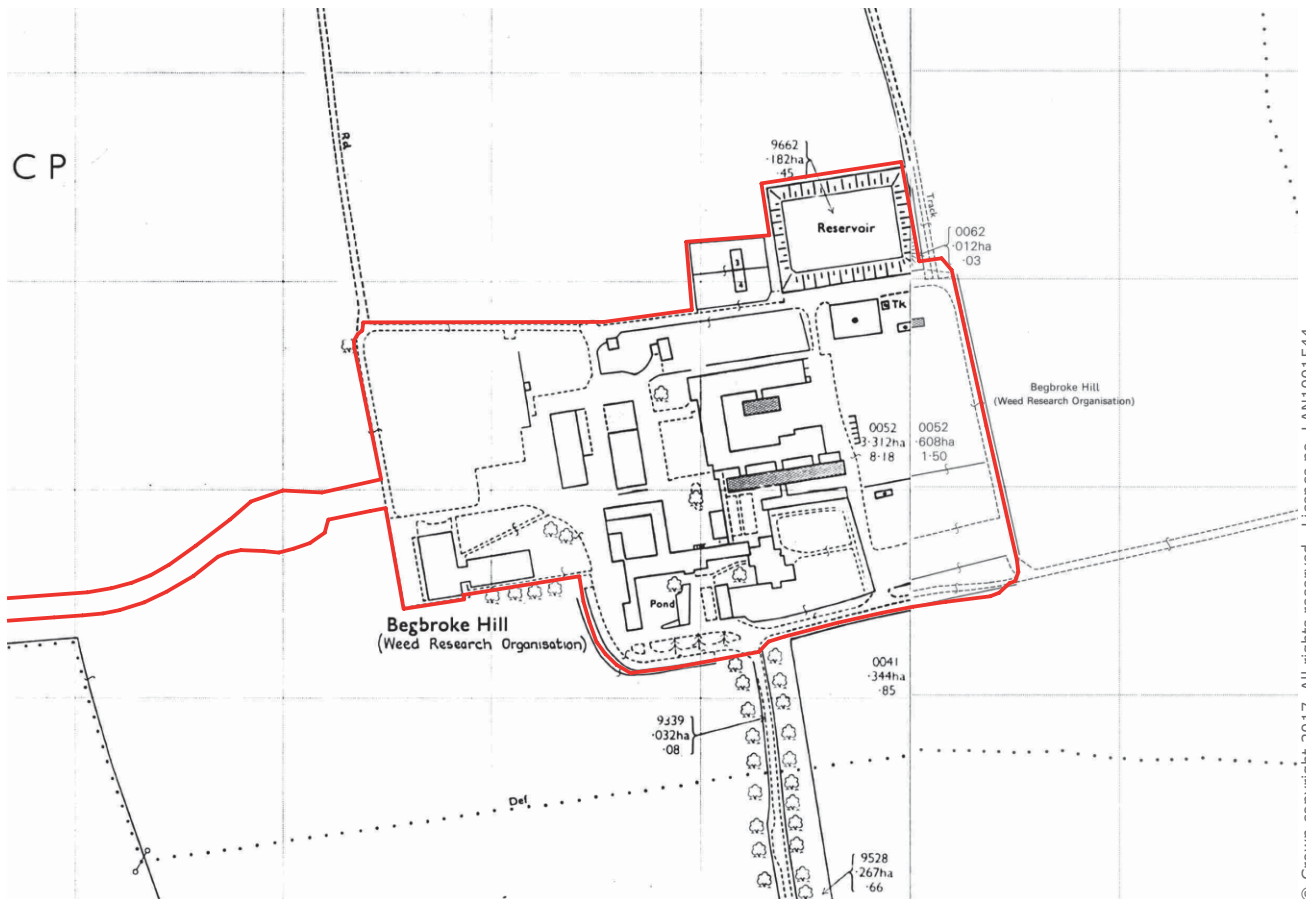
Appendix 4.6: 1970-72 Ordnance Survey Map

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Appendix 4.7: 1974-76 Ordnance Survey Map



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Appendix 4.8: 1985-87 Ordnance Survey Map



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Appendix 4.9: 1994 Ordnance Survey Map



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Appendix 4.10: 2018 Google Earth Image