



The Millbrook Power (Gas Fired Power Station) Order

6.2 Environmental Statement Appendices – Volume M Appendices 13.1 – 13.3 Historic Environment

Planning Act 2008
The Infrastructure Planning
(Applications: Prescribed Forms and Procedure) Regulations 2009

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- 13.1 - Archaeology DBA**
- 13.2 - Setting Assessment**
- 13.3 - Consultation with CBC**

13.1 - Archaeology DBA

Millbrook Power Project
Archaeological Desk Based Assessment
September 2017

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Report
Archaeological Desk-Based Assessment

Site
Millbrook Power Project

Client
Millbrook Power Ltd

Date
September 2017

Planning Authority
Central Bedfordshire Council

Site Centred At
TL 0183 4013

Prepared & Approved By
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Maps showing archaeological trial trenches at Rookery Pit South on the study site (Albion Archaeology 2011 (Figs 1 & 2))

Timescales Used in This Report

Prehistoric

Palaeolithic	450,000 - 12,000 BC
Mesolithic	12,000 - 4,000 BC
Neolithic	4,000 - 2,200 BC
Bronze Age	2,200 - 700 BC
Iron Age	700 - AD 43

Historic

Roman	43 - 410AD
Saxon/Early Medieval	410 - 1066AD
Medieval	1066 - 1485AD
Post Medieval	1486 - 1901AD
Modern	1901 - Present Day

Executive Summary

The archaeological baseline conditions of the Millbrook Power Project site, Bedfordshire, have been assessed. In accordance with government policy (National Policy Statements, National Planning Policy Framework), this assessment draws together the available archaeological, historic, topographic and land-use information in order to clarify the heritage significance and archaeological potential of the Project Site.

The available archaeological, historic, and topographic information indicates that the Project Site contains no designated heritage assets. Archaeological evaluation has been undertaken in the west of the Project Site and has recorded evidence of possible prehistoric settlement activity and evidence for an enclosed Iron Age/Roman settlement either side of a palaeochannel. Undated cropmarks of possible archaeological origins are recorded on the Project Site from aerial photography.

The proposed Power Generation Plant would be located within a former clay extraction pit (Rookery South Pit) which will have removed all archaeological remains within its footprint. On this basis it is considered that it is only the Gas and Electrical Connection elements of the Project which may have an archaeological impact.

A programme of archaeological mitigation will be undertaken on the Gas Connection and Electrical Connection as a Requirement attached to the DCO. The principles of this mitigation have been agreed with the Central Bedfordshire Council Archaeological Officer during consultations. A written scheme of investigation (WSI) would be produced and submitted to the CBC Archaeological Officer. This document will define the scope of works and the methods of excavation and recording that will be implemented. The mitigation will comprise of an archaeological strip, map and sample operation on the construction of both the Gas and Electrical Connections. This will comprise of the excavation of the pipe/cable trenches and their construction easement, being stripped archaeologically. Archaeological features exposed will be hand excavated and recorded according to a sampling strategy that will be agreed with the CBC Archaeological Officer. Following completion of the fieldwork, the findings will be assessed, analysed and published in full in an appropriate academic journal. These works will be undertaken in accordance with the ClfA Standards and Guidance for Excavation and/or Standards and Guidance for an Archaeological Watching Brief (ClfA 2017).

1.0 Introduction

- 1.1 This document is the heritage desk based assessment for the Millbrook Power Project (hereafter referred to as the Project). It has been prepared by Orion Heritage on behalf of Millbrook Power Ltd. (The Applicant).
- 1.2 The Project comprises:
- a new Power Generation Plant in the form of an Open Cycle Gas Turbine (OCGT) peaking power generating station, fuelled by natural gas with a rated electrical output of between 50 and 299 MW. This is the output of the generating station as a whole, measured at the terminals of the generating equipment. The Power Generation Plant comprises:
 - generating equipment including one Gas Turbine Generator with one exhaust gas flue stack and Balance of Plant (together referred to as the 'Generating Equipment'), which are located within the 'Generating Equipment Site';
 - a new purpose built access road from Green Lane to the Generating Equipment Site (the 'Access Road' or 'short Access Road');
 - a temporary construction compound required during construction only (the 'Laydown Area');
 - a new gas pipeline connection to bring natural gas to the Generating Equipment from the National Transmission System (the 'Gas Connection'). This element incorporates an Above Ground Installation (AGI) at the point of connection to the National Transmission System. The Gas Connection covers an area of approximately 2.89 hectares (ha); and
 - a new electrical connection to export power from the Generating Equipment to the National Grid Electricity Transmission System (NETS) (the 'Electrical Connection'), comprising an underground double circuit Tee-in. This would require one new tower (which will replace an existing tower and be located in the existing Grendon – Sundon transmission route corridor, thereby resulting in no net additional towers). This also requires two SECs, one located on each side of the existing transmission line, and both circuits would then be connected via underground cables approximately 500 metres in length to a new substation (the 'Substation').
- 1.3 The Electrical Connection covers an area of approximately 4.8 ha.
- 1.4 The Generating Equipment, Access Road and Laydown Area are together known as the 'Power Generation Plant' and are located within the 'Power Generation Plant Site'. The Power Generation Plant Site is approximately 12.5 ha in area.
- 1.5 The Power Generation Plant Site is located primarily on land within former clay pits known as 'The Rookery'.
- 1.6 The 'study site' referred to throughout this desk based assessment is defined as the Project site and a 1km radius from it (Figure 1). This assessment outlines the baseline heritage conditions within the study site so as to inform the assessment of the potential archaeological impacts as presented in Chapter 13 of the Environmental Statement (ES).
- 1.7 In accordance with government planning policy (NPS EN1, 2, 4 & 5 & NPPF), this desk-based assessment has been undertaken to establish the presence/absence of designated and undesignated assets, to consider the archaeological potential of the study site and to assess any impacts from the proposed Project.
- 1.8 The centre of the Project site is located at grid reference TL 0183 4013. The Project site is bounded to the north by disused Clay Pits and residential development at Stewartby/Wootton Pillinge, to the east by fields, to the south by fields and the village of Millbrook, to the south west by a Vehicle Proving Ground, Pillinge Farm South and a Country Park
- 1.9 In accordance with the Standard and Guidance for Historic Environment Desk Based Assessments (Chartered Institute for Archaeologists 2017), the assessment draws together available information on designated and non-designated heritage assets, topographic and land-use information to establish the potential for non-designated archaeological heritage assets within the study site and the potential effect on the significance of nearby designated heritage assets. The assessment includes the results of a site survey, an examination of published and unpublished records and charts historic land-use through a map regression exercise. Sources utilised include the Bedfordshire Historic Environment Record and the Bedford Borough Council Historic Environment Record (HER), the Bedfordshire County Archives, and various online sources such as British History on line and the National Heritage List of England

- 1.10 Data gathering to inform this desk-based assessment has established that no Scheduled Monuments, Registered Parks & Gardens or Registered Battlefields lie within the study site. However, there are several undesignated heritage assets recorded within the study site. Two Scheduled Monuments (Houghton House and Amphill Castle) lie to the east of the study site. The Amphill Park Registered Park and Garden lies immediately adjacent to the sites south-eastern boundary.

Landform, Topography and Geology

- 1.11 The British Geological Survey indicates that the solid geology comprises Oxford clays with Kellaway beds in an area known as the Bedford clay vale (BGS Sheet 203: Bedford, 1900). The surface disturbance of the area is limited and the soil types are generally calcareous clay loams (OS Soil Survey 1968).
- 1.12 The drift geology on the study site according to the BGS Survey Sheet comprises strips of valley gravel in the south-east and south-west of the study site. A small area of alluvium is located in the south-west of the study site.
- 1.13 There is no geotechnical data currently available for the study site. However, an archaeological evaluation at Rookery Pit South in the centre of the study site recorded between 0.3-0.5m of topsoil and subsoil overlying Boulder Clay becoming sandier in the westernmost trenches (Albion Archaeology 2011).
- 1.14 The majority of the study site occupies a gradual slope from south down to the north within Marston Vale.
- 1.15 Historically, the natural topography of the study site would have comprised a gradual slope down from two highpoints at c. 70m AOD (Above Ordnance Datum) in the south and the south-west of the study site, down to c. 50m AOD in the north and north-east of the study site, and c. 40m AOD in the extreme north-west of the study site. However, clay extraction for brickmaking in the north of the site has significantly altered the sites natural topography. The north-west of the study site now occupies two former Clay Pits (Rookery Pit North and South), which have been partially backfilled and flooded.
- 1.16 A tributary of the River Great Ouse, lies c. 1km west of the study site and flows northwards to its confluence with the River Great Ouse, c. 10km to the north-east of the study site.

2.0 Planning Background and Development Plan Framework

Ancient Monuments & Archaeological Areas Act 1979

- 2.1 The Ancient Monuments & Archaeological Areas Act 1979 (as amended) protects the fabric of Scheduled Monuments, but does not afford statutory protection to their settings.

Overarching National Planning Statement for Energy (NPS-EN1)

- 2.2 NPS EN 1 deals specifically with potential impacts of Nationally Significant Infrastructure Projects on heritage assets in Section 5.8 which states:

“The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset. As a minimum the applicant should have consulted the relevant Historic Environment Record¹²⁰ (or, where the development is in English or Welsh waters, English Heritage or Cadw) and assessed the heritage asset themselves using expertise where necessary according to the propose development’s impact.

Where a development site includes, or the available evidence suggests it has the potential to include, heritage assets with an archaeological interest the applicant should carry out appropriate desk-based assessment and, where such desk-based research is insufficient to properly assess the interest, a field evaluation”.

National Planning Policy Framework (NPPF) & National Planning Practice Guidance (NPPG)

- 2.3 Government policy in relation to the historic environment is outlined in section 12 of the National Planning Policy Framework (NPPF), entitled Conserving and Enhancing the Historic Environment. This provides guidance for planning authorities, property owners, developers and others on the conservation and investigation of heritage assets. Overall, the objectives of Section 12 of the NPPF can be summarised as seeking the:
Delivery of sustainable development

- Understanding the wider social, cultural, economic and environmental benefits brought by the conservation of the historic environment;
 - Conservation of England's heritage assets in a manner appropriate to their significance, and
 - Recognition of the contribution that heritage assets make to our knowledge and understanding of the past.
- 2.4 Section 12 of the NPPF recognises that intelligently managed change may sometimes be necessary if heritage assets are to be maintained for the long term.
- 2.5 Paragraph 128 states that planning decisions should be based on the significance of the heritage asset and that level of detail supplied by an applicant should be proportionate to the importance of the asset and should be no more than sufficient to understand the potential impact of the proposal upon the significance of that asset.
- 2.6 *Heritage Assets* are defined in Annex 2 as: A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing).
- 2.7 *Archaeological Interest* is defined as a heritage asset which holds or potentially could hold evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.
- 2.8 *Designated Heritage Assets* comprise: World Heritage Sites, Scheduled Monuments, Listed Buildings, Protected Wreck Sites, Registered Park and Gardens, Registered Battlefields and Conservation Areas.
- 2.9 *Significance* is defined as: The value of a heritage asset to this and future generations because of its heritage interest. This interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.
- 2.10 *Setting* is defined as: 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.
- 2.11 The NPPF is supported by the National Planning Policy Guidance (NPPG). In relation to the historic environment, paragraph 18a-001 states that:
"Protecting and enhancing the historic environment is an important component of the National Planning Policy Framework's drive to achieve sustainable development (as defined in Paragraphs 6-10). The appropriate conservation of heritage assets forms one of the 'Core Planning Principles'."
- 2.12 Paragraph 18a-002 makes a clear statement that any decisions relating to listed buildings and their settings and conservation areas must address the statutory considerations of the Planning (Listed Buildings and Conservation Areas) Act 1990 as well as satisfying the relevant policies within the National Planning Policy Framework and the Local Plan.
- 2.13 Paragraph 18a-013 outlines that the assessment of the impact of a proposed development on the setting of a heritage asset needs to take into account and be proportionate to the significance of the asset being considered and the degree to which the proposed development enhances or detracts from the significance of the asset and the ability to appreciate the significance.
- 2.14 The NPPG outlines that although the extent and importance of setting is often expressed in visual terms, it can also be influenced by other factors such as noise, dust and vibration. Historic relationships between places can also be an important factor stressing ties between places that may have limited or no intervisibility with each other. This may be historic as well as aesthetic connections that contribute or enhance the significance of one or more of the heritage assets.
- 2.15 Paragraph 18a-013 concludes:
"The contribution that setting makes to the significance of the heritage asset does not depend on there being public rights or an ability to access or experience that setting. This will vary over time and according to circumstance. When assessing any application for development which may affect the setting of a heritage asset, local planning authorities may need to consider the implications of cumulative change. They may also need to consider the

fact that developments which materially detract from the asset's significance may also damage its economic viability now, or in the future, thereby threatening its on-going conservation."

- 2.16 The key test in NPPF paragraphs 132-134 is whether a proposed development will result in substantial harm or less than substantial harm. However, substantial harm is not defined in the NPPF. Paragraph 18a-017 of the NPPG provides additional guidance on substantial harm. It states:
"What matters in assessing if a proposal causes substantial harm is the impact on the significance of the heritage asset. As the National Planning Policy Framework makes clear, significance derives not only from a heritage asset's physical presence, but also from its setting. Whether a proposal causes substantial harm will be a judgment for the decision taker, having regard to the circumstances of the case and the policy in the National Planning Policy Framework. In general terms, substantial harm is a high test, so it may not arise in many cases. For example, in determining whether works to a listed building constitute substantial harm, an important consideration would be whether the adverse impact seriously affects a key element of its special architectural or historic interest. It is the degree of harm to the asset's significance rather than the scale of the development that is to be assessed."
- 2.17 Paragraph 134 of the NPPF outlines that where a proposed development results in less than substantial harm to the significance of a heritage asset, the harm arising should be weighed against the public benefits accruing from the proposed development. Paragraph 18a-020 of the NPPG outlines what is meant by public benefits:
"Public benefits may follow from many developments and could be anything that delivers economic, social or environmental progress as described in the National Planning Policy Framework (Paragraph 7). Public benefits should flow from the proposed development. They should be of a nature or scale to be of benefit to the public at large and should not just be a private benefit. However, benefits do not always have to be visible or accessible to the public in order to be genuine public benefits."
- 2.18 In considering any planning application for development, the planning authority will be mindful of the framework set by government policy, in this instance, primarily NPS as decision will be made by the SoS.

Local Planning Policy

- 2.19 The Central Bedfordshire LDF Core Strategy and Development Management Policies (Adopted December 2009) contains the following policy relating to the historic environment:

Policy CS15 Heritage

The Council will:

- *Protect, conserve and enhance the district's heritage including its Listed Buildings, Scheduled Ancient Monuments, Conservation Areas, Registered Parks and Gardens and archaeology and their setting.*
- *Conserve and where appropriate enhance the quality and integrity of the local built and natural environment, including historic structures or open green spaces considered to be of special local interest.*
- *Designate and keep under review Conservation Areas in order to protect or enhance their special architectural or historic interest. This will include the implementation of an on-going programme of Conservation Area Character Appraisals to include a review of their special interest and boundaries.*
- *Monitor and survey the condition of Listed Buildings and periodically review and update a Register of Buildings at Risk, providing appropriate grant assistance to encourage their essential sympathetic repair.*

- 2.20 The Bedford Borough Council Core Strategy and Rural Issues Plan Development Plan Document (adopted April 2008) contains the following policy relating to the historic environment:

POLICY CP23 – Heritage

Development will be required to protect and where appropriate enhance:

- i. *the character of conservation areas, scheduled ancient monuments, historic parks and gardens, listed buildings and other important historic or archaeological features; and,*
- ii. *the Borough's cultural assets, including its landscape, in order to underpin sense of place, cultural identity and promote quality of life.*

Guidance

Historic Environment Good Practice Advice In Planning Note Managing Significance in Decision-Taking in the Historic Environment (Historic England 2015)

2.21 The purpose of this document is to provide information to assist local authorities, planning and other consultants, owners, applicants and other interested parties in implementing historic environment policy in the NPPF and NPPG. It outlines a 6-stage process to the assembly and analysis of relevant information relating to heritage assets potentially affected by a proposed development.

- Understand the significance of the affected assets;
- Understand the impact of the proposal on that significance;
- Avoid, minimise and mitigate impact in a way that meets the objectives of the NPPF;
- Look for opportunities to better reveal or enhance significance
- Justify any harmful impacts in terms of the sustainable development objective of conserving significance and the need for change;
- Offset negative impacts on aspects of significance by enhancing others through recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.

Historic Environment Good Practice Advice In Planning Note 3 The Setting of Heritage Assets (Historic England 2015)

2.22 Historic England's Historic Environment Good Practice Advice in Planning Note 3 provides guidance on the management of change within the setting of heritage assets.

2.23 The document restates the definition of setting as outlined in Annex 2 of the NPPF. Setting is also described as being a separate term to curtilage, character and context; while it is largely a visual term, setting, and thus the way in which an asset is experienced, can also be affected by noise, vibration, odour and other factors. The document makes it clear that setting is not a heritage asset, nor is it a heritage designation, though land within a setting may itself be designated. Its importance lies in what the setting contributes to the significance of a heritage asset.

2.24 The Good Practice Advice Note sets out a five-staged process for assessing the implications of proposed developments on setting:

1. Identification of heritage assets which are likely to be affected by proposals;
2. Assessment of whether and what contribution the setting makes to the significance of a heritage asset;
3. Assessing the effects of proposed development on the significance of a heritage asset;
4. Maximising enhancement and reduction of harm on the setting of heritage assets; and
5. Making and documenting the decision and monitoring outcomes

2.25 The guidance reiterates the NPPF in stating that where developments affecting the setting of heritage assets results in a level of harm to significance, this harm, whether substantial or less than substantial, should be weighed against the public benefits of the scheme.

3.0 Archaeological and Historical Background

- 3.1 Examination of data in the Central Bedfordshire and Bedford Borough Historic Environment Records (HER) within the study site, and documentary evidence from the parishes of Marston Moretaine, Houghton Conquest and Ampthill in the County Records Office has been consulted. Several non-designated archaeological assets are recorded within the study site itself. Two Scheduled Monuments (Houghton House and Ampthill Castle) are located to the east of the study site. The Ampthill Park Registered Park and Garden lies to the sites south-eastern boundary of the study site. The location of sites mentioned in the text are shown in Fig. 2 (relevant HER record numbers are quoted in brackets in the text below and also shown in Fig. 2).
- 3.2 Evidence of archaeological finds in the vicinity of the study site is varied. In the past, the Oxford clays of the Marston Vale have been described as a significant gap in terms of archaeological evidence. However recent works and aerial photography since the late 1990s has begun to redress the balance. The archaeology of Bedfordshire, has recently been presented in the *Research and Archaeology: Resource Assessment Research Agenda and Strategy* (Oake et al., 2007).
- 3.3 Archaeological investigations have been undertaken within the study site comprising an Archaeological Evaluation (Albion Archaeology, 2011) (Appendix 1), and an aerial photograph assessment (Palmer 2011). The aerial photograph assessment identified cropmarks of potentially archaeological origin within the study site. Archaeological evaluation in the west of the study site recorded an enclosed late Iron Age/Roman settlement and a possible prehistoric settlement either side of a former stream channel.
- 3.4 A number of cropmarks are identified from aerial photographs as representing prehistoric and Romano-British settlement sites on the HER within the study area. However, the recent archaeological evaluation in the west of the study site did not record any correlation between the plotted cropmarks and excavated features, suggesting the cropmarks were non-archaeological in origin (Albion 2011).

Non-Designated Heritage Assets (Figure 2)

Prehistoric

- 3.5 There are no Palaeolithic finds recorded on the HER within the study area.
- 3.6 A Mesolithic flint flake was found through fieldwalking c. 2km to the south of the study site (7468). Two Mesolithic flint blades were found during evaluation work on the Willington to Steppingley Gas Pipeline 1.4km to the south-east of the study site (7485 & 7486).
- 3.7 A large collection of prehistoric flints including Mesolithic, Neolithic and Bronze Age flints were recovered by a local amateur archaeologist between 1969 and 2000 to the south-east of the study site, c. 2.4km to the south-east (18269).
- 3.8 The cropmark of an isolated ring ditch on the top of a small hillock is recorded on the HER in the south-west of the study site, adjacent to the Millbrook Proving Ground (MNN16566).
- 3.9 A probable prehistoric roundhouse was recorded during the evaluation in the west of the study site although no dating evidence was recorded (see Appendix 1).
- 3.10 No evidence of Palaeolithic, Mesolithic or Neolithic activity was recorded during the archaeological evaluation in the south west of the study site. Overall the sites potential for the early prehistoric periods is therefore considered to be low.
- 3.11 Overall, taking the above into consideration, along with professional judgement, the likelihood of evidence of Bronze Age activity being found on the study site is considered to be moderate, and high in the west of the study site in the area of the probable ring ditch.

Iron Age and Roman

- 3.12 The archaeological evaluation in the west of the study site recorded an enclosed Iron Age-Roman settlement which was bordered by a palaeochannel that was possibly contemporary, within the study site (Appendix 1) (Albion 2011) (19806).
- 3.13 Extensive archaeological remains were recently discovered at the Millennium Country Park, Marston c. 1.km north-west of the study site, where a late Iron Age/early Roman farmstead was recorded (17715). In addition, an archaeological evaluation to the north-east of the study site on Stewartby Way, has recorded an Iron Age farmstead (Albion 2010).

- 3.14 Excavations ahead of the construction of a pipeline crossing the south-east of the study site recorded pits and ditches of early to middle Iron Age date (18169).
- 3.15 A Roman road identified by Viatores in 1964 as No 170b crosses the south-west part of the study site, but there is no physical archaeological evidence to suggest there was a Roman road in this area (5020).
- 3.16 A scatter of Roman pottery was found during fieldwalking at How End, c. 1.5km east of the study site, and subsequently a cropmark indicating an enclosure was recorded at the same location and is thought to be Roman (2425).
- 3.17 Several Roman find spots are recorded within the study area found by metal detector including a Roman coin (18358), twenty-four Roman coins, three brooches and a knife found in How End, c.2.2km to the north east of the study site (18517), a Roman coin found south-east of Ampthill Park House, c.2km to the south-east of the study site (18765).
- 3.18 Several areas of undated cropmarks are recorded on the study site from aerial photography (4469) and (9077).
- 3.19 The presence of an enclosed Romano-British settlement on the study site suggests that the general area was likely to have formed an agricultural landscape with farmsteads sited along the tributary of the River Ouse during the Iron Age and Roman periods.
- Anglo-Saxon and Medieval*
- 3.20 Archaeological excavations at the Millennium Country Park, Marston c. 1.km north-west of the study site, recorded evidence for Saxon settlement in two areas (17715). One comprised large groups of intercutting pits near to the southerly Iron Age to Roman settlement. The pits may have had an industrial use but were backfilled with domestic waste. The southern settlement focus produced a large number of postholes believed to indicate fence lines.
- 3.21 Evidence for Saxon settlement comprising structural remains including possible beam slots and evidence of partitions were found during a trial trenching exercise in 2009, in Ampthill Park, c. 1.7km from the centre of the study site (18265).
- 3.22 The earliest reference to a settlement at Marston is from AD 969 regarding the boundary of the men of Marston (Mercstuninga gemœre). The Domesday Survey of 1086 refers to the overlordship of Marston Manor.
- 3.23 During the medieval period the study site lay south-east of the village of Marston. The majority of the study site lies within the parish of Marston Moretaine. The south-east of the study site lies within the parish of Ampthill and the north-east of the study site lies within the parish of Houghton Conquest.
- 3.24 Evidence of arable agriculture in the form of ridge and furrow is recorded on the HER within the study area recorded from aerial photography. Within the study site itself cropmarks indicate a possible medieval field system in the south of the study site indicating that the site was in agricultural use during the Medieval period (14743).
- 3.25 A possible medieval moated site is recorded immediately north-west of the study site at Pillinge Farm South, represented by a square arrangement of ditches surrounding an orchard, on the western site boundary (3270).
- 3.26 No evidence for Saxon or medieval activity was recorded during the archaeological evaluation in the west of the study site. Accordingly, a taking the above into consideration, along with professional judgement, generally low potential is identified for settlement or other significant remains of these periods, and a moderate potential is identified for evidence of early medieval agricultural activity.
- Late Medieval and Post-Medieval*
- 3.27 The scheduled monument of Ampthill Castle is located c. 1km south-east of the study site (SM No 1009630). The monument includes the remains of a 15th century palace, which is situated at the top of the north-facing scarp of the Greensand ridge. The approximate site of the palace is marked by Katherine's Cross, erected in the 1770's to commemorate Katherine of Aragon who lived for a time at the palace. Although there are no upstanding walls, there exists a detailed survey of the palace precinct drawn up in 1534 which enables the plan and extent of the ruins to be ascertained. The main precinct comprised four wings ranged about a rectangular inner court, with a gatehouse on the east wing and kitchens and a great hall on the north.

- 3.28 Amphill Park situated c. 1.7km south-east of the study site is a Registered Park and Garden and comprises a 17th/18th century country house surrounded by a landscape park by Lancelot Brown dating between 1771-2 (RPG No 1000378). Amphill Great Park was originally a deer park surrounding Amphill Castle. Having become royal property, the castle and parks were used by Henry VIII, who paid frequent visits between 1524 and 1532, and by Katherine of Aragon in the early 1530s during the divorce proceedings with Henry. The castle was ruinous by the end of the 16th century (VCH) and the present Park House was built in the late 17th century to replace the Great Lodge.
- 3.29 The Scheduled Monument of Houghton House lies c. 1km east of the study site (SM No 1013522). The house typifies conventional late 16th and early 17th century design. Houghton House therefore represents an important transitional period between Elizabethan and Jacobean architecture, and the neo-Classicism which was to follow. The past owners and occupiers of the house are well documented, and in the case of Mary, the Dowager Countess, the biographical details provide insights into the development of the design. The significance of the structural remains is increased rather than reduced by the limited period of occupation, since the house has no significant later alterations or elaboration.
- 3.30 The Jeffreys Map of 1765 (Fig. 3) and the Ordnance Survey map of 1815 (Fig. 4) show the study site lying within fields between settlements at Wootton Pillinge in the north, How End to the east, Millbrook to the south and Marston Pillinge to the west. A lane is shown crossing the east of the site on the line of Marston Road linking Millbrook and How End.
- 3.31 Further detail is shown on the 1808 Amphill Inclosure Map and the 1809 Houghton Conquest Inclosure Map which show the east of the study site occupying fields.
- 3.32 The Marston Moretaine Tithe Map and Award of 1843 shows the study site occupied by Grass fields and Arable fields.
- 3.33 The Ordnance Survey map of 1883 shows the study site occupied by fields with the newly constructed London & North Western Railway bounding the north-west of the study site, and the Midland Railway bounding the south eastern study site boundary (Fig. 5).
- 3.34 No significant changes are shown to have occurred at the study site between 1901 and 1960 (Figs. 6-9).
- 3.35 Two former clay extraction pits (Rookery Pits) are located in the north of the study site (6681). The remains of the former conveyor line survive in the north-west of the study site, mainly evidenced by concrete plinths along the former route, but also as a conveyor bridge crossing over the railway line close to Green Lane (Figs. 10 & 11). From 1999 the disused Clay Pits in the north of the study site were shown as flooded (Figs 12-14).
- 3.36 Overall, taking the above into consideration, along with professional judgement, the archaeological potential of the study site for late medieval and post-medieval evidence is confined to any remains of former field boundaries and any structures associated with the 20th century clay extraction pits.

4.0 Site Conditions and Heritage Constraints

Site Conditions

- 4.1 The north of the site is occupied by The Rookery, comprising two large former clay pits, Rookery North and Rookery South Pits, separated by an east-west spine of unexcavated clay (Fig. 17). The remainder of the site occupies undulating agricultural land.
- 4.2 The excavation of clay extraction pits in the north of the study site, would have had completely removed archaeological deposits within the limits of the pits themselves.
- 4.3 Partial backfilling of the pits has been undertaken and engineered fill has been placed against their sides in areas where the current slope gradients require additional buttressing works in order to ensure that long-term stability can be maintained.
- 4.4 The power generation plant will be located within Rookery Pit which is a former brickworks clay extraction site with the associated Gas Connection and Electrical Connection extending from The Rookery into adjacent agricultural land to the south.

Impact on Archaeological Heritage Assets

- 4.5 The proposed development would not directly impact any designated heritage assets. However, an archaeological evaluation has recorded undesignated heritage assets comprising possible prehistoric and late Iron Age/Roman settlements within the study site (Appendix 2).
- 4.6 The proposed Power Generation Plant would be unlikely to have an archaeological impact due to its location within a former clay extraction pit. However, the proposed Electrical and Gas connections could have an archaeological impact through the cutting of footings and services, and construction groundworks.
- 4.7 A programme of archaeological mitigation will be undertaken on the Gas & Electrical Connection as a requirement attached to the DCO. The principle of this mitigation has been agreed with the Central Bedfordshire Council Archaeological Officer during consultations. Following the granting of planning permission, a written scheme of investigation (WSI) will be produced and submitted to the CBC Archaeological Officer. This document will define the scope of works and the methods of excavation and recording that will be implemented. The mitigation will comprise of an archaeological strip, map and sample operation on the construction of both the Gas and Electrical Connections. This will comprise of the excavation of the pipe/cable trenches and their construction easement, being stripped archaeologically. Archaeological features exposed will be hand excavated archaeologically and recorded according to a sampling strategy that will be agreed with the CBC Archaeological Officer. Following completion of the fieldwork, the findings will be assessed, analysed and published in full in an appropriate academic journal. These works will be undertaken in accordance with the ClfA Standards and Guidance for Excavation and/or Standards and Guidance for an Archaeological Watching Brief (ClfA 2017).

5.0 Summary & Conclusions

- 5.1 This desk-based assessment considers the site of the Proposed Millbrook Power Project at Rookery South Pit, near Millbrook, Bedfordshire. In accordance with government policy (National Planning Statements and National Planning Policy Framework), this assessment draws together the available archaeological, historic, topographic and land-use information in order to clarify the heritage significance and archaeological potential of the site.
- 5.2 Recent archaeological investigations on the study site have recorded the presence of possible prehistoric settlement activity and a late Iron Age/Roman enclosed settlement in the west of the study site. Evidence of medieval ridge and furrow has also been recorded in the south of the study site.
- 5.3 The north of the study site is occupied by two 20th century clay extraction pits, these would have removed all archaeological potential within the limits of their extents. Post-medieval and modern ploughing are likely to have had a superficial but widespread archaeological impact on the remaining arable land.
- 5.4 The proposed Power Generation Plant would be unlikely to have an archaeological impact due to its location within a former clay extraction pit. However, the proposed Electrical and Gas connections in the east and west of the study site could have an archaeological impact through the cutting of footings and services, and construction groundworks.
- 5.5 A programme of archaeological mitigation will be undertaken on the Gas Connection as a requirement attached to the DCO. This principle of this mitigation has been agreed with the Central Bedfordshire Council Archaeological Officer during consultations. Following the granting of the DCO, a written scheme of investigation (WSI) will be produced and submitted to the CBC Archaeological Officer. This document will define the scope of works and the methods of excavation and recording that will be implemented. The mitigation will comprise of an archaeological strip, map and sample operation on the construction of both the Gas and Electrical Connections. This will comprise of the excavation of the pipe/cable trenches and their construction easement, being stripped archaeologically. Archaeological features exposed will be hand excavated archaeologically and recorded according to a sampling strategy that will be agreed with the CBC Archaeological Officer. Following completion of the fieldwork, the findings will be assessed, analysed and published in full in an appropriate academic journal. These works will be undertaken in accordance with the ClfA Standards and Guidance for Excavation and/or Standards and Guidance for an Archaeological Watching Brief (ClfA 2017).

Sources

General

Bedfordshire Record Office
 Bedfordshire Historic Environment Record (HER)
 Bedford Borough Council Historic Environment Record
 The National Archives
 The British Library

Websites

Archaeological Data Service – www.ads.ahds.ac.uk
 British History Online – <http://www.british-history.ac.uk/>
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 Historic England National Heritage List for England - <https://www.historicengland.org.uk/listing/the-list/>
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 Pastscape - www.pastscape.org.uk
 Bing Maps - <https://www.bing.com/maps/>
 Environment Agency - <https://data.gov.uk/publisher/environment-agency>

Cartographic

1765 Jeffreys Map
 1808 Ampthill Inclosure Map
 1809 Houghton Conquest Inclosure Map
 1811 Ordnance Survey Drawing
 1843 Marston Moretaine Tithe Map
 1882 Ordnance Survey
 1900 Ordnance Survey
 1924 Ordnance Survey
 1947-48 Ordnance Survey
 1959 Ordnance Survey
 1976-82 Ordnance Survey
 1988-89 Ordnance Survey
 2002 Ordnance Survey
 2014 Ordnance Survey

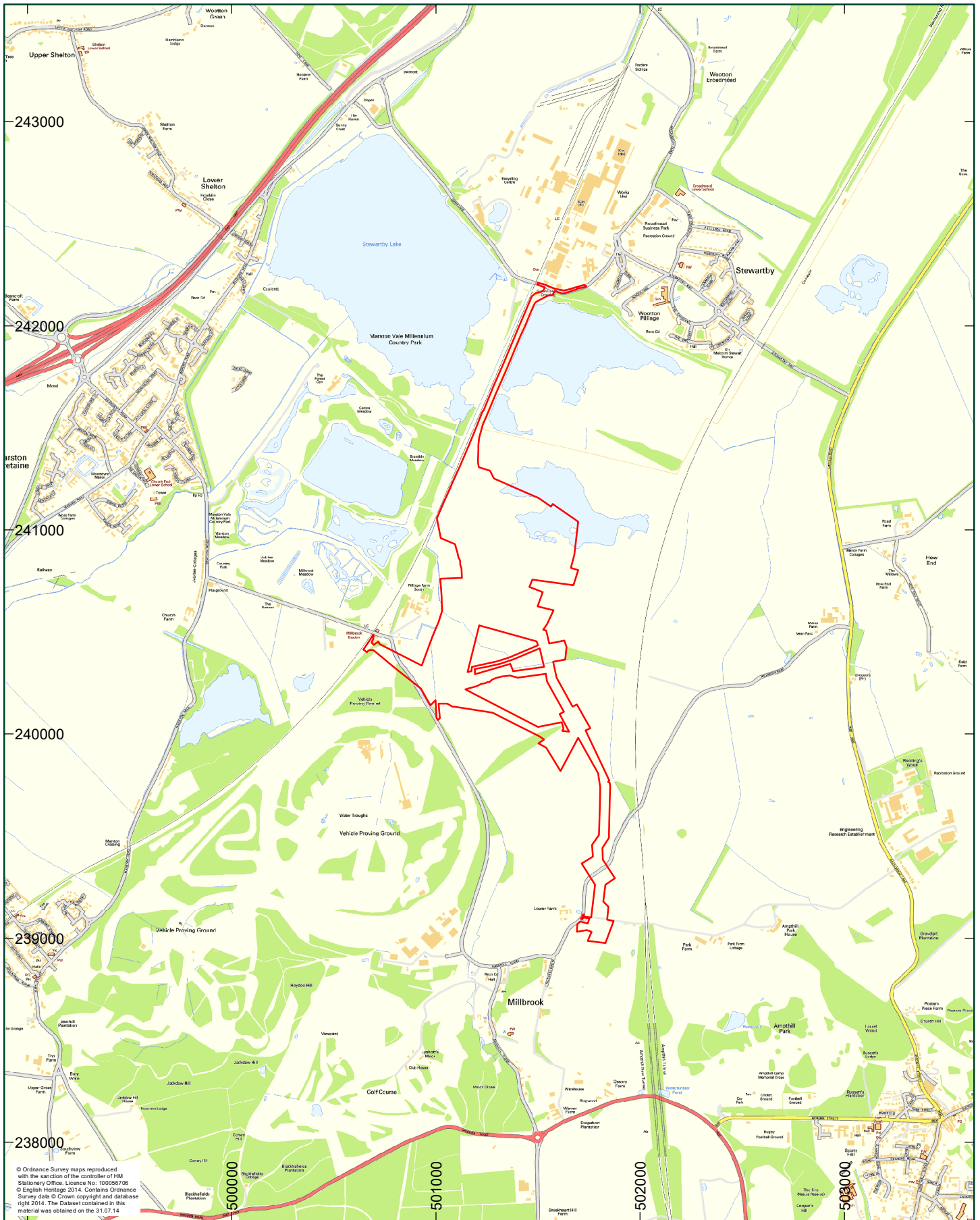
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Dawson, M. 2000. *Prehistoric, Roman and Post-Roman Landscapes in the Great Ouse Valley*

Oake M. et al, 2007. *Research and Archaeology: Resource Assessment Research Agenda and Strategy* Bedfordshire Archaeology Monograph 9

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Legend

 Project site

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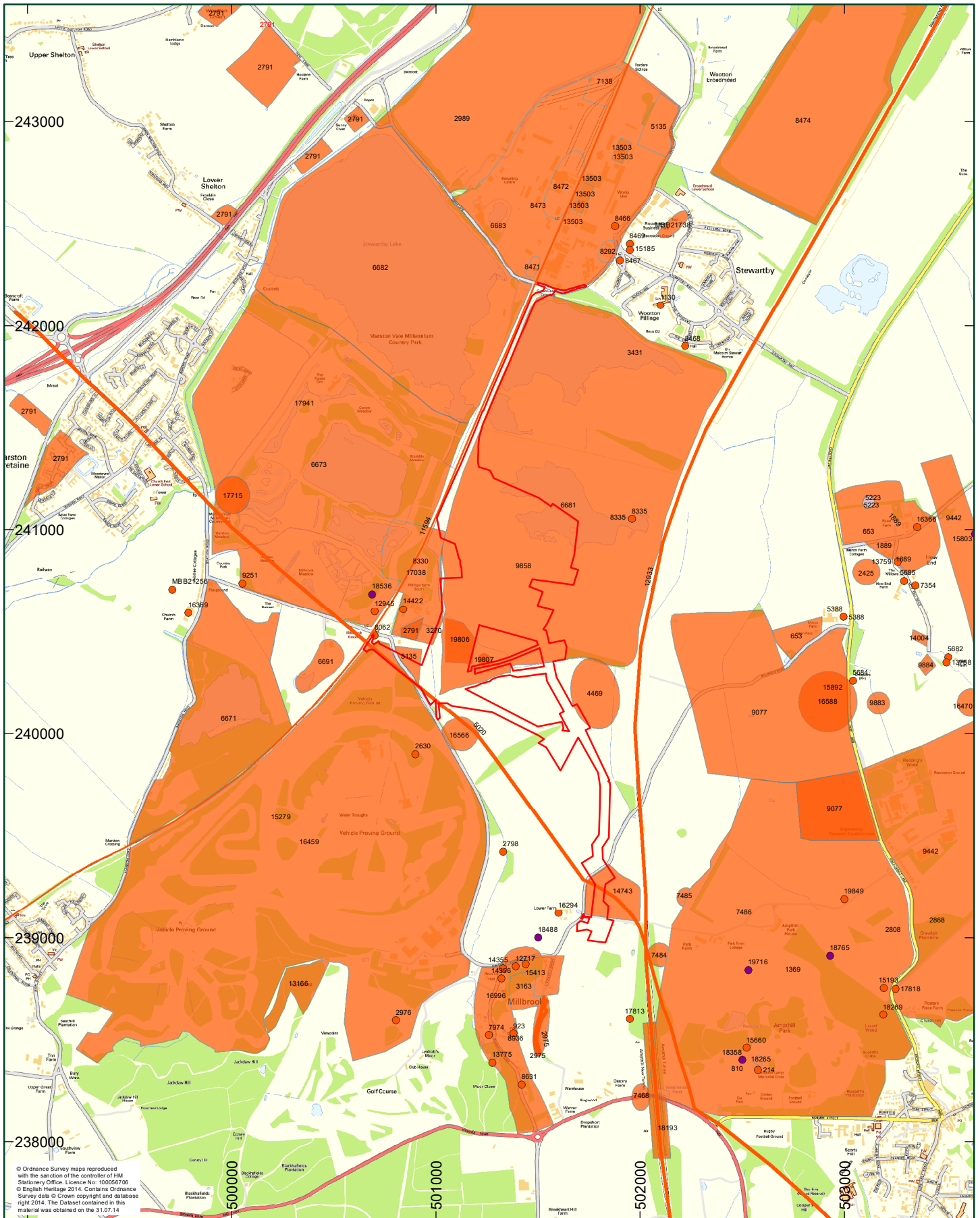


Title:
Fig. 1: Site Location

Address:
Millbrook Power, Rookery South Pit



orion.



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Legend

- Project site
- Monument point
- Monument font point
- Monument line
- Cropmark region
- Cropmark line
- Monument polygon

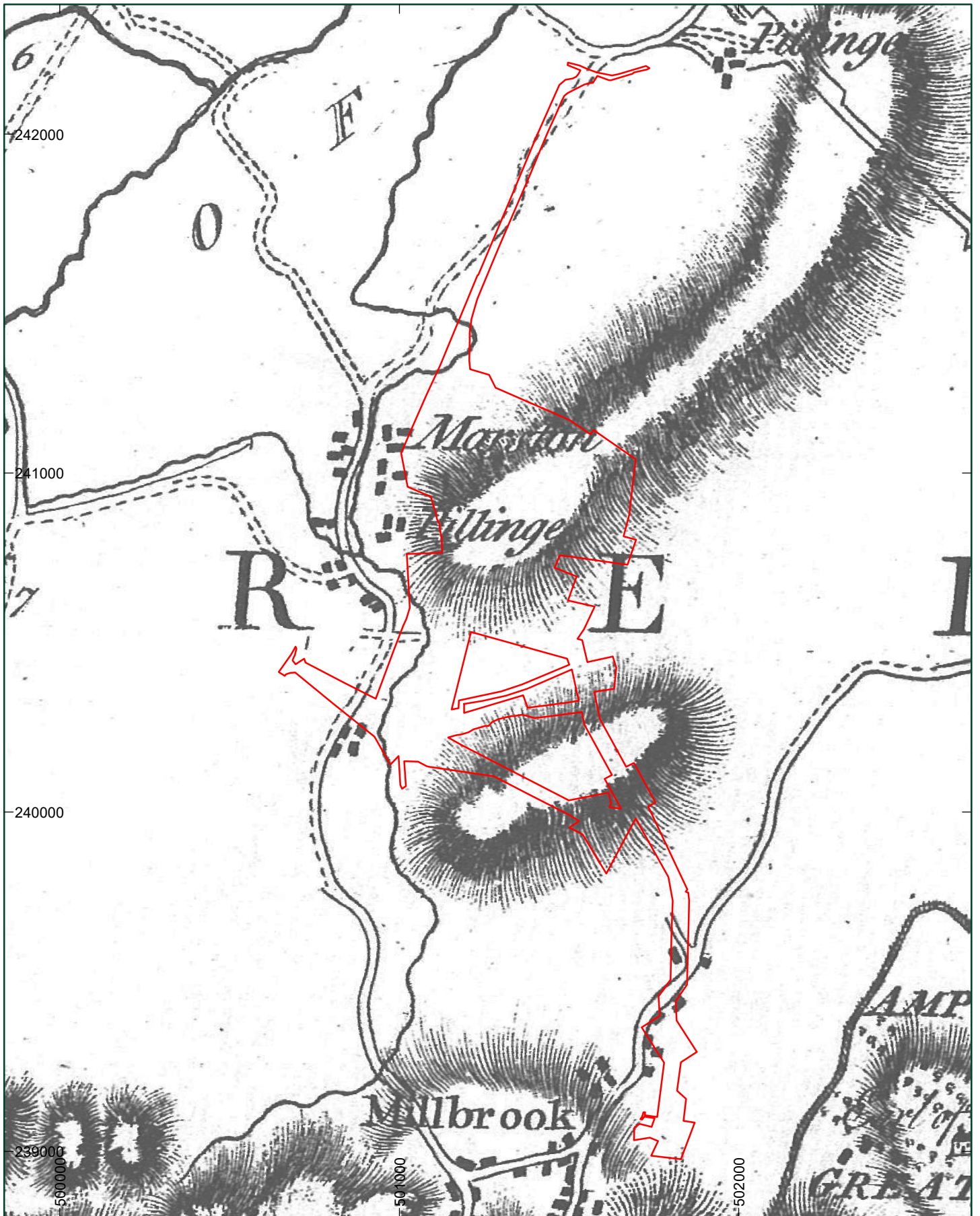
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Title:
 Fig. 2: Location of Sites Mentioned in the Text

Address:
 Millbrook Power, Rookery South Pit





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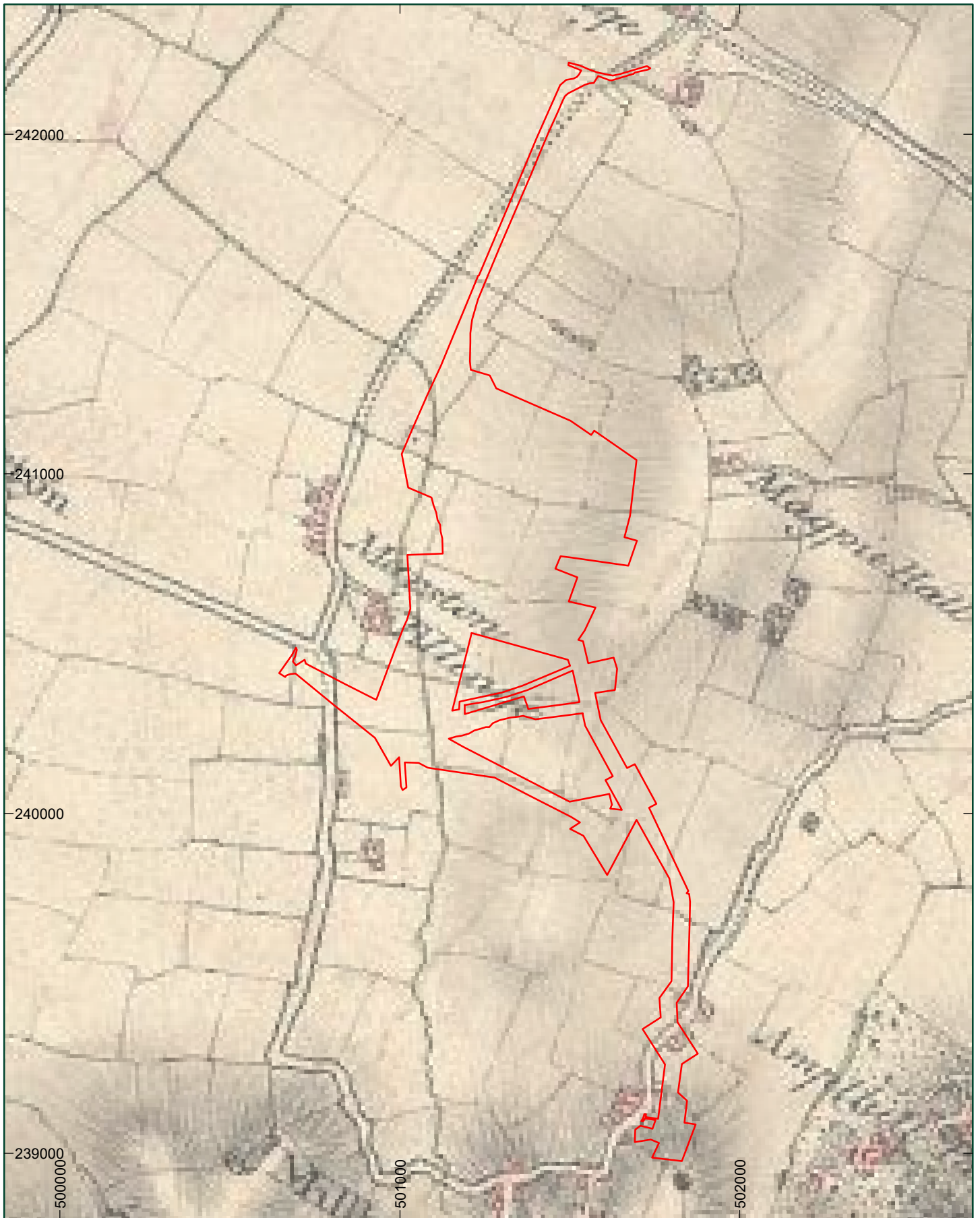


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Fig. 3: 1765 Jeffreys Map

Address:
Millbrook Power, Rookery South Pit



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 Project site

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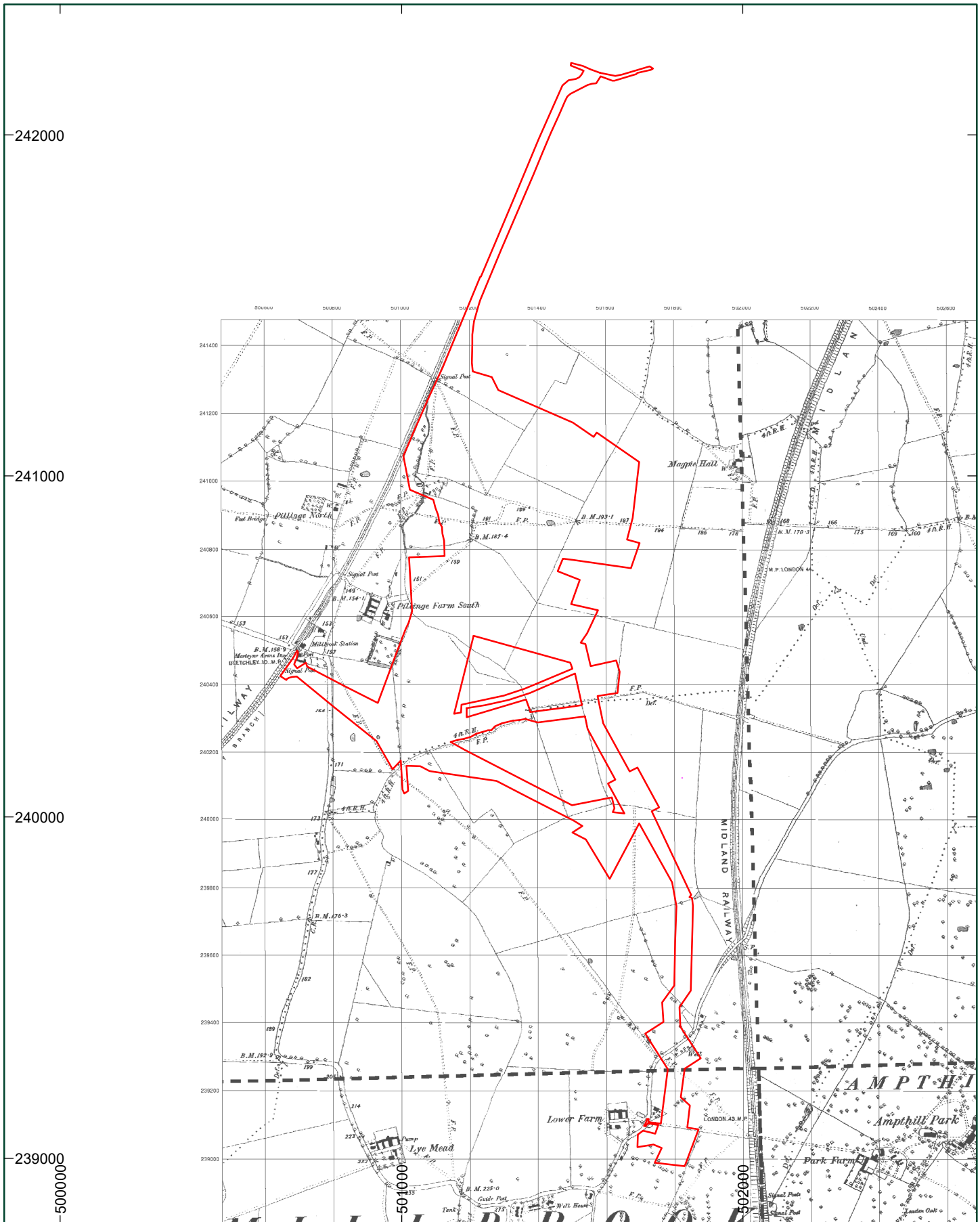
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Title:
Fig. 4: 1815 Ordnance Survey Drawing
Address:
Millbrook Power, Rookery South Pit



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 Project site

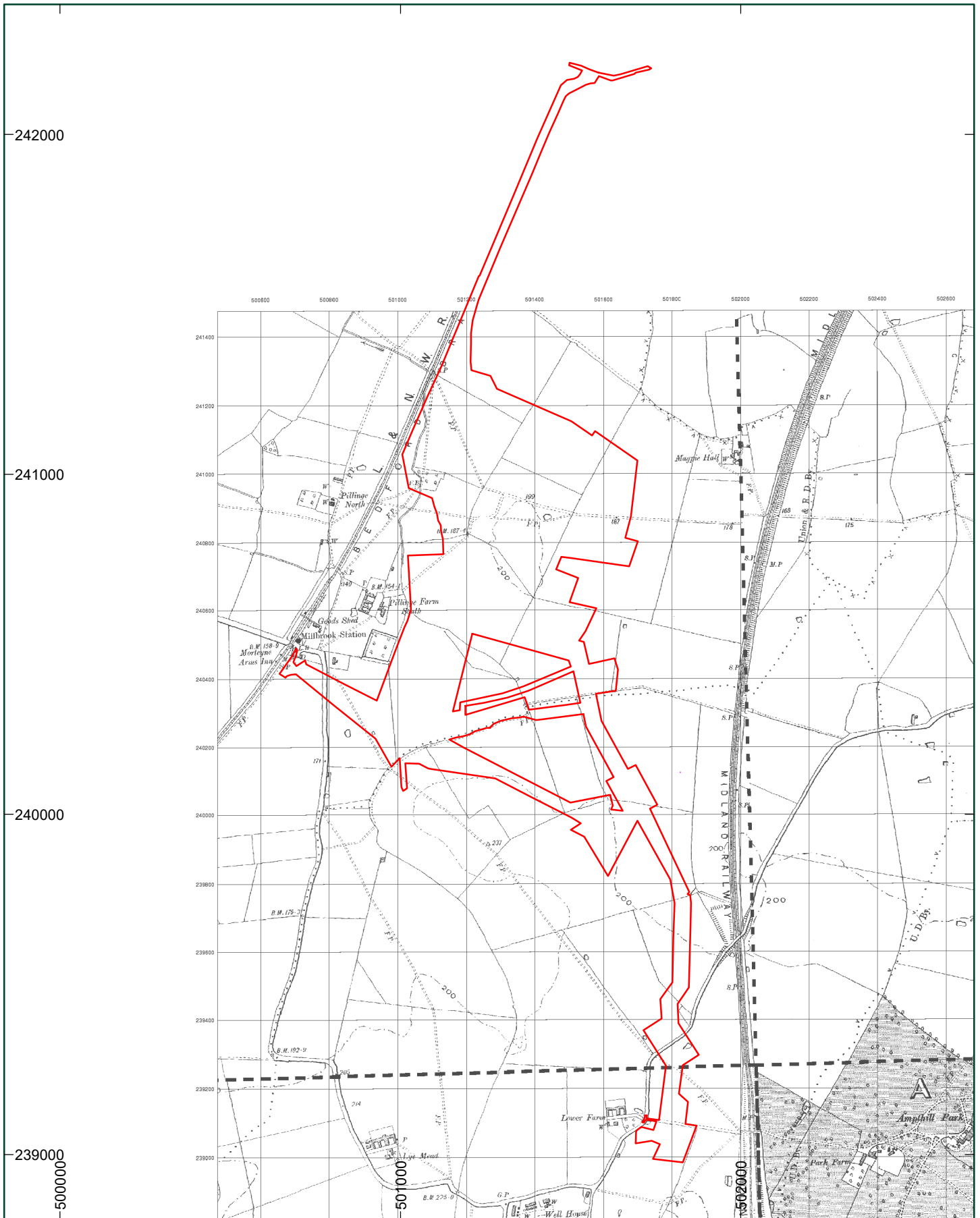
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Title:
Fig. 5: 1883 OS 1:10,560 scale map
Address:
Millbrook Power, Rookery South Pit





Legend

 Project site

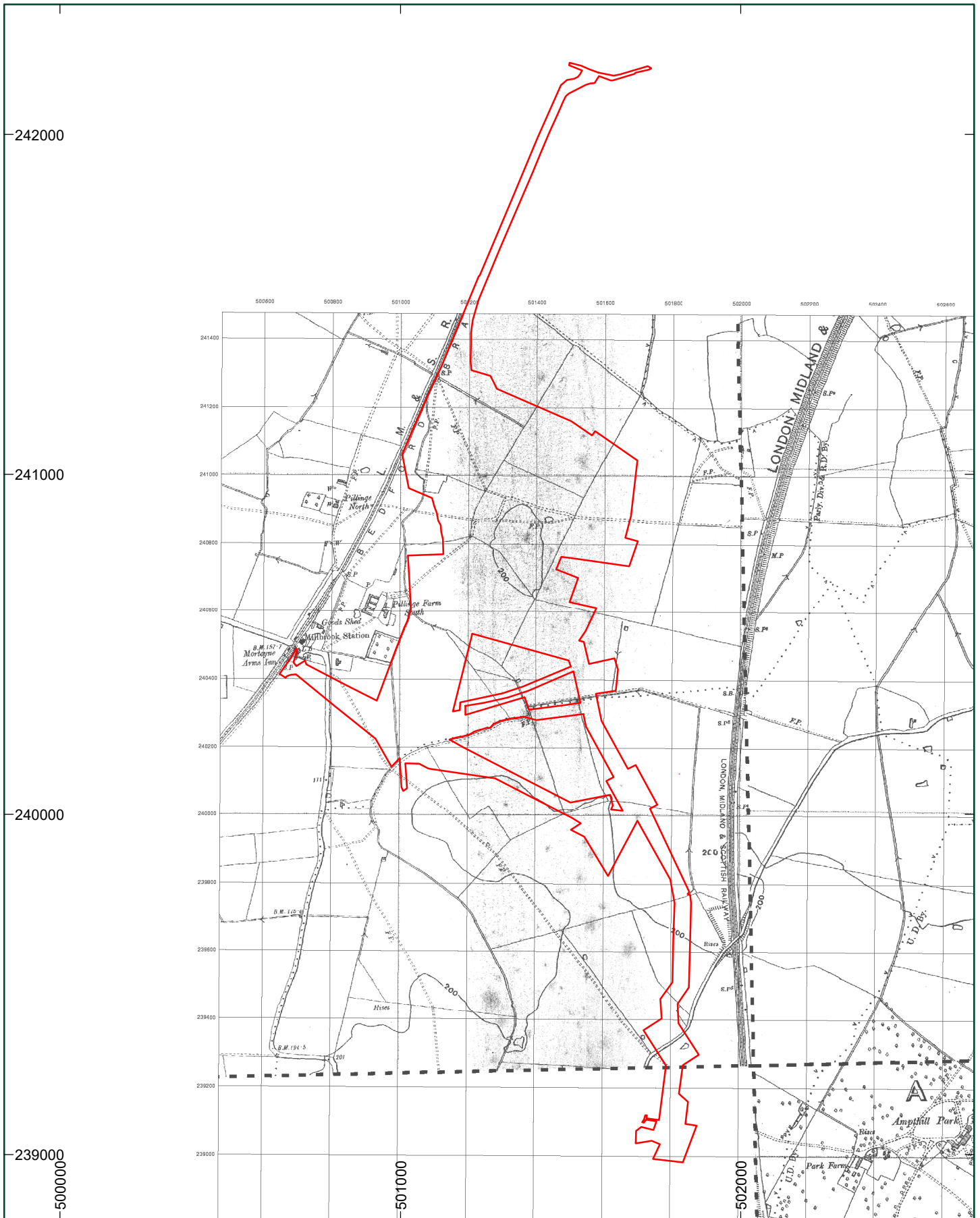
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0 250m



Title:
Fig. 6: 1901 OS 1:10,560 scale map
Address:
Millbrook Power, Rookery South Pit





Legend

 Project site

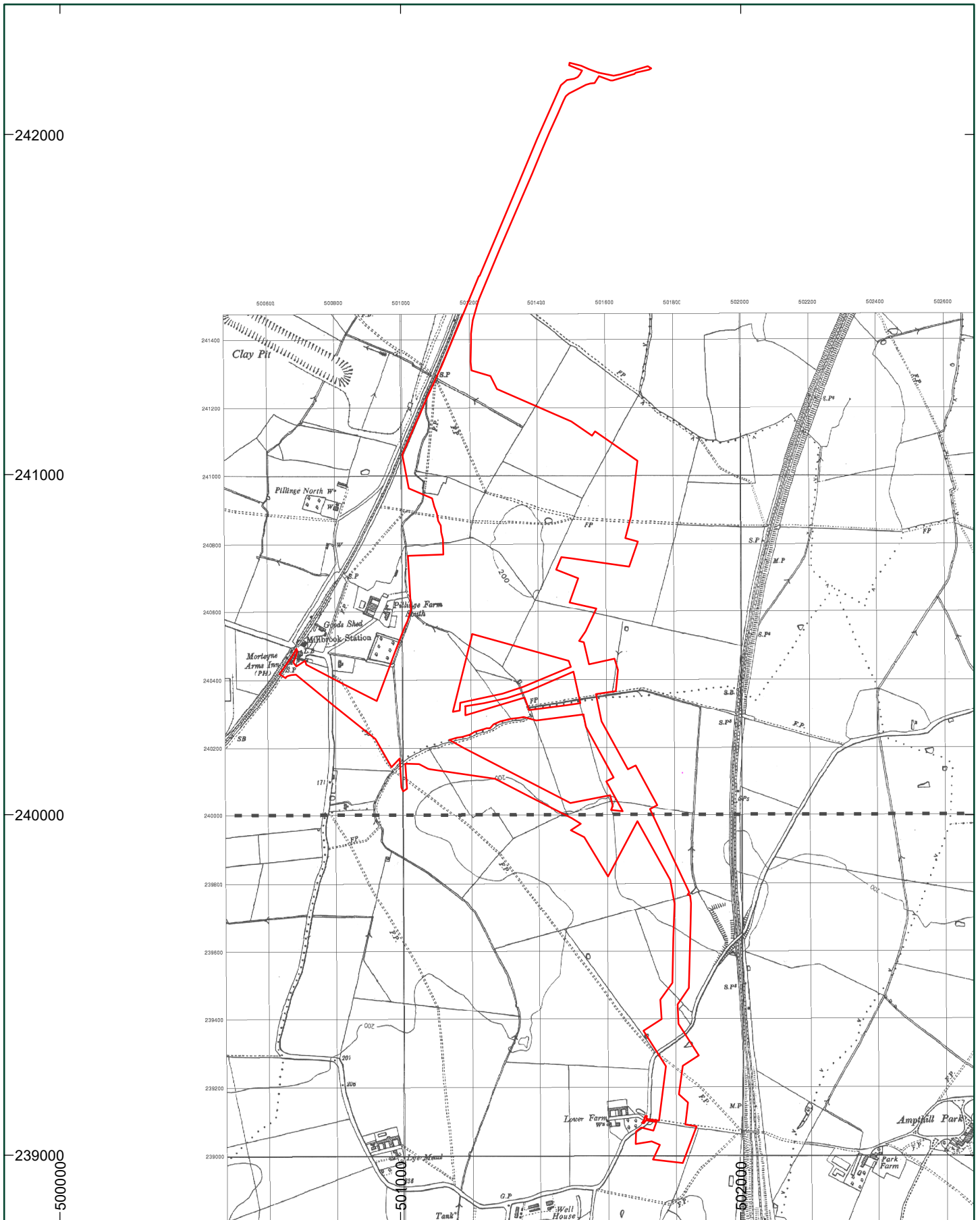
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Title:
Fig. 7: 1927 OS 1:10,560 scale map
Address:
Millbrook Power, Rookery South Pit





Legend

 Project site

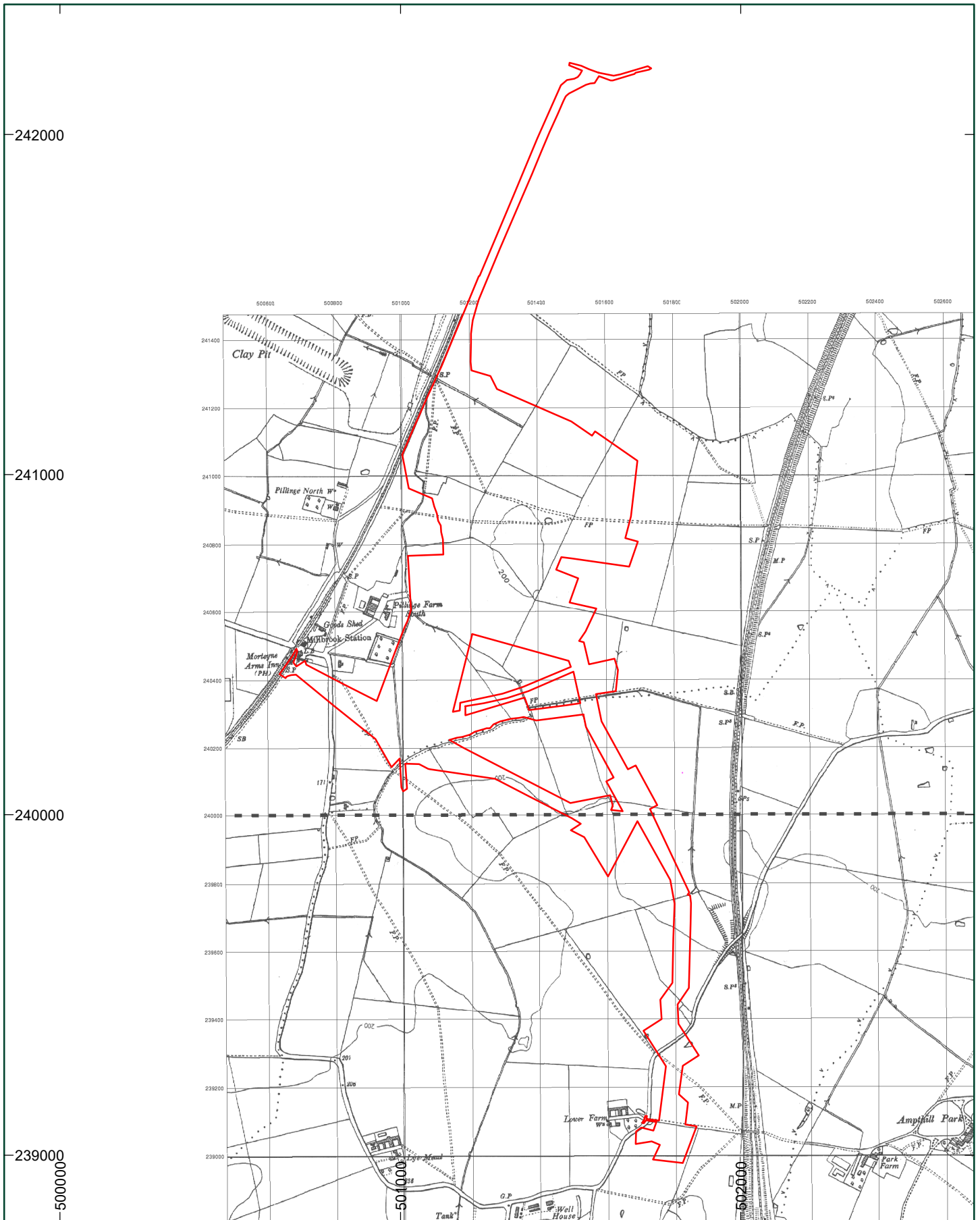
1:15,000 at A4

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Title:
Fig. 8: 1947-48 OS 1:10,560 scale map
Address:
Millbrook Power, Rookery South Pit





Legend

 Project site

1:15,000 at A4

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Title:
Fig. 9: 1960 OS 1:10,000 scale map
Address:
Millbrook Power, Rookery South Pit





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 Project site

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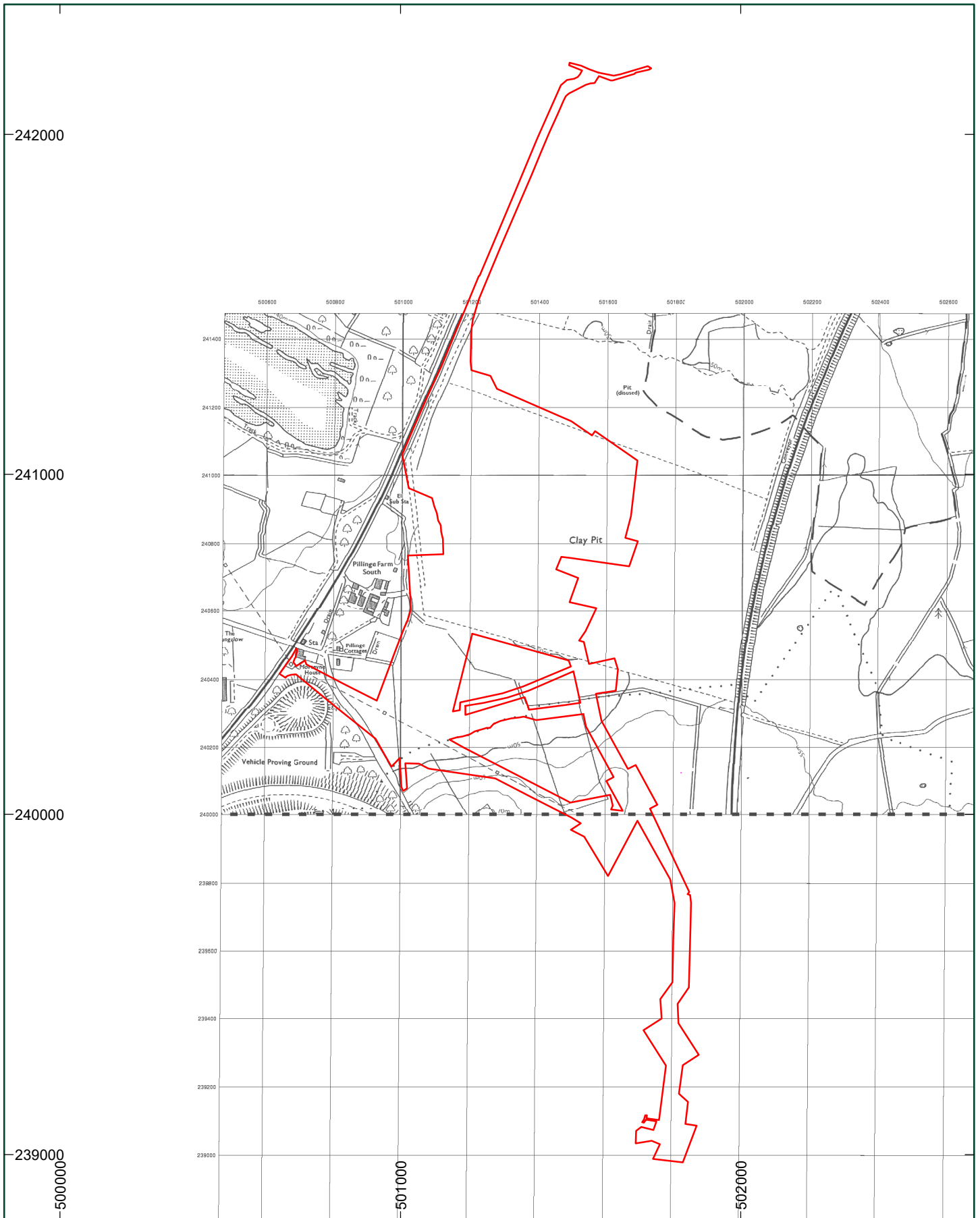
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Title:
Fig. 10: 1978 OS 1:10,000 scale map (southern part of study site)

Address:
Millbrook Power, Rookery South Pit





Legend

 Project site

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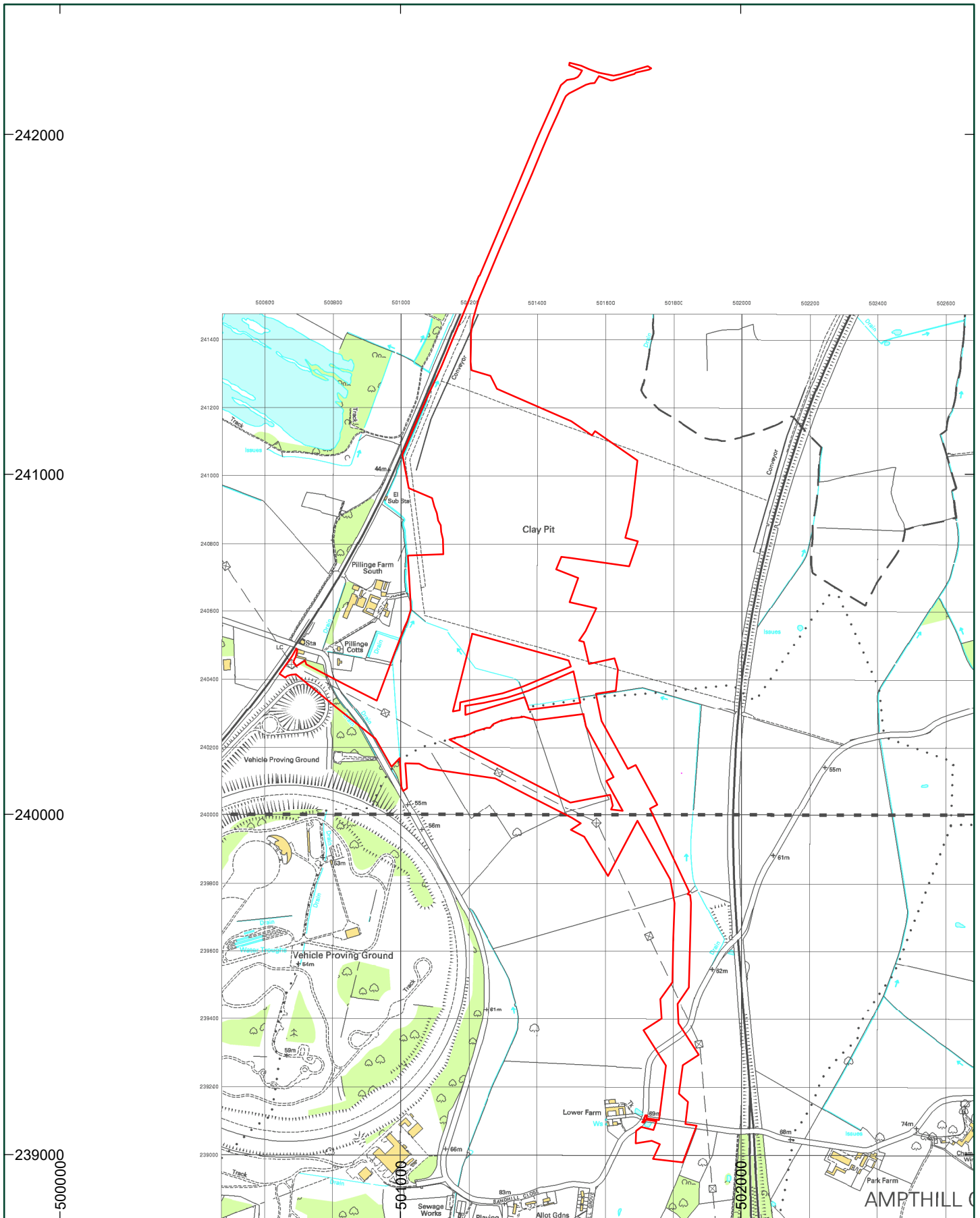


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Fig. 11: 1982 OS 1:10,000 scale map (northern part of study site)

Address:
Millbrook Power, Rookery South Pit



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 Project site

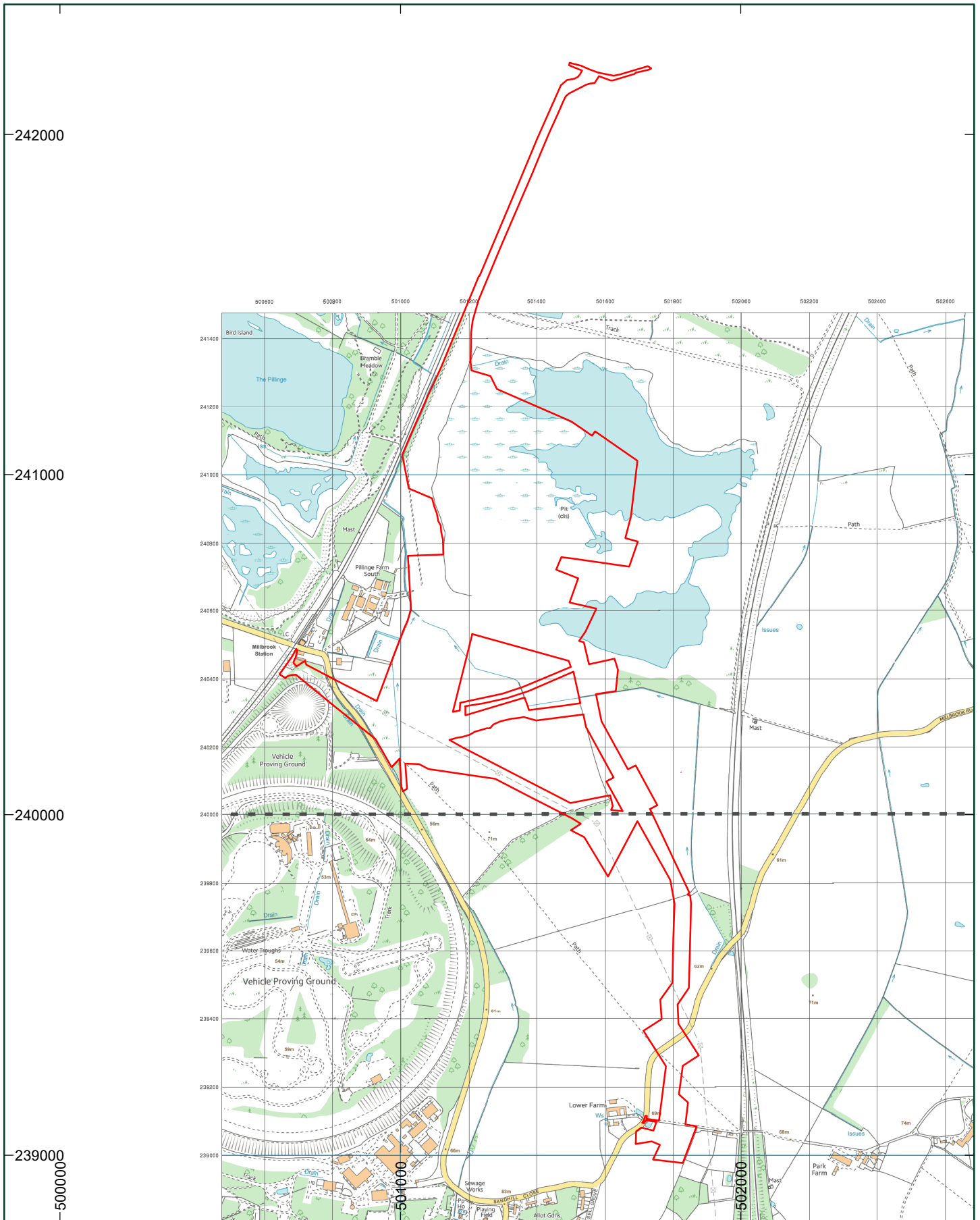
1:15,000 at A4

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Title:
 Fig. 12: 1999 OS 1:10,000 scale map
Address:
 Millbrook Power, Rookery South Pit





Legend

 Project site

1:15,000 at A4

0 250m



Title:
Fig. 13: 2017 OS 1:10,000 scale map
Address:
Millbrook Power, Rookery South Pit





Legend

 Project site

1:15,000 at A4

0 250m



Title:
Fig. 14: Google Earth Aerial View of Study Site

Address:
Millbrook Power, Rookery South Pit



Appendix 1

Maps showing archaeological trial trenches at Rookery Pit South on the study site (Albion Archaeology 2011 (Figs 1 & 2))

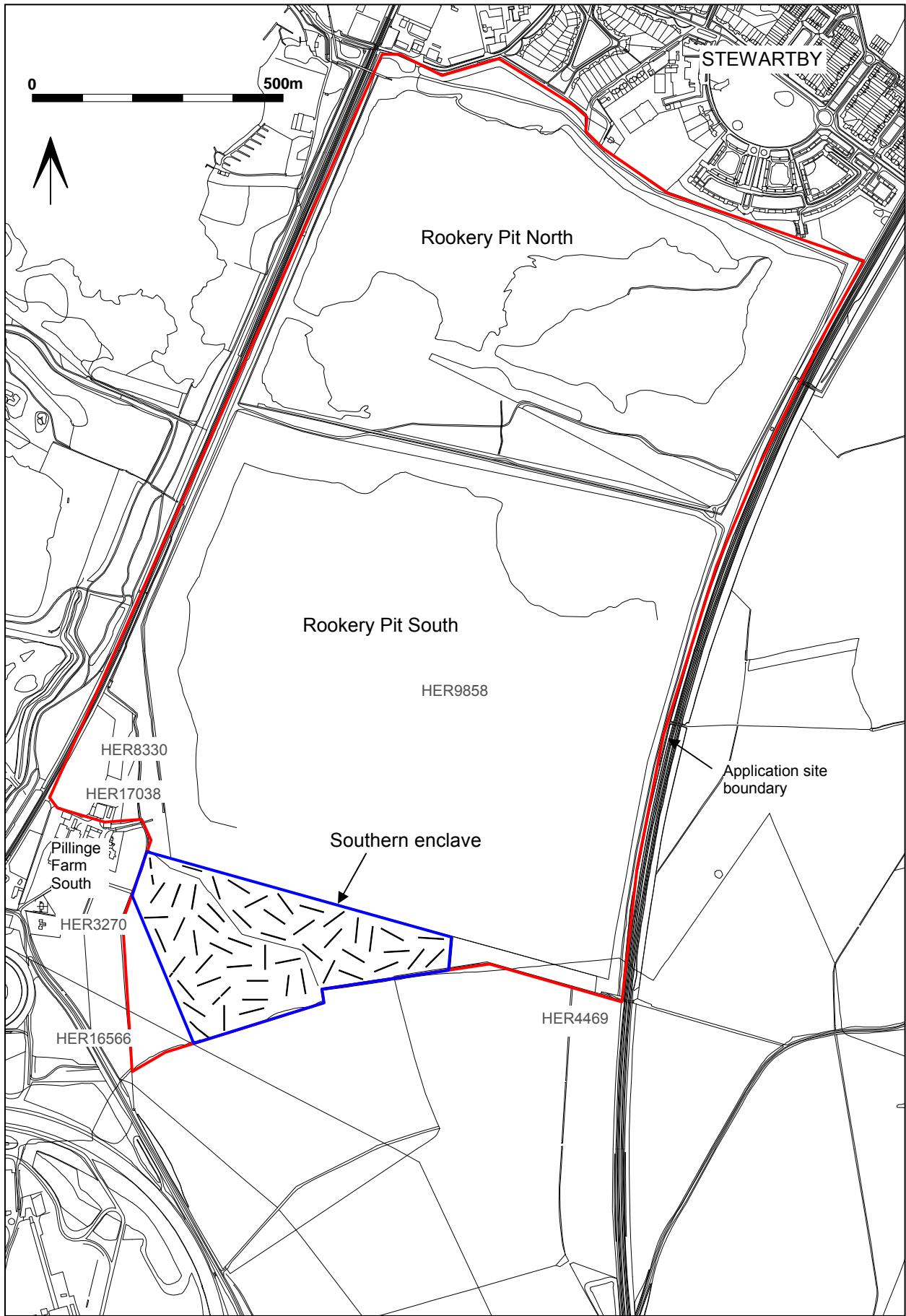


Figure 1: Site location

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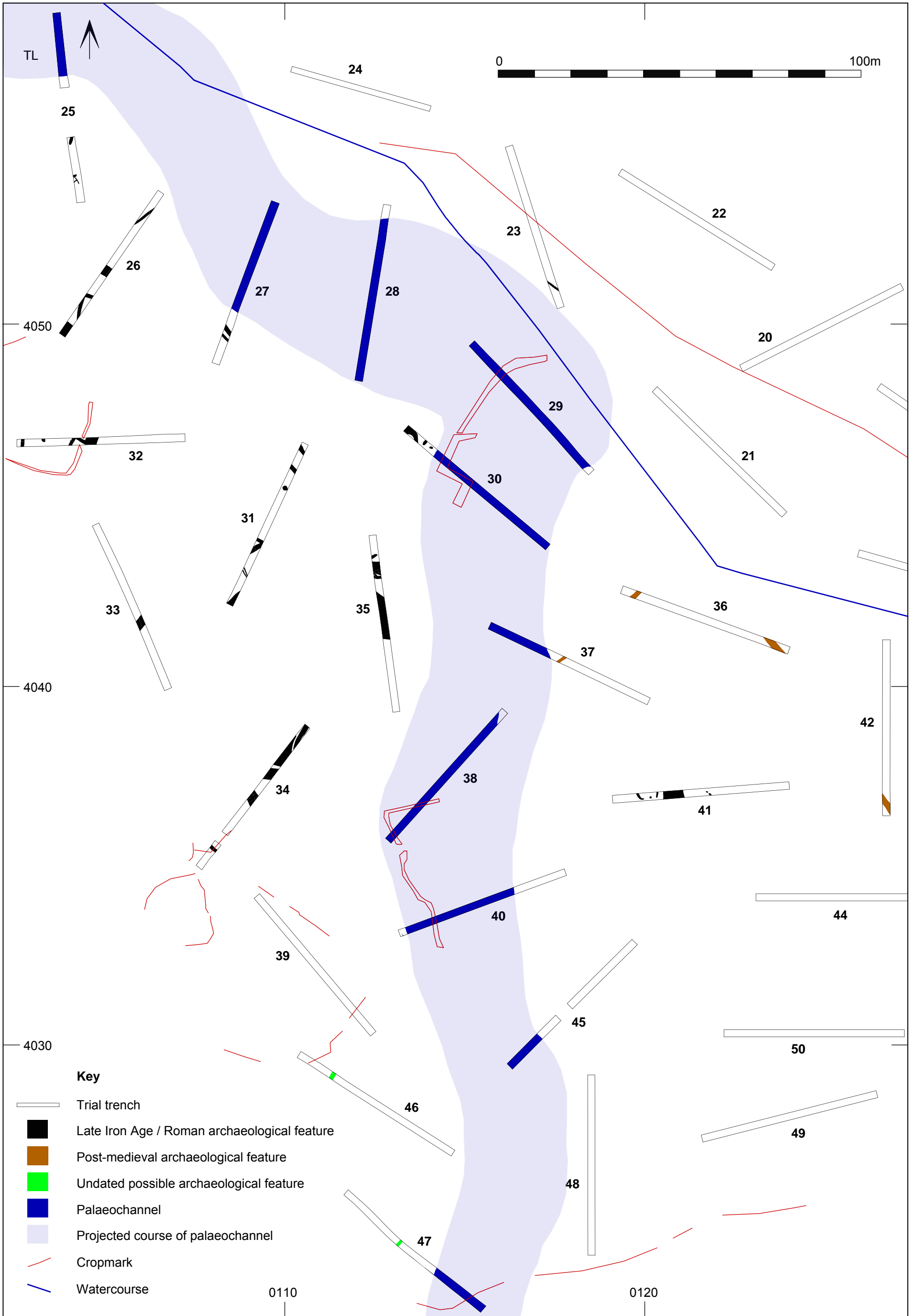


Figure 2: All-features plan – west

13.2 - Setting Assessment

ASSESSMENT OF THE SIGNIFICANCE & SETTING OF DESIGNATED ASSETS WITHIN THE ZTV AND THE IMPACT OF THE PROPOSED DEVELOPMENT

Table 1 Scheduled Monuments and listed buildings

Heritage asset & No. on Fig. 13.1	Distance	Description, observation and assessment, setting, and significance		Assessment of Effects ¹	Summary of Effects ²
<p>South Pillinge Farmhouse</p> <p>II</p> <p>1158024</p>	<p>180 m to the west</p>	<p>Architectural interest:</p>	<p>17th century house with 18th & 19th century additions and alterations House.</p>	<p>There will be no effect on the ability to appreciate the architectural interest of the house.</p>	<p>Methodology: High Sensitivity + Minor impact = Moderate Effect</p> <p>Cumulative: Covanta will have a similar but larger effect than the Proposed Development. The Proposed Development, while closer, due to its smaller size, massing and height, will not increase the effect that Covanta will have on the designated asset significantly. Consequently, the combined and cumulative effects of the two</p>
		<p>Historic interest:</p>	<p>Illustrative of vernacular farmhouses. No known historic associations of note.</p>	<p>There will be no effect on the ability to understand or appreciate the historic interest of the house.</p>	
		<p>Views:</p>	<p>No designed views. The house faces west toward the Pillinge Farmyard complex of modern barns and other buildings. Views to the south east and north are restricted by tall trees and other vegetation.</p>	<p>The stack of the Power Generation Plant will be visible to the east of the house through the trees. In summer, views will be largely restricted by the leaves but in winter, the stacks will be more visible but views will be significantly filtered. The Gas and Electrical Connections will have no effect on views in towards or out from the farmhouse.</p>	
		<p>Setting: The farmhouse is located within a garden on all sides with outhouses on its northern side. The garden is bounded by tall trees and other vegetation on its eastern north and southern sides. The house faces a modern farm complex of barns and other agricultural buildings on its western side beyond which there is a line of tall trees. The house is approached along a drive from the road which passes through a narrow gate into an area of grassland leading to the farmhouse and farmyard. The effect of this and the trees that encloses the farm and farmyard, is to create an area which feels 'cut off' from its surrounding area which comprises the Rookery Pit and other disused pits, the Amphill Testing Circuit and the railway and railway station.</p>		<p>The area of the setting that has a positive contribution to the significance of the house will be unaffected by the Project. However, the stack of the Power Generation Plant will be at least partially visible to the east of the house. Therefore, there will be a change within the area immediately to the east of the setting of the house. The Rookery Pit area has already lost its historical connection with the farmhouse through the loss of associated farmland. There has been a noise survey undertaken at South Pillinge Farm which has established that there will be no noise effects on the setting (see</p>	

¹ the significance of effects reports what the assessor considers is a 'true' reflection of the significance of effects taking into consideration professional judgement, rather than strictly following a matrix based approach which would often result in an overestimate of the true significance of effect.

² Reports results of following a strict 'matrix' based approach.

		<p>The effect of these features is to have removed the agricultural land in the area of the farm thereby removing the historic connection between the farm and its land. Therefore, the setting only has a positive contribution to the house's significance in the immediate surroundings of the house.</p>		<p>Chapter 7).</p> <p>Consequently, the construction and operation of the Generation Plant will have a minor visual effect on the setting.</p> <p>The Gas and Electrical Connections will have no effects on the setting of the farmhouse.</p>	<p>schemes are considered to be Moderate effect</p> <p>Mitigation: None</p>
		<p>Significance: Regional, potentially national significance.</p>		<p>Minor effect on the contribution that the setting provides to the significance of Pilling Farmhouse. The majority of the significance of the farmhouse is comprised of its architectural interest (i.e. its form & fabric) with its historic interest being secondary. The architectural interest of the farmhouse will not be reduced. The historic interest of the house has already been reduced by the loss of its former agricultural land and the Project will not result in any further loss of this aspect of the significance. Therefore, there will be a minor adverse effect on the significance of the designated asset.</p>	
Heritage asset	Distance	Description, observation and assessment, setting, and significance		Assessment of Effects	Summary of Effects
Millbrook Station II 1321648	440km to the west	Architectural interest:	19 th century railway station.	There will be no effect on the ability to appreciate the architectural interest of the station.	<p>Methodology: High Sensitivity + Negligible impact = Slight Effect</p> <p>Cumulative: Covanta will have a similar effect as the Proposed Development. The combined and cumulative effects are considered to be Slight effect</p> <p>Mitigation:</p>
		Historic interest:	Built c.1846 for the Bedford Branch of the old London North Western Railway	There will be no effect on the ability to understand or appreciate the historic interest of the railway station.	
		Views:	There are no designed views from or of the railway station. Views from and of the station are purely incidental as the location of the station is dependant on the presence of the railway and its junction with Station Road.	No effect.	
		Setting: The setting of the railway station comprises the railway, Station Road and its immediate surroundings. It is only within this area that the setting provides a positive contribution to the significance of the station as being part of the local and regional transport system. The existing overhead pylons are a dominant feature within the vicinity of the station. Tall trees to the east of the station block views in	There will be no effects on the setting of the station as the Project lies beyond its setting. Furthermore, views of the stacks of the Power Generation Plant are blocked by tall trees. The Gas and Electrical Connections will have no effects on the setting of the railway station.		

		the direction of the Project.			None
		Significance: Regional, possibly national significance.		No effect on the significance of the station.	
Heritage asset	Distance	Description, observation and assessment, setting, and significance		Assessment of Effects	Summary of Effects
Park House (Cheshire Home for The Disabled), Ampthill Park II* 1137595 & Statue of Hound at Ampthill Park II 1114416	1.9km to the south east	Architectural interest:	<p>Mansion built in 1694 for John, First Baron Ashburnham. Main block, originally brick, of 3 storeys below a modillion cornice. Tiled mansard roof with square dormers. 11 windows the central 3 in slight projection beneath pediment. Widely splayed perron leads up to classical doorway in centre of the piano nobile. In continuation of this storey run pilastered wings connecting 2 rectangular blocks (4 windows by 4 windows) also of only 2 storeys and beneath (later) hipped slate roofs, standing forward of the main block.</p> <p>Early parts by Captain Wynn, designer of original Buckingham House. Influenced by Wren, who was engaged on work in Ampthill, is apparent. Chambers remodelled the side blocks, adding a 3-sided bay to the outer flank of north-east block, and much of the main block, encasing the whole house in stucco.</p> <p>Late 18th century stone statue of hound on pedestal with oval flush panels, frieze, cornice located in grounds in front of the house</p>	<p>There will be no effect on the ability to appreciate the architectural interest of the house.</p>	Methodology: High Sensitivity + minor effect = Moderate Impact Cumulative: There will be a cumulative effect arising from the Power Generation Plant stack and Covanta in the view from the house. The Project will be visible to the south of Covanta. Covanta will be considerably more visible than the Project which will appear to be subservient to the Covanta structures. The Proposed Development, due to its smaller size, massing and height, will not increase the effect that Covanta will have
		Historic interest:	<p>Early parts by Captain Wynn, designer of original Buckingham House. Possible involvement of Wren. Lady Holland, Whig political and literary hostess, lived here 1818-45.</p>	<p>There will be no effect on the ability to understand or appreciate the historic interest of the house.</p>	
		Views:	<p>The house is located on the slope on the western side of Ampthill Park and faces north west. It has extensive views to</p>	<p>The top of the Power Generation Plant stack will be visible in the distance from the front of the house to the north west. In these views, the</p>	

			<p>the north west, north and west. These are not designed views as such but the house has been built, in part, due to the views from and of the house.</p>	<p>stack will be experienced in the middle distance (c. 2km away) in the context of other tall industrial structures such as Marston Vale wind turbine, the Stewartby chimneys and the existing electricity pylons that are located to the south of the Power Generation Plant, all of which will be at an apparent similar distance to the north west of the house.</p> <p>The stack will also be visible in views of the house from parts of Ampthill Park in which it will be visible in the distance a (for example Viewpoint 6 which is taken from the higher ground to the south east of the house). As with views from the house, there are other tall industrial structures at a similar apparent distance from the house.</p> <p>Views toward the house from the north west, west and north will be unaffected.</p>	<p>on the designated asset significantly. Consequently, the combined and cumulative effects of the two schemes are considered to be Moderate effect</p> <p>Mitigation: None</p>
		<p>Setting: The house is located within gardens which in turn is located within Ampthill Park Registered Park and Garden. The house is approached along a track from the north east off which its driveway comes at the front of the house. To the rear of the house is a block of woodland that extends back through the registered park. The house is located in a raised position which allows for extensive views over the countryside to the north west, west and north. These views extend as far as the higher ground to the north west of Marston Moritaine and the A421 c. 5km away.</p> <p>The gardens of the house and Ampthill Park have a very strong positive contribution to the significance of the house due to their historical associations and the aesthetic experience of the house. The views over the countryside to the north west of the house also have a positive contribution to the significance of the house as it was built, in part, for this view. However, this view contains a significant quantity of modern industrial and transport related structures within it, such as the two railways along which trains can be seen and heard passing by the house, Marston Vale wind turbine, Stewartby chimneys and electricity pylons.</p>	<p>The top of the stack of the Power Generation Plant will be visible in the distance to the north west of the house. They will form a new element within the setting. However, they are located at nearly 2km distance and will be experienced within the context of other tall industrial structures in the same part of the periphery of the setting. The other existing industrial structures will appear significantly taller than the Power Generation Plant's stack. Consequently, due to the stack being experienced as part of, and a subservient element of, industrial structures located towards the periphery of the setting. Therefore, as the Project will be a minor magnitude of change of a similar nature to existing structures in the same peripheral part of the setting which has a limited contribution to the significance of the house.</p> <p>The transmission tower will be visible from the house but this is a replacement of an existing pylon and so has no additional effect. The SEC will not be visible from the house.</p> <p>The Gas Connection will have no effects on the setting of the house.</p>		

		Significance: National significance.		Minor effect on the contribution that the setting provides to the significance of the house. However, there will be no material effect on the significance of the house	
Heritage asset	Distance to turbine	Description, observation and assessment, setting, and significance		Assessment of Effects	Summary of Effects
16 And 17, How End Road II LB11 1113921	1.9km to the east	Architectural interest:	17 th century house (now subdivided) with 19 th century reworking. Vernacular style, no known architect.	There will be no effect on the ability to appreciate the architectural interest of the house.	Methodology: High Sensitivity + Negligible impact = Slight Effect Cumulative: Covanta will have a similar effect as the Proposed Development. The combined and cumulative effects are considered to be Slight Effect Professional Judgement: Negligible impact Mitigation: None
		Historic interest:	Illustrative of vernacular 17 th century houses.	There will be no effect on the ability to understand or appreciate the historic interest of the house.	
		Archaeological interest:	No known archaeological interest	No effect.	
		Artistic interest:	No known artistic interest.	No effect.	
		Views:	No designed views. The house faces north west has incidental views in all directions although this is restricted by trees and nearby farm buildings in places.	Views of the Project will be restricted by intervening trees and other vegetation.	
		Setting: The house is located within a garden which in turn is surrounded by arable fields. The setting has a positive contribution to the significance of the house, an effect which diminishes rapidly with distance from the house.		Setting: The Project will be located beyond the setting of the house.	
		Significance: Regional, potentially national significance.		Negligible effect on the contribution that the setting provides to the significance of the house.	
Heritage asset	Distance to turbine	Description, observation and assessment, setting, and significance		Assessment of Effects	Summary of Effects
Two Kilns And Four Chimneys At The Stewartby Brickworks	1.9km to the east	Architectural interest:	Two mid-20 th century Hoffman Kilns (the southern most named CK1 and that to its north named CK3) with four chimneys, one surmounting each kiln, one amongst buildings adjoining the north end of CK1, and one detached to the south,	There will be no effect on the ability to appreciate the architectural interest of the kilns and chimneys	Methodology: High Sensitivity + negligible effect = Slight Effect

II LB13		Historic interest:	Remains of a former industry that form an important part of the local economy and social history of the local communities	There will be no effect on the ability to understand or appreciate the historic interest of the kilns and chimneys	Cumulative: Covanta will have a similar effect as the Proposed Development. The combined and cumulative effects are considered to be Slight Effect Mitigation: None
		Archaeological interest:	No known archaeological interest	No effect.	
		Artistic interest:	No known artistic interest.	No effect.	
		Views:	No designed views. Due to the height of the chimneys, they form a prominent feature of views toward Stewartby from all directions.	The Power Generation Plant stacks will be visible in views of the Stewartby chimneys but they will be significantly lower than the chimneys.	
		Setting: Kilns and chimneys are located within former brickworks which form its setting and it is within this area that the setting has a very strong positive contribution to the significance of the listed structures. The wider countryside also forms part of the setting where the chimneys act as a landmark feature. This provides limited positive contribution to the significance of the kilns and chimneys.	The stack of Power Generation Plant will be visible in views of the chimneys. The industrial and functional nature of the chimneys and stacks are essentially the same as is their architectural form. They are inherently compatible with each other. They will be experienced within the context of other tall industrial structures in the same part of the periphery of the setting. Therefore, while the Proposed development will be a change within the setting, this will not affect the significance of the listed structures. The new Transmission Tower & SEC compound and Gas Connections will have no effects on the setting of the house.		
		Significance: National significance.	Negligible effect on the contribution that the setting provides to the significance of the kilns and chimneys		
Heritage asset	Distance to turbine	Description, observation and assessment, setting, and significance		Assessment of Effects	Summary of Effects
Ruins Of Houghton House, Houghton Park SAM & I	2.7km to the east	Architectural interest:	Ruins of the great house built by John Thorpe in 1615, with alterations by Inigo Jones of circa 1620 Subsequent work by Wren and Chambers	There will be no effect on the ability to appreciate the architectural interest of the ruin.	Methodology: High Sensitivity + minor effect = Moderate Impact Cumulative:
		Historic interest:	Houghton House was built within an area formerly known as Dame Ellensbury Park, named after Alianor, the second wife of Sir Almaric de St Amand. His	There will be no effect on the ability to understand or appreciate the historic interest of the house.	

<p>1321465</p>			<p>family owned considerable land in Bedfordshire in the 14th and 15th centuries. After Almaric's death in 1430, the manor passed to Lord Fanhope of Ampthill Castle, although part of the estate was retained by Alianor until her death in 1467; and it has been suggested that Alianor's residence stood on the site of Houghton House. Dame Ellensbury Park, together with Ampthill Park, later passed to the crown and became a royal hunting territory. In 1606, James I visited the area and commissioned the architect John Thorpe to draw up plans for the reconstruction of Ampthill Castle. This project was abandoned, and it is thought that the architect was subsequently re-directed to design Houghton House. In 1615 James granted the house to Mary Herbert, Countess Dowager of Kent and it is thought that she commissioned Inigo Jones to design the neo-Classical loggias for the north and west entrances. The house reverted to the crown after her death in 1621, and was later granted to Thomas Bruce, Earl of Elgin. Thomas's son Robert, 1st Earl of Ailesbury, succeeded to the property after the restoration of the monarchy in 1660, and was in turn succeeded by his son, Thomas, who went into exile with James II in 1688. In 1738, Thomas's heir sold the property to the 4th Duke of Bedford. The duke's son, the Marquis of Tavistock, lived there from 1764 until his death in a hunting accident in 1767. In 1794 the Duke of Bedford ordered the house to be un-roofed and partially dismantled, with some items taken for reuse elsewhere. The remaining structure was abandoned until 1923, when it was purchased with a view to preservation by the Bedford Arts Club.</p> <p>The house may have provided the inspiration for 'House Beautiful'</p>		<p>There will be a cumulative effect arising from the Power Generation Plant stack and Covanta in the view from the house. The Proposed Development, due to its smaller size, massing and height, will not increase the effect that Covanta will have on the designated asset significantly. Consequently, the combined and cumulative effects of the two schemes are considered to be Moderate effect</p> <p>Mitigation: None</p>
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			in Bunyan's The Pilgrim's Progress.		
		Archaeological interest:	The ruined remains of an early 17th century house (which was partly demolished in the late 18th century), the principal carriageway to the south, and part of the surrounding terrace which is considered to retain evidence of contemporary formal gardens and courtyards.	There will be no effect on the ability to understand or appreciate the archaeological interest.	
		Artistic interest:	No known artistic interest	No effect.	
		Views:	The monument is located on the hills to the north east of Ampthill overlooking the lower lying land to the north west, north and west. There are extensive views from the house across the lower lying ground. There are views of the house along the high ground on which it is located from the south west and the north east and there also views up toward the house from the lower lying area to the west, north west and north of the house.	<p>The Power Generation Plant stack will be visible in the distance from ruins of the house to the west (Viewpoint 4). In these views, the stacks will be experienced in the context of other tall industrial structures such as Marston Vale wind turbine, the Stewartby chimneys and the electricity pylons that are located to the south of the Power Generation Plant, all of which will be at an apparent similar distance to the north west of the house. The new Transmission Tower (which is a replacement of an existing pylon) and possibly the top of the SEC compound may be visible in certain places within and around the house.</p> <p>The stack will also be visible in views of the house along the high ground on which the house is located. As with views from the house, there are other tall industrial structures at a similar apparent distance from the house.</p> <p>Views toward the house from the north west, west and north will be unaffected.</p>	
		Setting:	The monument is located on the edge of high ground within an area of grassland. It is approached from the south east along a footpath that is lined by trees. The house is located in a raised position which allows for extensive views over the countryside to the north west, west and north. These views extend as far as the higher ground to the north west of Marston Moritaine and the A421 c. 5km away.	The stack of Power Generation Plant will be visible in the distance to the west of the house (Viewpoint 4). They will form a new element within the setting. However, they are located at nearly 2km distance and will be experienced within the context of other tall industrial structures in the same part of the periphery of the setting. The other existing industrial structures will appear significantly taller than	
			The views over the countryside to the north west of the house		

		have a positive contribution to the significance of the house as it was built, in part, for this view. However, this view contains a significant quantity of modern industrial and transport related structures within it, such as the two railways along which trains can be seen and heard passing by the house, Marston Vale wind turbine, Stewartby chimneys and electricity pylons.	the Power Generation Plant's stack. Consequently, due to the stacks being experienced as part of, and a subservient element of, industrial structures located towards the periphery of the setting, the presence of the stacks will that provides only a limited contribution to the significance of the house. Therefore, as the Proposed development will be a minor magnitude of change of a similar nature to existing structures in the same peripheral part of the setting which has a limited contribution to the significance of the house. The transmission tower will be visible from the house but this is a replacement of an existing pylon and so has no additional effect. The SEC will not be visible from the house. The Gas will have no effects on the setting of the house.		
		Significance: National significance.	Minor effect on the contribution that the setting provides to the significance of the house. However, there will be no material effect on the significance of the house.		
Heritage asset	Distance to turbine	Description, observation and assessment, setting, and significance		Assessment of Effects	Summary of Effects
Ampthill Castle: a medieval magnate's residence	2.3km to the south east	Architectural interest:	No architectural interest	No effect	Methodology: High Sensitivity + minor effect = Slight Impact Cumulative: There will be a cumulative effect arising from the Power Generation Plant stack and Covanta in the view from the SAM. The Proposed Development, due to its smaller size,
		Historic interest:	The palace was built in the early 1400's by Sir John Cornwall, later Lord Fanhope. He married Elizabeth, sister of Henry IV, and wanted a residence 'Meet for his Royal spouse'. The palace came into the hands of Henry VIII in 1524 and Katherine of Aragon lived there during the divorce proceedings of 1533. The buildings had already fallen into decay by 1555 and at the time of the 1567 survey its partial demolition was planned. Final demolition took place before 1649.	There will be no effect on the ability to understand or appreciate the historic interest of the monument.	
		Archaeological interest:	Remains of a 15th century palace. The approximate site of the palace is marked	There will be no effect on the ability to understand or appreciate the historic interest of	

			<p>by Katherine's Cross, erected in the 1770's to commemorate Katherine of Aragon who lived for a time at the palace. Although there are no upstanding walls, there exists a detailed survey of the palace precinct drawn up in 1534 which enables the plan and extent of the ruins to be ascertained. The main precinct comprised four wings ranged about a rectangular inner court, with a gatehouse on the east wing and kitchens and a great hall on the north. Outside the north wing was a smaller court which contained a well-house. To the east and south the palace was surrounded by an outer, or 'Base', Court which had a range of buildings at the perimeter which contained stables, workshops and other rooms which housed the ancillary functions of the palace. Using the known plan as a guide, the remains of the palace can be traced on the ground. At the crest of the ridge is a rectangular platform which is the site of the Inner Court. Katherine's Cross is located on this platform. Between the north edge of the platform and the edge of the steeply sloping natural scarp is a terrace which accommodated the well-house court. The eastern edge of the Base Court ran about 50m to the west of the platform, diagonally across the present Rugby field, and its southern side is considered to lie at the break of slope of the scarp above the car park fence. The route of an original access into the Base Court from Woburn Road is marked by a gully leading up this scarp. This scarp and the steep slope to the west of the palace are likely to have been terraced, both in order to consolidate them and for aesthetic reasons.</p>	<p>the monument.</p>	<p>massing and height, will not increase the effect that Covanta will have on the designated asset significantly. The Project will appear to be in front of and effectively part of Covanta. Consequently, the combined and cumulative effects of the two schemes are considered to be a moderate impact, the vast majority of which will derive from Covanta.</p> <p>Mitigation: None</p>
		<p>Artistic interest:</p>	<p>No known artistic interest.</p>	<p>No effect.</p>	

		<p>Views:</p>	<p>The monument is located within Ampthill Park and there are views across the southern and western part of the park. The northern edge of the monument is close to the top of the ridge along which the park is located. From this limited part of the monument there are extensive views across the lower lying ground.</p>	<p>The Power Generation Plant stack will just be visible in the distance from along the north eastern edge of the SAM. In these views, the stack will be experienced in the context of other tall industrial structures such as Marston Vale wind turbine (Viewpoint 3 shows that the Project will be experienced as being immediately 'below' the wind turbine from that location), the Stewartby chimneys and the electricity pylons that are located to the south of the Power Generation Plant, all of which will be at an apparent similar distance to the north west of the SAM.</p> <p>The stack will also be visible in views of the SAM along the high ground on which the house is located. As with views from the house, there are other tall industrial structures at a similar apparent distance from the SAM.</p> <p>The Electricity and Gas Connections will not be visible. The new Transmission Tower may be visible in some limited places but as a replacement for an existing pylon we will appear the same as now.</p>	
		<p>Setting:</p>	<p>The monument is within Ampthill Registered Park and Garden which forms the core of its setting and it is within this area that the setting has a very strong positive contribution to the significance of the SAM. As described above, the northern edge of the SAM has extensive views over the countryside to the north west, west and north. These views extend as far as the higher ground to the north west of Marston Moritaine and the A421 c. 5km away. These views over the countryside to the north west of the SAM have a positive contribution to the significance of the SAM as the castle was built, in part, for this view. However, this view contains a significant quantity of modern industrial and transport related structures within it, such as the two railways along which trains can be seen and heard passing by the house, Marston Vale wind turbine, Stewartby chimneys and electricity pylons.</p>	<p>The stack of Power Generation Plant will be visible in the distance to the north west of the northern eastern edge of the SAM. They will form a new element within this part of the setting. However, they are located at nearly 2km distance and will be experienced within the context of other tall industrial structures in the same part of the periphery of the setting. The other existing industrial structures will appear significantly taller than the Power Generation Plant's stack. Consequently, due to the stacks being experienced as part of, and a subservient element of, industrial structures located towards the periphery of the setting, the presence of the stack will that provides only a limited contribution to the significance of the SAM, especially as the stacks will not be experienced from within the majority of the SAM at all. Therefore, as the Proposed development will be a minor magnitude of</p>	

			change of a similar nature to exiting structures in a peripheral part of the setting which has a limited contribution to the significance of the SAM. The Gas and Electrical Connections will have no effects on the setting of the house.		
		Significance: National significance.	Minor effect on the contribution that a small and peripheral part of the setting provides to the significance of the SAM. Therefore, there will be a negligible impact on the significance of the SAM.		
Heritage asset	Distance to turbine	Description, observation and assessment, setting, and significance		Assessment of Effects	Summary of Effects
Heritage asset	Distance to turbine	Description, observation and assessment, setting, and significance		Assessment of Effects	Summary of Effects
Long barrow 350m south east of Bury Farm 1012317	4km to the east	Architectural interest:	No architectural interest	No effect	Methodology: High Sensitivity + Negligible impact = Slight Effect Cumulative: There will be a cumulative effect arising from the Power Generation Plant stacks and Covanta in the view from the house. Covanta will be more visible than the Proposed
		Historic interest:	Neolithic burial mound	There will be no effect on the ability to understand or appreciate the historic interest of the barrow.	
		Archaeological interest:	Long barrow orientated north west-south west and located along the crest of a Greensand ridge.	No effect	
		Artistic interest:	No know artistic interest.	No effect.	
		Views:	No designed views. The barrow is located toward the top of a steep north facing slope and so there are extensive views to the north. Views to the south are blocked by the topography and by trees to the west.	The Project will not be visible as the barrow is on the edge of the ZTV and the trees of Lings Wood to the west of the barrow will block views of the Project.	

		Setting: The setting of the barrow is hillside on which it is located. It would have been built both to be seen from and to overlook the lower-lying land to the north and so the lower land also forms part of its setting which has a strong positive contribution to the significance of the barrow as it demonstrates the nature of the deliberate placing of the monument.	Setting: Although in the ZTV, the Project will not be visible from the barrow or in views of the barrow. Therefore, it will have no effect on the setting.	Development. The combined and cumulative effects are considered to be Slight Effect Mitigation: None
		Significance: Regional, potentially national significance.	Negligible effect on the contribution that the setting provides to the significance of the house.	
Heritage asset	Distance to turbine	Description, observation and assessment, setting, and significance	Assessment of Effects	Summary of Effects
		Significance: National significance.	Negligible effect on the contribution that the setting provides to the significance of the Monument	

Table 2 presents the assessment of the setting, significance and impact of the Proposed Development of registered parks and gardens and conservation areas. Ampt Hill Park and Ampt Hill Conservation Area have been assessed together. The reason for this is that the only part of the conservation area that is within the ZTV of the Proposed Development lies within the Registered Park and Garden which extends further into the ZTV than the conservation area does.

The very south eastern tip of Stewartby Conservation Area is within the very edge of the ZTV. This is an area of open space. The Project will not be visible within any of the built up area of the Conservation Area and so the character of the village will not be affected in any way.

Table 2 Registered Parks and Gardens and Conservation Areas Within the ZTV

Heritage asset & No. on Fig. 13.1	Distance to turbine	Description, observation and assessment, setting, and significance		Assessment of Effects	Summary of Effects
Ampt Hill Park	1.4 m to the	Architectural interest:	None	No effect	Methodology: High Sensitivity +

II & Ampthill Conservation Area	south east 1.8km to the south east	Historic interest:	<p>Landscape park by Lancelot Brown, c. 1771-2.</p> <p>Ampthill Great Park, originally a deer park, surrounded Ampthill Castle, which was built in the early 15th century by Sir John Cornwall, lord of Ampthill Manor; Ampthill Little Park lay south of the Ampthill to Woburn road. Having become royal property, the castle and parks were used by Henry VIII, who paid frequent visits between 1524 and 1532, and by Katherine of Aragon in the early 1530s during the divorce proceedings with Henry. The castle was ruinous by the end of the 16th century and the present Park House was built in the late 17th century Lancelot Brown was employed to landscape the park from 1771-2. Horace Walpole visited Ampthill, corresponding regularly with Lady Ossory, and advised on the erection of the Katherine Cross in 1773, contributing the inscription. The second Earl lived at Park House until his death in 1818. In 1837 it was leased to Sir James Parke, later Lord Wensleydale, whose family remained as tenants until his widow's death in 1879, the estate having been bought by the Duke of Bedford during this period. The house was occupied by the army during World War II, following which it was sold to Bovril Limited, in 1955 becoming a Cheshire Home.</p>	<p>There will be no effect on the ability to understand or appreciate the historic interest of the park and conservation area.</p>	<p>Minor impact = Moderate Effect</p> <p>There will be a cumulative effect arising from the Power Generation Plant stack and Covanta in the view from the SAM. The Proposed Development, due to its smaller size, massing and height, will not increase the effect that Covanta will have on the designated asset significantly. The Project will appear to be in front of and effectively part of Covanta. Consequently, the combined and cumulative effects of the two schemes are considered to be a moderate impact, the vast majority of which will derive from Covanta.</p> <p>Mitigation: None</p>
		Archaeological interest:	<p>The park contains the scheduled remains of Ampthill Castle.</p>	<p>No Effect.</p>	
		Artistic interest:	<p>No known artistic interest</p>	<p>No effect.</p>	
		Views:	<p>No designed views. However, Park House can be viewed from south and south west from within the park from the Ampthill Ridge. The Katherine Cross (listed grade II) stands in a prominent ridge-top position 700m south of the house within the park and forms a prominent visual foci and has views north towards the house and Bedford Plain beyond.</p>	<p>The Power Generation Plant stack will be visible in the distance from the northern half of the park from the top of the Ampthill Ridge and down the slope as it dips down on to the Bedford Plain (Viewpoint 3). In these views, the stack will be experienced in the context of other tall industrial structures such as Marston Vale wind turbine (Viewpoint 3 shows that the Project will be experienced as being immediately 'below' the</p>	

				<p>wind turbine from that location), the Stewartby chimneys and the electricity pylons that located to the south of the Power Generation Plant, all of which will be at an apparent similar distance to the north west of the park and the northern edge of the conservation area.</p> <p>The Electricity and Gas Connections will not be visible. The new Transmission Tower may be visible in some limited places but as a replacement for an existing pylon wo will appear the same as now.</p>	<p>Mitigation: None</p>
		<p>Context: 18th century landscaped country parks.</p>	No effect		
		<p>Setting: In the direction of the proposed development, the setting of the park and the north eastern edge of the conservation area comprises extensive views over the countryside to the north west, west and north. These views extend as far as the higher ground to the north west of Marston Moritaine and the A421 c. 5km away.</p> <p>As with Park House, the views over the countryside of the Bedford Plain to the north west of the house have a positive contribution to the significance of the house as it was built, in part, for this view. However, this view contains a significant quantity of modern industrial and transport related structures within it, such as the two railways along which trains can be seen and heard passing by the house, Marston Vale wind turbine, Stewartby chimneys and electricity pylons.</p>	<p>The stack of Power Generation Plant will be visible in the distance to the north west of the park and the north eastern edge of the conservation area. They will form a new element within the setting. However, it will be located at nearly 2km distance and will be experienced within the context of other tall industrial structures in the same part of the periphery of the setting. The other existing industrial structures will appear significantly taller than the Power Generation Plant's stack. Consequently, due to the stacks being experienced as part of industrial structures located towards the periphery of the setting, the presence of the stacks will be a minor magnitude of change of a similar nature to existing structures in the same peripheral part of the setting which has a limited</p>		

			<p>contribution to the significance of the park and conservation area.</p> <p>The Gas and Electrical Connections will have no effects on the setting of the park and conservation area.</p> <p>The new Transmission Tower may be visible in some limited places but as a replacement for an existing pylon wo will appear the same as now.</p>	
		<p>Significance: National significance.</p>	<p>Minor effect on the contribution that the setting provides to the significance of the park and conservation area. However, there will be no material effect on the significance of the assets.</p>	

13.3 - Consultation with CBC

From: Martin Oake [<mailto:Martin.Oake@centralbedfordshire.gov.uk>]
Sent: 29 January 2015 11:33
To: Rob Bourn
Subject: RE: Millbrook Power

Hi Rob

Thanks for your emails and apologies for not replying earlier.

Having thought about both your proposals and given the acknowledged issues with identifying the route of the gas pipeline connections I am not sure that doing geophysics of the whole corridors will be worth the effort. Although there has been some success using geophysical survey to detect sites within the clay vale, conditions are such that geophysics alone is not a sound basis for identifying archaeological remains. Geophysics would need to be complimented by a programme of trial trenching to be confident of the results. On that basis I think that the your original proposal for doing strip map and sample of the selected pipeline routes ahead of construction may be the most effective way of dealing with the archaeological impact of the pipeline, and indeed the pylon bases.

Regards

Martin

Martin Oake
Archaeologist
Development Management
Regeneration and Business Directorate

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