FIVE ESTUARIES
OFFSHORE WIND FARM

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10.47 ARCHAEOLOGICAL MITIGATION STRATEGY

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Five Estuaries OSWF Onshore Project Area Tendring, Essex

Archaeological Mitigation Strategy, Revision B

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Archaeological Mitigation Strategy

1 INTRODUCTION

1.1 Purpose of the report

1.1.1 Wessex Archaeology has been commissioned by Five Estuaries Offshore Wind Farm Ltd (hereafter 'the Applicant') to prepare an Archaeological Mitigation Strategy (AMS) that sets out the scope and mitigation principles for the planning and implementation of further archaeological and geoarchaeological investigations to be undertaken for the onshore elements of the Five Estuaries Project (hereafter 'the Proposed Development').

1.1.2 This document has been prepared as part of the submission of the Development Consent Order (DCO) application for the Proposed Development, and an Environmental Statement (ES) has been prepared in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations). In accordance with the requirements of the EIA Regulations, the ES contains the assessment of the likely significant effects on the historic environment that may be caused during the construction of VE and describes proposed mitigation measures. Volume 6, Part 3, Chapter 7: Archaeology and Cultural Heritage [APP-089] provides the archaeological context of the Proposed Development site, and a specific assessment of the factors being mitigated through the application of this AMS.

1.1.3 The boundary of the onshore elements of the Proposed Development (hereafter 'the Proposed Order Limits') is presented in Figure 1. The AMS has been prepared to consider only mitigation measures for the Proposed Order Limits and does not include measures required for the offshore elements. Onshore is defined as the terrestrial environment within the Proposed Order Limits down to the Mean Low Water Springs.

1.1.4 This strategy complies with relevant legislation, national and local planning policy, and industry standards and guidance. The details of the works set out in this document will be formally agreed upon with the relevant planning authorities (as part of the DCO requirements).

1.1.5 The AMS should be read in conjunction with the Outline Written Scheme for Archaeological Investigation (OWSI) (Wessex Archaeology 2024a), provided as Appendix 1. Any subsequent WSIs will fall under the process outlined in this AMS and in accordance with provisions of the OWSI, as appropriate.

1.2 Broad Approach and Phasing

1.2.1 The process set out in this document is based on a phased approach, with the results of previous phases of archaeological work informing both design decisions (as appropriate) and the needs for, scope and extent of subsequent phases of work, whether that be further evaluation or sampling, or implementation of agreed mitigation.

1.2.2 The approach is intended to be iterative, and collaborative, with regular consultation and engagement with the archaeological curators throughout the process.

1.2.3 The approach set out here acknowledges that given the limited intrusive evaluation to date, there is a risk that additional archaeological information may come to light through the proposed work which leads to the identification of significant archaeological remains, requiring specific consideration or treatment. The project considers that this risk can be appropriately addressed via the process described in this AMS, and that the process and timescales allow for reasonable accommodations to be made to mitigate or avoid significant effects; this includes the ability to consider design amendments such as cable trench alignment changes, or use of trenchless techniques, such as Horizontal Directional Drilling (HDD) (within the DCO order limits) to avoid impacts, and/or the implementation of agreed programmes of detailed archaeological recording as appropriate.

1.2.4 The AMS process is intended to allow for informed (and collaborative) decision making on appropriate responses to archaeological finds, based consideration of significance of the archaeology, and drawing from a menu of responses (avoidance, re-design, detailed investigation, archaeological monitoring etc, as set out later in this document).

1.2.5 For purposes of this document, all archaeological investigations carried out pre-submission and pre-consent are referred to as Phase 1. This includes geophysical survey, monitoring and recording of geotechnical investigations and limited evaluation trial trenching, as described in section 2.3 below.

1.2.6 Works proposed post-consent (the subject of this document) will be referred to as Phases 2 - 4. Sub-phases of evaluation may be needed, depending on programming of construction activities works (i.e. those required to facilitate access to the substation may be much earlier than export cable trenching) and additional phases of archaeological work may be required based on the results of Phase 2 evaluation works. Phase 3 will be the primary phase of mitigation works, the scope and extent of which will be based on the results of the preceding Phase 2 evaluation. Phase 4 will be the final programme of post-excavation assessment, analysis, archiving, and appropriate reporting and dissemination of the results of all phases of fieldwork.

1.2.7 Specific works in any Phase (or sub-phase) which are proposed as part of this AMS will be detailed in location or activity specific Written Schemes of Investigation, to be agreed with the archaeological curators as appropriate. For purposes of this document, Archaeological Curators here includes the Local Planning Authority Archaeological Advisor, as well as Historic England and the Historic England regional scientific advisor.

1.3 Purpose and scope of document

1.3.1 The purpose of the AMS is to set out the scope and methods proposed to mitigate the effects of the Proposed Development on heritage assets within the Proposed Order Limits to secure compliance with relevant legislation and national and local planning policy.

1.3.2 This document describes the principles to be applied in undertaking archaeological evaluation and mitigation works, including strategies for protecting archaeological remains and investigating, recording, and analysing archaeological remains that will be impacted by construction activities.

1.3.3 The AMS is the principal document setting out the proposed post-consent approach to archaeology. The AMS is supported by an Outline Written Scheme which sets out initial detailed for Phase 2 of the trial trench evaluation and geoarchaeological monitoring, as well

as general aims objectives and standards. The detail of subsequent proposed works referred to in this document, at whatever phase, will be set out in detailed Written Schemes of Investigations to be agreed with the archaeological curators. The WSIs are nested under the AMS process, and are subordinate to it.

1.3.4 Whilst the Code of Construction Practice (CoCP) Revision ~~C~~D ~~[REP5-033]~~ refers to archaeology, this is only in the context of the duties of the Principal Contractor and its staff in facilitating archaeological works as set out in this AMS (and any relevant supporting WSIs) and in notifying any unanticipated archaeological discoveries throughout the course of the works. The CoCP ~~will~~ also define~~s~~ the role of the Archaeological Curators in signing off areas where archaeological works are being undertaken, prior to the Principal Contractor taking access (unless otherwise agreed).

1.3.5 The AMS is structured as follows:

- **Section 1** provides an introduction and overview of the AMS
- **Section 2** presents an overview of the archaeological baseline and includes a summary of archaeological surveys that have been carried out to date (as part of the Phase 1 - Pre-Consent Works)
- **Section 3** sets out the pre-construction evaluation works (undertaken as part of the onshore site preparation works) (Phase 2 – Evaluation)
- **Section 4** sets out the principles of mitigation measures to be applied to archaeology to mitigate their loss through preservation by record (Phase 3 – Mitigation)
- **Section 5** sets out how the principles of mitigation will be applied
- **Section 6** sets out the activities that will be required post-excavation (Phase 4 – post-excavation assessment, analysis, archiving, reporting and dissemination etc.)

1.3.6 An indicative flowchart presenting a visual reference to how the process set out in the AMS for Phases 2 to 3 is intended to work has been prepared and is appended to this document (Appendix 3). Phase 4 (post-excavation etc.) will be subject to a revised, updated project design with an accompanying programme, and an updated flowchart capturing that process will be presented at that stage. The flowchart presented here may evolve and be refined, to reflect emerging project circumstances, and in ongoing consultation with the Archaeological Curators.

1.4 Roles and Responsibilities

1.4.1 The following roles have been identified:

- Client / Undertaker - Five Estuaries Offshore Wind Farm Ltd and their consultants (TBC, if required)
- Project Archaeologist (TBC, as appointed by the undertaker)
- Archaeological Curators; the Tendring Brough Council/local planning authority's historic environment consultant (currently Place Services for Essex County Council) as well as representatives from Historic England.
- Archaeological Contractor – (TBC, as appointed by the Undertaker)

- Ecological Clerk of Works (ECoW) (TBC)
- North Falls Wind Farm and their consultants (TBC)

The Undertaker

1.4.2 The Client is ultimately responsible for implementing the AMS under the DCO.

1.4.3 Any Principal Contractor (PC) or Sub-contractor undertaking work will be made aware of the archaeological requirements as set out within this AMS, in accordance with the wording of the relevant DCO requirements and associated control documents provided by the Client.

1.4.4 The Client and their appointed representatives (including their contractors) are responsible for implementing the AMS, programme, and subsequent agreed WSIs related to each phase of development.

1.4.5 The Client and/or their appointed representatives, or any archaeological body they may appoint to manage the implementation of the AMS, will seek curatorial advice from the Archaeological Curators as appropriate.

1.4.6 Interaction with the Archaeological Curators will be administered by the Client and/ or their appointed representatives (i.e. Project Archaeologist). Should newly identified archaeological deposits be discovered during construction, the Archaeological Curators will be contacted immediately.

1.4.7 The Client and/or their appointed representatives will ensure that their staff aware of this AMS programme and subsequent agreed WSIs related to each phase of development.in order to ensure any required facilitation is provided.

Project Archaeologist

1.4.8 A project Archaeologist will be appointed by the Client and will be responsible for monitoring the work undertaken by the Archaeological Contractor to ensure compliance with the AMS and WSI/s. The Project Archaeologist will also organise and attend regular site meetings with the Archaeological Curators to keep them fully informed of progress and significant discoveries.

Archaeological Curators

1.4.9 The planning authority's archaeological advisor will be responsible for confirming that the requirements of the DCO are met, in accordance with any conditions relating to archaeology. They will be responsible for the sign-off and approval of all ~~evolution~~ evaluation work (phase 2) and mitigation measures (Phase 3), as well as post-excavation requirements (Phase 4).

1.4.10 During any fieldwork, the planning authority's historic environment consultant and/or representatives from Historic England will be afforded access to site for monitoring visits as required. After construction has been completed, the final archaeological reports or publication(s) for this project will be submitted to the planning authority's historic environment consultant. The Curators will also ~~have a role in~~ monitor and sign off~~signing-off any areas where~~any archaeological works ~~archaeological works are required,~~ (whether in Phase 2 evaluation or Phase 3 mitigation) prior to ~~them~~those areas being released for construction.

1.4.11 In addition to the planning authority's archaeological advisor, representatives from Historic England, particularly the Scientific Advisor for the region, will require consultation to confirm the methodology for further geoarchaeological works.

Archaeological Contractor(s)

1.4.12 The Archaeological Contractor/s will be responsible for delivering the archaeological mitigation programme, as set out in this AMS. Their responsibilities will include all on-site and off-site works, including preparation of the WSI, post-fieldwork reporting, and publication.

1.4.13 The Archaeological Contractor will be appointed by the Client.

Ecological Clerk of Works (ECoW) (TBC)

1.4.14 The ECoW will be consulted with regard to locations and timings of any proposed archaeological works, in order to ensure that ecological concerns are considered, and to ensure compliance with statutory obligation or other committed DCO Requirements. Trench locations and or dimensions may require adjustment accordingly.

1.4.15 The ECoW will also advise on mitigation measures, such as stand-off distances, specific ~~newt (or other)~~ecological fencing, ramping of trenches to ensure means of egress for wildlife etc.

North Falls Wind Farm and their consultants (TBC)

1.4.16 It is envisaged that North Falls Wind Farm's consultants will have a role to ensure that their own commitments and requirements are addressed, given that the project shares much of the same footprint, with the same anticipated effects on the archaeological resource as Five Estuaries. The continued close engagement with the North Falls Team will ensure are coherent and unified approach to the archaeological works throughout the process. As either project may undertake the monitoring/archaeological works on behalf of both schemes, the North Falls project team is included here as there would need to be coordination between the projects.

2 ARCHAEOLOGICAL BASELINE

2.1 Introduction

2.1.1 The archaeological and historical background was assessed in a prior desk-based assessment (Wessex Archaeology/Royal Haskoning 2023), which considered the recorded historic environment resource within a 500m study area of the draft Order Limits. A summary of the results is presented below, with relevant entry numbers from the Essex Historic Environment Record (EHER) and the National Heritage List for England (NHLE) included. Additional sources of information are referenced, as appropriate.

2.2 National Mapping Programme and Aerial Photographs

2.2.1 A key part of the data gathering for the desk-based assessment was the review of the existing information collected by the National Mapping Programme (NMP) with regard to potential archaeological remains identified from aerial photographs. This was a large scale project undertaken across many counties in the UK in the 1990s. This information was provided by the Historic Environment Record. This was then supplemented and verified by an independent review of aerial photographs undertaken by Aerial Photo Services (APS) in 2021 and 2022. They examined the aerial photographs and digitised potential

archaeological features; any discrepancies between the location of the features from the NMP when compared to the APS work were noted in the accompanying report.

2.2.2 Both surveys identified a number of archaeological features within and adjacent to the Proposed Order Limits. A concentration of features was identified at Little Bromley in the form of a number of ring ditches, possible henges, enclosures, and possible settlement areas. Other features along the route included the occasional ring ditch and a large number of linear features, some of which are likely to relate to post-medieval to modern land management features.

2.2.3 Features identified as part of the NMP and analysis by APS are illustrated on the Proposed Trench Plan presented as **Figures 2-18 in the OWSI** (see **Appendix 1**). Comprehensive mapping, including the geophysics results together with the aerial photographic mapping data will be prepared to enhance understanding of the known archaeology and to inform the detailed placement of trenches for the Phase 2 evaluation. This detail can be set out and incorporated in detailed WSIs prepared post-consent and agreed with the archaeological curators prior to the commencement of Phase 2 evaluation works.

Previous investigations related to the proposed development (Phase 1, pre-submission)

2.2.4 The following archaeological works have been carried out pre-submission of the application, and are collectively referred to as Phase 1. This phase consisted of geophysical survey, archaeological monitoring of geotechnical investigations and some limited trial trench evaluation. These are further detailed below.

Geophysical survey (2022/2023)

2.2.5 The geophysical survey was undertaken to inform the cable route selection process (along with other factors), and as such, the actual area surveyed covers land parcels which now lie outside of the Proposed Order Limits. The geophysical survey identified possible and probable archaeological features along the cable route, including linear features relating to field boundaries (some of which can be identified on historic mapping), enclosures, ring ditches, possible bank and ditch, an enclosure possibly relating to settlement activity, another enclosure possibly relating to industrial activity and the potential route of a Roman road.

2.2.6 The geophysical survey's results were tested at the Onshore Substation Site (OnSS), and the trial trenching results were found to correspond well with the geophysical survey's results (Wessex Archaeology 2023a). Discrepancies between the NMP data and the geophysical survey data regarding the positioning of the features have been shown to derive from errors in the NMP mapping.

Archaeological and Geoarchaeological Monitoring of Geotechnical Investigations (2022/2023)

2.2.7 Geotechnical Investigations were undertaken in 2022 and 2023. In 2022, three boreholes and their hand-excavated starter pits at the landfall zone were monitored, and a sequence of superficial deposits, including Kesgrave sands and gravels and Holocene alluvium, including peat, were identified. The alluvial sequence represents sediment accumulated under the influence of rising post-glacial sea levels and deposited within an estuarine environment. The peat deposits within the Holocene alluvial sequence are considered to be of high geoarchaeological potential (Wessex Archaeology 2022).

2.2.8 A further seven boreholes and their hand-excavated starter pits were monitored in 2023. No archaeology was identified in the starter pits or the boreholes. Kesgrave sands and

gravels were encountered in four of the boreholes at depths between 1.2 and 2.00m below ground level (bgl), directly overlying the London Clay bedrock. The sands and gravels are likely to be equivalent to the Cooks Green Gravel and have the potential to contain Lower Palaeolithic archaeology and organic and other fossiliferous sediments of significant geoarchaeological potential. Brickearth was found in five of the boreholes, and dependent upon its age, it has the potential to contain lower or middle palaeolithic archaeology and fossiliferous sediments of significant geoarchaeological potential (Wessex Archaeology 2023b).

Archaeological/Palaeolithic Evaluation – OnSS Area (2023)

2.2.9 In 2023, an archaeological and Palaeolithic evaluation was conducted at the OnSS in two phases. This involved the excavation and recording of 124 trial trenches across the site. The findings primarily consisted of linear features, believed to be related to land management or field divisions. Most of these features were undated, though some were attributed to the post-medieval to modern period.

2.2.10 During the Phase 1 evaluation in the northern part of the OnSS area, a few datable features were uncovered, including a later prehistoric ditch and isolated features from the medieval period. A Roman road is believed to cross the northern section of the site. While the roadside ditches were identified through aerial photography and geophysical surveys, they were found during the evaluation but could not be dated. Additionally, no evidence of a metalled surface was found between the parallel ditches.

2.2.11 A potential cremation burial was also discovered during Phase 1, though it could not be dated (Wessex Archaeology 2023c and 2023d).

Archaeological/Palaeolithic Evaluation – Little Clacton Area (2024)

2.2.12 Archaeological evaluation was undertaken on a parcel of land north of Little Clacton Road within the Proposed Order Limits (Wessex Archaeology 2024b), comprising 16 trenches. Three ditches were recorded, one of which was noted by the assessment carried out by APS and corresponds with a field boundary on the 1874 Ordnance Survey map. The two other ditches also likely represent field boundaries.

2.2.13 The previous geophysical survey failed to identify any of the recorded features.

PHASE 2: ARCHAEOLOGICAL EVALUATION WORKS

2.2.14 The following section sets out the broad approach to the initial post-consent works. It will consist of a programme of archaeological monitoring and recording of proposed geotechnical works, as well as a comprehensive trial trench evaluation to be undertaken as part of the onshore site preparation works.

2.3 Archaeological Monitoring and Recording (Geotechnical works)

2.3.1 A programme of archaeological monitoring and recording (watching brief) will be undertaken on geotechnical works post-consent. At present, As the scope, methods, locations and timing of these works are currently unknown.

2.3.2 Ground Investigation (GI) locations will be reviewed once available, and interventions will be selected for monitoring; this will be dependent upon the total number of interventions proposed, the distribution of the interventions, and the methods to be used.

2.3.3 As projects of this scale usually involve a large number of GI interventions for engineering reasons, it is proposed that a sample of these are monitored, informed by the archaeological/geoarchaeological potential. The results of the geoarchaeological monitoring and review of any GI logs will be integrated into the existing geoarchaeological deposit model, with a view to refining that model and informing the requirement for (and scope and extent of) further sampling and/or specific archaeological mitigation.

2.3.4 Geoarchaeological monitoring priorities will be determined based on the results of the Geoarchaeological Desk-based Assessment (Wessex Archaeology 2023). Key areas may be subject to more intensive monitoring due to increased potential, such as the landfall zone (GCZ1 in the geoarchaeological DBA), where organic waterlogged deposits with high geoarchaeological potential have been identified (for example, at the landing site, the ~~Red Line Boundary~~Order Limits is associated with the Great Holland marshes, an area of reclaimed coastal marsh associated with the Holland and Kirby). A geoarchaeologist will review and input into the GI scope, and provision will be made for sub-sampling, including taking closed core in areas with high potential for geoarchaeological sampling. GI logs for any unmonitored interventions will be subject to review by a geoarchaeological specialist.

2.3.5 Should the GI works take place prior to the archaeological evaluation proposed below, the scope/distribution of Phase 2 archaeological and palaeolithic evaluation can be refined to account for the additional information provided by the GI works.

2.3.6 The scope of all archaeological monitoring and recording will be agreed upon through a WSI post-consent, which would outline the interventions to be monitored and approved by the relevant planning authority under a DCO requirement. The post-consent WSI will comply with the OWSI and be approved by the Archaeological Curators.

2.3.7 The results of the geoarchaeological monitoring work will be used to prepare a deposit model, to inform on areas of potential and inform on the need for and/or scope and extent of further geoarchaeological work, whether incorporated into the Phase 2 evaluation trenching programme or as set piece or purposive mitigation in Phase 3.

2.4 Archaeological Evaluation

2.4.1 Following the granting of the DCO, a second phase of archaeological evaluation will be undertaken to corroborate the results of the geophysical survey, NMP and APS datasets, assess the potential for geoarchaeological deposits and palaeoenvironmental datasets (where required) and to sample the limited areas that were not subject to geophysical survey (amounting to two fields).

2.4.2 The general aim of the evaluation is to more accurately establish the potential for the presence or absence of archaeologically significant remains, allowing the mitigation measures set out to be applied appropriately. It is envisaged that this is an archaeology-led process, drawing on the results of the Phase 1 work (including the desk-based work as wells the intrusive and non-intrusive surveys). The proposed evaluation will be reviewed in the field and the excavation and sampling methods, density of trenching, use of contingency allowances can be adjusted (in consultation and with the agreement of the Archaeological Curators, as needed to reflect changing circumstances or improved understanding.

2.4.3 An initial proposed trench layout has been completed (see **Figures 2**-**18** of the OWSI presented at **Appendix 1**), with the archaeological evaluation comprising the excavation of 32 50 x 2 m trenches and approximately 1,700~~1,045~~ 30 x 2 m trenches. Together with the evaluation trenches already completed, this equates to approximately a ~~2~~4% sample size of areas that can be evaluated. An indicative layout plan has been prepared and is

appended to the OWSI (noting that final positions and numbers will be agreed with the Archaeological Curators as stated in 2.4.8 below).

2.4.4 It is intended that the Phase 2 evaluation trenching be archaeology-led and trenching may be applied at differing ~~or increased~~ densities to allow informed decision making on the need for (and scope and extent of) any specific subsequent mitigation works (to be undertaken in Phase 3). It is anticipated that "blank" areas, where there is currently the least supporting information or where geophysical survey results are less conclusive will require ~~higher~~ densities of ~~-~~ 4% of trenching (with a view to allowing the archaeological consultees to have confidence to "sign-off" areas if no remains are encountered. Lower densities may be appropriate where existing evidence allows a~~nd~~ more clear view of the potential archaeology, with work then being required to inform the physical extent of the archaeology and the nature of mitigation proposals and / or design changes in those areas.

This may apply in areas of known or suspected complex archaeology and/or in ~~senstive~~sensitive areas such as that closest to known densities of archaeological remains outside of the DCO limits, as in the section close to St Mary's, Little Bromley and nearest to the Scheduled Monument (Henge, round barrow cemeteries and enclosure cropmarks 510m south-west of St Mary's Church) NHLE 1489898.

2.4.5 No further archaeological or palaeolithic evaluation is recommended for the areas that have been subject to evaluation as part of the initial phase of archaeological works

~~2.4.3~~2.4.6 No archaeological evaluation is proposed under this AMS to be undertaken at the National Grid site included within the Order Limits, as that site is already being evaluated by National Grid ~~.~~ separately.

~~2.4.4~~2.4.7 Final numbers and locations will be determined in consultation with the Archaeological Curators, as part of the process to agree detailed WSIs post-consent, and pre-commencement of the formal Phase 2 archaeological works. The progress of the archaeological work will be regularly monitored, and the effectiveness of the works reviewed and adapted in the field as appropriate, subject to agreement of the archaeological curators.

~~2.4.5~~2.4.8 As part of this proposed Phase 2 evaluation, a programme of test-pitting to specifically consider the Palaeolithic potential will be completed. The final scope of the palaeolithic test pit evaluation is still to be determined and may be influenced by the results of the archaeological monitoring programme on the GI works, if this phase of works were to be completed prior to the evaluation.

~~2.4.6~~2.4.9 The archaeological and palaeolithic evaluation will be carried out in accordance with the OWSI and the post-consent WSI/s and any further specifications approved by the Archaeological Curators.

PHASE 3: MITIGATION MEASURES

2.5 Overview

2.5.1 Once the Phase 2 evaluation (including reporting) has been completed, the extent of the archaeological resource across the Proposed Order Limits will be understood. Implementing the principles set out within this section, mitigation measures which remove any potential further impact (preservation *in situ*), where practicable, will always be preferred, whatever the level of assigned significance. Where this is not possible, mitigating loss of the archaeological resource through preservation by record will be proposed.

2.5.2 Written Schemes of Investigation will be prepared, setting out details of further archaeological works required to achieve preservation by record, where proposed and in accordance with this strategy. Separate Written Schemes of Investigation will be prepared to cover specific requirements, such as geoarchaeological works., and to set out details of any archaeological monitoring which may be required where specific measures to achieve preservation in situ are applied.

~~2.5.1~~2.5.3 A management plan will be agreed for areas where preservation in situ is proposed. This will address concerns such as preservation and protection of those areas during the construction period, as well as long term management to ensure preservation, as appropriate. Where specific archaeological work (such as monitoring during bund formation, or fence location) is required, this will be set out in a separate Written Scheme of Investigation.

2.6 Mitigation hierarchy

2.6.1 This strategy is predicated upon the following mitigation hierarchy:

- *Mitigation through preservation* in situ – *removing any risk of impact to archaeological remains of the highest level of significance, where practicable to do so. This would be through a design change and/or the implementation of an effective strategy and procedure for the protection and management prior to, during construction, and post-construction.*

- *Mitigation through preservation by record – mitigation of impact through the application of a range of archaeological techniques prior to and during construction.*

2.6.2 For the purposes of the DCO, a wider corridor has been utilised, which allows for enhanced micro-siting and the option of implementing trenchless techniques (such as HDD) or other measures to preserve archaeology of the highest significance. Remains of high and very high significance will be those for which consideration will be given to preservation *in situ*, as set out in **Table 1** below. However, as noted above preservation *in situ* will ~~also be considered in respect of archaeological remains deemed to be of lower significance, where appropriate and practicabl~~be preferred, whatever the level of significance of the asset, where appropriate and practicable and any decisions will be made with the agreement of the Archaeological Curators.

2.6.3 There may be some instances where such a design intervention may not be practicable or feasible, and mitigation through preservation by record is the only viable method. Where such instances occur, this will be discussed with the Archaeological Curators.

2.6.4 Where mitigation by design is not possible or not warranted due to the significance of the identified or likely remains, mitigation through preservation by record will be applied. This will be implemented for non-designated archaeological remains of negligible, low or medium heritage significance (designated heritage assets have been avoided as part of the design process and will not be affected)

Table 1 Heritage significance

Heritage Significance	Description/ reason
	World Heritage Sites; which are internationally important Assets

Very High	of acknowledged international importance Assets that can contribute significantly to acknowledged international research agendas Historic landscapes of international value (designated or not)
High	Scheduled monuments and undesignated assets of Schedulable quality and importance Listed Buildings Archaeological assets that can contribute significantly to acknowledged national research objectives Designated and non-designated historic landscapes of high quality and importance and of demonstrable national value (including Grade I and II* registered parks and gardens)
Medium	Designated or undesignated archaeological assets that contribute to regional research objectives Conservation areas Designated and non-designated historic landscapes of special historic interest (including Grade II registered parks and gardens)
Low	Non designated heritage assets, including locally listed buildings and other buildings that are considered to be of local interest Archaeological assets of limited value, but with potential to contribute to local research objectives
Negligible	Assets with very little or no surviving archaeological interest/buildings with little or no value at local or other scale; Landscapes with little or no significant historic interest

2.7 Phase 2 review and Decision-making

2.7.1 On the completion of the Phase 2 evaluation works, the results will be considered together with those from the pre-determination works, as well as any additional GI archaeological monitoring programme results, to establish an overall picture of the archaeological resource within the Order limits. Significance scores in line with above will be assigned to any remains/groups of features identified.

2.7.2 Following this review, an initial refined mitigation strategy will be presented for discussion with the archaeological curators, with a view to agreeing levels of significance and appropriate additional measures required. This will be informed by the submission of detailed evaluation reporting, to be shared with the archaeological curators in advance.

2.7.3 Where archaeological remains of “high” significance are identified, preservation *in situ* will be the preferred option. Detailed design of the cable routing will be reviewed with a view to micro-siting where possible, or to see if alternative design, trenchless or other no-dig options are available (see section 4.4 below).

2.7.4 Where remains of lower significance are identified, archaeological measures will be presented, ranging from implementing a programme of archaeological monitoring and

recording (watching brief), additional or specific sampling strategies and/or other site specific investigations, up to and including detailed area archaeological investigation as appropriate.

Mitigation through preservation *in situ*

2.7.5 The implementation of preservation *in situ* will be completed through strategies and construction techniques to avoid physical impact on the archaeology (beyond those that may have been caused as part of the initial evaluation works). This will be achieved through either the micro-sighting of development proposals or the implementation of trenchless techniques, such as horizontal directional drilling. Any specific measures agreed will be identified and presented in appropriate documentation to the archaeological curators.

~~2.7.5~~2.7.6 Where decisions on construction arrangements to secure preservation areas in situ, decisions will have regard to the principles outlined in the 'Preserving Archaeological Remains' document[1] are considered to ensure that any strategy is right for the site and the archaeology in question.

Mitigation through preservation by record ~~(Phase 3)~~

~~2.7.6~~2.7.7 Whilst there is a Project preference to preserve all archaeological remains in situ (whatever their level of archaeological significance), this may sometimes not be practicable. In this event, specific mitigation works will be agreed with the archaeological curators, based upon the results of the preceding Phase 2 evaluations. The exact scope and extent of any works is to be determined but could consist of the following options (or combination thereof). These are presented below; decisions on which technique shall be applied in any given scenario or area will be agreed with the consultees as part of the processes laid out in the AMS (and detailed in the relevant WSIs submitted under the requirement in the DCO).

~~*Archaeological Monitoring and Recording*~~

~~A programme of Archaeological Monitoring and Recording (watching brief) will be undertaken on areas with archaeological remains which are of "low" heritage significance, as set out in **Table 1**.~~

~~This may also be applied where geophysics has identified anomalies that are consistent with archaeology but where trenching has not confirmed the presence of archaeological remains to ensure that any archaeological remains not identified will be recorded.~~

~~However, should significant archaeological remains be identified within an area of archaeological monitoring, then specific appropriate intervention may be required, such as the implementation of a targeted strip, map and recording exercise or other detailed excavation programme.~~

~~The scope of the archaeological works will be set out within a location or activity specific WSI, conforming to the OWSI, and be approved by the archaeological curators.~~

~~*Geoarchaeological sampling and analysis*~~

~~Appropriate methods of geoarchaeological sampling are dependent on sampling requirements but could include: stepped test pits or trenches for controlled recovery of artefacts; and/or palaeoenvironmental and dating samples; or targeted boreholes to recover palaeoenvironmental and dating samples. Geoarchaeological sampling, sample~~

[1] Available at https://historicengland.org.uk/images-books/publications/preserving-archaeological-remains/

~~assessment, and, if required, analysis are usually subject to a staged program of investigation, with detailed requirements determined at each stage.~~

~~The scope of the geoarchaeological works will be set out within a specified WSI, conforming to the OWSI and Historic England guidance 'Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record' (2015b) and 'Curating the Palaeolithic' (2023), and be approved by the archaeological curats.~~

~~*Targeted strip*S*, map and record or archaeological excavation*~~

~~Targeted strip, map and record or detailed archaeological excavation will be undertaken on archaeological remains of medium or higher heritage significance or where preservation in situ is not a viable mitigation method for remains of the highest levels of heritage significance (national and international), as appropriate.~~

~~The scope of the archaeological works will be set out within a specific WSI, conforming to the OWSI and will be agreed with the archaeological curators.~~

~~Areas selected for targeted strip, map, and record or detailed archaeological excavation may be temporarily fenced to demarcate the excavation area to ensure no physical impacts are caused prior to the programme's implementation.~~

Archaeological Excavation

2.7.8 Some areas may be selected for detailed o~~O~~pen area excavation ~~may be used for detailed excavation of areas with~~where significant, complex and /or dense archaeological remains~~, where such areas~~ are defined by the Phase 2 evaluation (and where it is not possible to achieve preservation in situ). The detailed specification, scope and extent of any such work will be set out in the form of a Written Scheme of Investigation for agreement with the archaeological curators.

2.7.9 Whilst these areas should ideally be defined and excavated prior to construction~~,~~; where this is not possible, agreed areas will be fenced off whilst the archaeological work is completed, and signed off by the archaeological curators prior to releasing for construction.

Strip, map and record

2.7.10 Strip, map and record or will be undertaken on areas of archaeological remains of medium or higher heritage significance or where preservation in situ is not a viable mitigation method for remains of higher levels of heritage significance (national and international), as appropriate.

2.7.11 The scope of the archaeological works required in any strip, map and record area will be set out within a specific WSI, conforming to the OWSI and will be agreed with the archaeological curators in line with this AMS.

2.7.12 Areas selected for strip, map, and record may be temporarily fenced to demarcate the archaeological working area to ensure no physical impacts are caused prior to the programme's implementation. These areas will not be released for construction until agreed archaeological field work has been completed and signed off by the archaeological curators, in line with this AMS.

Geoarchaeological sampling and analysis

2.7.13 Appropriate methods of geoarchaeological sampling are dependent on sampling requirements but could include: stepped test pits or trenches for controlled recovery of

artefacts; and/or palaeoenvironmental and dating samples; or targeted boreholes to recover palaeoenvironmental and dating samples. Geoarchaeological sampling, sample assessment, and, if required, analysis are usually subject to a staged programme of investigation, with detailed requirements determined at each stage.

2.7.14 The scope of the geoarchaeological works will be set out within a specified WSI, conforming to the OWSI and Historic England guidance 'Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record' (2015b) and 'Curating the Palaeolithic' (2023), and be approved by the archaeological curators.

Archaeological Monitoring and Recording

2.7.15 A programme of Archaeological Monitoring and Recording (watching brief) will be undertaken on areas with archaeological remains which are of "low" heritage significance, as set out in **Table 1**.

2.7.16 This may also be applied where geophysics has identified anomalies that are consistent with archaeology but where trenching has not confirmed the presence of archaeological remains to ensure that any archaeological remains not identified will be recorded.

2.7.17 However, should significant archaeological remains be identified within an area of archaeological monitoring, then specific appropriate intervention may be required, such as the implementation of a targeted strip, map and recording exercise or other detailed excavation programme.

~~2.7.7~~2.7.18 The scope of the archaeological works will be set out within a location or activity specific WSI, conforming to the OWSI, and be approved by the archaeological curators.

2.8 No mitigation

2.8.1 In areas where there have been no known heritage assets noted within the Desk-based Assessment, no anomalies identified during the geophysical survey and/or no features uncovered during the Phase 1 or Phase 2 evaluations, no mitigation ~~is~~may be proposed or required. These areas will be agreed upon by the archaeological curators, as part of their "sign-off" role and formally identified at the conclusion of Phase 2, noting this may be staged depending on the programme.~~.~~

3 APPLICATION OF MITIGATION

3.1 General

3.1.1 At the time of writing, all land within the ~~Proposed~~ Order Limits has been subject to geophysical survey (provided that access was permitted). The limited exception to this is two fields totalling approx. 4ha, due to be completed in spring 2025. 140 evaluation trenches and 17 Palaeolithic test pits have been excavated; in addition, 10 boreholes and their starter pits have been monitored by a geoarchaeological specialist. All works were undertaken following the approval of a WSI by the archaeological curators.

3.1.2 Based on the information to date, there is no indication that any archaeological remains within the Proposed Order Limits would be of the highest significance (that is, nationally important). However, geoarchaeological deposits of potential significance were found during the borehole monitoring. In addition, archaeological remains dating from the prehistoric to 19th century were identified in the OnSS area and north of Little Clacton Road, ranging from negligible to medium heritage significance during Phase 1 evaluation.

3.2 Consultation

3.2.1 Consultation with the Archaeological Curators will be undertaken throughout the post-consent process, with specific consultation points at the following milestones:

- Following DCO consent to inform the WSI for the Phase 2 evaluation work which will be submitted to the discharging authority (Essex County Council) for approval;
- Following the completion of the Phase 2 evaluation and geoarchaeological monitoring, to agree levels of significance to agree what mitigation will be undertaken and where, whether that be measures to achieve preservation *in situ* or further phases of fieldwork to achieve preservation by record, and to agree where no fieldwork is required (and agree methods by which preservation in situ can be secured, as appropriate);
- To set out detailed construction methodologies for mitigation through preservation in situ (where applicable);
- During the undertaking of further mitigation through preservation by record; and
- Following the completion of all on-site fieldwork, to agree the post-excavation assessment and approve any updated project design;
- At the conclusion of the post-excavation assessment phase, to agree an updated project design setting out any required post-excavation detailed analysis and publication/archiving requirements.

3.2.2 Consultation with the archaeological curators will also be undertaken should there be a requirement to deviate from this strategy.

Protocol for unexpected discoveries

3.2.3 A ~~P~~proposal for unexpected discoveries will be set out and agreed with the archaeological curators. This protocol will be briefed out to contractors under the CoCP. All of the Principal Contractor's site staff will be informed of its content and how it is to be complied with.

3.2.4 The purpose is to allow archaeological intervention in the event that an unexpected archaeological discovery is made during the construction works, including in areas that have been "signed-off" by the Archaeological curators and released for construction.

3.2.5 This is in addition to any statutory reporting duties that apply, such as reporting any finds that qualify as "treasure" for purposes of the Treasure Act 1996 and the Treasure (Designation) (Amendment) Order 2023, or in the event of the discovery of potentially human remains.

3.2.6 In outline, the Protocol will set out that should site staff encounter potential archaeological remains during ground works, that this should be reported to an agreed contact (such as the Principal Contractor's, environmental manager, the Project Archaeologist (if still present on site) or other nominated party. Works should cease at that location and the remains protected, until a qualified person can assess the find.

3.2.7 In the event that an archaeological find is confi~~e~~rmed, the archaeological curators will be informed, so that appropriate arrangements for recording (or preservation in exceptional circumstances) can be agreed and implemented.

3.2.8 In the event that specific recording and/or preservation in situ works are required, details will be provided in a Written Scheme of Investigation for agreement, in accordance with the processes outlined in the AMS. Any finds/sites that are identified under the Protocol will be incorporated into the Phase 3 Mitigation programme (depending at what stage the in the construction programme the find is made) and the Phase 4 Post-excavation and publication programme in line with the AMS.

3.3 Monitoring and review

3.3.1 Agreed fieldwork for all phases will be monitored by the Project Archaeologist on a regular basis. Representatives of the archaeological curators will be invited to attend on site monitoring, and such visits will be facilitated by the Principal Contractor.

3.3.2 It is envisaged that these monitoring visits will form part of a process by which formal sign off on areas of evaluation (Phase 2) and specific mitigation works (Phase 3) can be discussed and agreed. A specific process for recording discussions and agreement, and identify areas which are signed off, will be developed and set out in the relevant detailed WSIs for agreement with the archaeological curators.

3.3.3 Where regular monitoring cannot be undertaken, or where numbers of archaeologically "blank" trenches are excavated, subject to the agreement of the archaeological curators, an appropriate photographic record will be submitted as appropriate prior to back-filling to allow the work to be expedited. The form of this communication will be agreed with the archaeological curators.

3.3.4 Other reporting at intervals to be agreed with the archaeological curators will be undertaken, content and form to be agreed, subject to the anticipated programme duration for Phase 2 (and subsequent phases as required).

3.3.5 Results will be reviewed regularly with the archaeological curators to assess the appropriateness of the techniques proposed, to evaluate whether density and locations of trenches can be reduced or amended etc.

3.3.6 Where specific measures to achieve preservation in situ have been agreed and implemented, an appropriate record will be submitted to the archaeological curators on completion.

~~3.3.7~~

~~3.3.8~~3.3.7 I~~s enIt is~~ t is envisaged that project team liaison meetings occur at regular intervals throughout the project duration. The frequency and attendees list may change with the project stages (and up to and including the post-excavation/reporting stages) and evolving circumstances, but may include an initial monthly meeting. It is anticipated that such meetings will normally held remotely, unless they coincide with planned field monitoring visits.

3.3.8 The attendees will likely be drawn from the archaeological curators (Essex County Council Place Services and including Historic England and the Historic England scientific advisor), with representatives from the client, principal contractor ~~–~~and specialist archaeological contractors as appropriate. Fieldwork monitoring is likely to take place weekly or as otherwise agreed.

3.3.9 It is envisaged that specific meetings may be held at key stages in addition to the regular meetings noted above. These key stages will include (but are not limited to) a formal pre-

commencement meeting (or meetings) to ensure all WSIs and other specific documentation (such reporting/programme update formats and any notification processes are completed and agreed to the satisfaction of all parties, after the completion of Phase 2 works (or sub-phases of that work) to discuss results and initial assessment of significance of archaeological features etc, to agree specific mitigation based on that assessment prior to commencement of Phase 3, noting the works may be done in stages, and to agree the post-excavation programme etc. , prior to commencement of Phase 4. Other ad hoc meetings to resolves specific issues may be required from time to time, outside of the regular planned meeting and/or monitoring programme.

3.3.10 Formal project team liaison meetings will be informed by an agenda to be circulated in advance and minuted. Progress reporting (against an agreed programme, once fieldwork and or other project details are known) will be prepared by the Project Archaeologist and made available to the Project Liaison team (including the archaeological curators).

3.3.11 The content of the progress reporting will be agreed, but is expected to include a brief summary of results since the previous reporting period, any planned changes to programme etc, summarise emerging results or changes in circumstances requiring specific input from the attendees, whether to resolve an immediate problem or to capture thoughts/plan which may need to be taken through to succeeding phases (such as detail that may inform publication or outreach programmes). Form and content will be agreed with the archaeological curators, and may change to reflect changing circumstances as the project proceeds.

3.4 Programming

3.4.1 Full details of the proposed programming of agreed post-consent archaeological works (evaluation and geoarchaeological GI monitoring) will be agreed with the archaeological curators, and set out in all relevant documentation (location and activity specific WSIs etc.).

3.4.2 Currently, it is understood that (subject to granting of the DCO) a programme of Geotechnical investigation is proposed as an early activity, as the results of this will inform subsequent detailed design decisions. This is likely to take place in 2026, following granting of the DCO.

3.4.3 The main phase of the proposed Phase 2 archaeological evaluation s likely to take place in 2026. Some elements of the evaluation may be prioritised, to support early detailed design/manage risk where there might be less flexibility to micro-site the works. Geotechnical works will also be an early activity requiring archaeological monitoring. Location or activity specific WSIs will be presented, setting out scope and extent to such works where necessary. The results of such works will be used to inform the main phase of evaluation as well as any subsequent archaeological mitigation in Phase 3. It is currently intended that both Phase 2 and Phase 3 will be completed ahead of principal construction, if possible.

Programme outline

3.4.4 Geotechnical investigation works is expected to start in spring 2026. Geoarchaeological monitoring will be built into this programme.

3.4.5 Planned Phase 2 trial trench evaluation is planned to take place concurrently. Geoarchaeological test pitting will be built into this programme.

3.4.6 The Archaeological Curators should be kept informed of the likely construction phase and timings to ensure that mitigation can be properly planned and implemented.

3.4.7 Specific WSIs for any sub-phases will be prepared as required and submitted for the agreement of the archaeological curators.

PHASE 4: POST-EXCAVATION ~~(PHASE 4)~~

3.4.8 Following completion of the fieldwork and the assessment of the stratigraphic, artefactual and eco-factual evidence, draft reports will be submitted for approval by the archaeological curators. Once approved, a final version will be submitted for approval of the archaeological curators.

3.4.9 The report will include the following elements:

- Non-technical summary;
- Project background;
- Archaeological and historical context;
- Aims and objectives;
- Methods;
- Results – stratigraphic, finds and environmental;
- Conclusions in relation to the project aims and objectives, and discussion in relation to the wider local, regional or other archaeological contexts and research frameworks and recommendations for further work, as appropriate;
- Archive preparation and deposition arrangements;
- Appendices, including trench summary tables;
- Illustrations; and
- References.

3.4.10 A copy of the final report(s) will be deposited with the HER, along with surveyed spatial digital data (.dxf or shapefile format) relating to the evaluation works, and any subsequent mitigation works.

Publication

3.4.11 If no further mitigation works are undertaken, a short report on the results of the evaluation will be prepared for publication in a suitable journal, if considered appropriate and agreed with The Applicant and the relevant planning authority (via their historic environment advisors).

3.4.12 In the event that formal archaeological mitigation works are undertaken, appropriate publication and dissemination proposals (including any supporting assessment and analysis works) will be presented to and agreed with the archaeological curators.

~~3.4.12~~3.4.13 Consideration of publication and dissemination requirements will take place throughout the project cycle, and formal proposals will be presented for approval by the archaeological curators. Such proposals will be proportionate to the results of the preceding

Phase 2 evaluation and Phase 3 Mitigation results (and the post-excavation assessment/analysis reports that follow from this).

OASIS

~~3.4.13~~3.4.14 An OASIS (online access to the index of archaeological investigation) record (http://oasis.ac.uk) will be created, with key fields completed, and a .pdf version of the final report submitted. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service (ADS) ArchSearch catalogue.

~~3.4.14~~3.4.15 An OASIS sheet shall be completed at the end of the project and supplied to the relevant planning authority (via their historic environment advisors). This will be completed in digital form. A copy should also be emailed to the Hon. Editor of the Essex Archaeology and History Journal for inclusion in the annual round-up of projects in the Journal.

3.5 Archive storage and curation

Museum

3.5.1 It is recommended that the project archive resulting from the archaeological works be deposited with Colchester Museum. Provision should be made for the cost of long-term storage in the post- fieldwork costs. The museum will receive notification of the project prior to fieldwork commencing. A Site code for the evaluation will be obtained from the relevant planning authority (via their historic environment advisors).

Transfer of title

3.5.2 On completion of the evaluation (or extended fieldwork programme), every effort will be made to persuade the legal owner of any finds recovered (i.e., the landowner), with the exception of human remains and any objects covered by the *Treasure Act 1996*, to transfer their ownership to the museum in a written agreement.

3.6 Preparation of archive

Physical archive

3.6.1 The complete physical archive, which may include paper records, graphics, artefacts, and eco-facts, will be prepared following the standard conditions for the acceptance of excavated archaeological material by Colchester Museum, and in general following nationally recommended guidelines (Brown 2011; CIfA 2014b; SMA 1995). The archive will usually be deposited within one year of the completion of the project, with the agreement of The Applicant. Should it be necessary (for example in the event the proposed receiving body was not able to accept the archive), alternative arrangements (whether temporary or permanent) will be discussed with the Archaeological Curators prior to archive completion and archive deposition.

Digital archive

3.6.2 The digital archive generated by the project will be deposited with a Trusted Digital Repository, in this instance the Archaeology Data Service (ADS), to ensure its long-term curation. Digital data will be prepared following ADS guidelines (ADS 2013 and online guidance) and accompanied by metadata. Digital Archiving should also comply with the CIfA's "Dig Digital" guidance, and the CIfAs Archiving Toolkit will be consulted.

Public Engagement and Outreach

3.6.3 Public benefit and engagement with the community could help offset some of the physical effects of the development proposals. Making more information available to the public on the special archaeological and historic interest in their area will enhance the public value and lead to greater engagement with the historic environment, and contribute to place-making. Precise forms of engagement cannot be determined at this time, and will in part depend on the actual findings of the proposed archaeological works. However, some options are listed below:

3.6.4 School workshops, activities and loan boxes;

- Workshops for local groups including finds handling and Q&A sessions;
- Guided site tours while archaeological investigations are in progress;
- Lectures and talks to local community groups to include both professional archaeologists and specialists;
- Ongoing blogs/vlogs or social media updates as the works progress;
- Information for use by the Applicant for newsletters, web content or media (social media or traditional media outlets);
- Provision of content for third party publishers (TV companies/Journalists);
- Displays and exhibitions in the local area either permanent or temporary; and/or

3.6.5 Volunteer or student placements.

4 DISCHARGE OF ~~CONDITIONS~~REQUIREMENTS

4.1.1 The Requirement relating Onshore Archaeology is set out in the Development Consent Order.

4.1.2 Given that the AMS sets out a phased approach to undertaking the archaeological works, from Phase 2 Evaluation to Phase 4 Publication, Dissemination and Archiving, it is considered that a phased approach to agreeing discharge of the Requirement is appropriate. An outline relating the Phase of proposed archaeological works to partial and final discharge stages, based on the requirement wording and numbering included in draft DCO is presented below.

4.1.3 Requirement 9 (1) sets out compliance with this AMS.

4.1.4 In accordance with the process set out on the AMS, detailed WSIs will be submitted for the agreement of the archaeological curator, setting out Phase 2 evaluation works (including trial trenching and proposed geoarchaeological work). This will be agreed prior to that work commencing in any area within the Order Limits. The successful completion of those works (including “sign-off” in the field, as well as completion of the necessary reporting) will enable partial discharge with respect to Requirement 9. (4~~1~~).

4.1.5 In accordance with the AMS, detailed WSIs will be submitted for the agreement of the archaeological curator, setting out Phase 3 archaeological Mitigation works for a particular “stage” of work (including any areas for preservation in situ, with detailed methodologies for

securing those areas). On completion of all the archaeological works set out in those WSIs, and "signed-off" in the field by the Archaeological curators, along with any required reporting, the stages of Requirement 9 (2) and~~to~~ (3~~4~~) may be partially discharged (subject to the agreement of the archaeological curators.

4.1.6 The details of a post-excavation programme, leading to appropriate publication, dissemination of the results, and deposition of the final project archive, will be set out in a WSI for agreement of the archaeological curators, Completion of that programme, up to an including the successful deposition of the final archive, will discharge 9 ~~(~~(5) specifically, and complete discharge of the of Requirement 9 in totality.

4.1.7 Partial discharge of the sub-phases and phases (Requirement 9 (2~~1~~) to (5)) will be subject to the agreement of the archaeological curator, and recording in writing at each stage. Final discharge will not occur until the completion of the works required under Phase 4 of the AMS (as relating to Requirement 9 (5)).

~~3.6.5~~4.1.8 It is noted here that the archaeological works may need to be undertaken in sub-phases, with appropriate sub-phase WSIs and reporting prepared and subject to the agreement of the archaeological curators (including "sign-off" in the field), so as to enable release of areas to construction, but the overall discharge approach as set out above will still apply.

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APPENDICES

Appendix 1: Outline Written Scheme of Investigation

~~*Document 9.23 Outline Onshore Written Scheme of Investigation – Revision B to be included here at next revision (expected Deadline 7 – 3rd March 2025).*~~

Five Estuaries OSWF
Onshore Project Area
Tendring, Essex

Outline Written Scheme of Investigation for Archaeological Investigation, Revision B

Document Ref.: 231910.06
February 2025

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Wessex Archaeology Ltd is a company limited by guarantee registered in England, company number 1712772. It is also a Charity registered in England and Wales number 287786, and in Scotland, Scottish Charity number SC042630. Our registered office is at Portway House, Old Sarum Park, Salisbury, Wiltshire, SP4 6EB

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Five Estuaries OSWF
Onshore Project Area
Tendring, Essex

Outline Written Scheme of Investigation for Archaeological Investigation

1 INTRODUCTION

1.1 Project background

1.1.1 Wessex Archaeology has been commissioned by Five Estuaries Offshore Wind Farm Ltd (hereafter The Applicant), to prepare an outline Written Scheme of Investigation (WSI) that sets out the in-principle measures which will be implemented for the proposed archaeological and geoarchaeological investigations to be completed prior to the construction of the onshore elements of Five Estuaries Project (VE) and mitigation measures to be undertaken during construction.

1.1.2 VE has an onshore project area for both the Onshore Export Cable Corridor (and associated infrastructure) and the Onshore Substation (OnSS). The Onshore Export Cable Corridor (Onshore ECC) lies entirely within the district of Tendring, Essex and will make landfall between Holland Haven and Frinton on Sea and extend over approximately 22 km to the area for the proposed OnSS west of Little Bromley. The Development Consent Order (DCO) application also includes the option to install cable ducts for the North Falls Offshore Wind Farm within the Onshore ECC. The Order Limits for the Onshore Project Area are shown on **Figure 1**.

1.1.3 This outline WSI has been prepared as part of the submission of the DCO application to be submitted to the Planning Inspectorate for examination and determination. It forms part of the process outlined in the Archaeological Mitigation Strategy (AMS), which sets out the scope and guiding principles for the planning and implementation of further archaeological and geoarchaeological investigations to be undertaken for the onshore elements of the Five Estuaries Project (hereafter 'the Proposed Development').

1.1.4 The specific detail of the archaeological works set out in this document will be formally agreed with the relevant planning authority (as part of the DCO requirements) in the form of one or more location or activity specific Written Schemes of Investigation.

1.2 Broad Approach and Phasing

1.2.1 The processes in this WSI document the phased approach set out in the AMS, with the results of previous phases of archaeological work informing both design decision (as appropriate) and the needs for and scope and extent of subsequent phases of work, whether that be further evaluation or sampling, or implementation of agreed mitigation.

1.2.2 The approach is intended to be iterative, and collaborative, with regular consultation and engagement with the archaeological curators throughout the process.

1.2.3 For the purposes of this document, all archaeological investigations carried out pre-submission and pre-consent are referred to as Phase 1. This includes geophysical survey,

monitoring and recording of geotechnical investigations and limited evaluation trial trenching, as described in section 3.3 below.

1.2.4 Works proposed post-consent (and the subject of this document) are referred to as Phase 2. Sub-phases of evaluation may be needed, depending on the programming of enabling works (such as those required to facilitate access) and additional phases of work may be required based on the results of Phase 2. Specific works in any Phase which are proposed as part of the AMS will be detailed in location or activity specific Written Schemes of Investigation, to be agreed with the archaeological curators as appropriate

1.2.5 It is envisaged that the Archaeological Consultees (Essex County Council-Place Services on behalf of the LPA, as well as Historic England and their Regional Scientific Advisor) will monitor the progress of works in the field, before agreeing completion. The Phase 2 evaluation works will be subject to appropriate reporting (including any required assessment of finds and sample) and this will be provided to the archaeological consultees in dance of any decisions of the requirement for (and scope and extent of) formal archaeological mitigation, to be undertaken as Phase 3.

1.2.6 Phase 4 is the final phase, consisting of final reporting, formal publication and dissemination, and archiving of the results of all phases of fieldwork will be agreed with the consultees.

1.3 Scope of document

1.3.1 This is an outline document that, by reference to the assessments reported in the ES, sets out the key elements that will be secured in the post-consent WSI(s) which will be agreed in consultation with the Discharging Authority (via their historic environment advisors) prior to any development works commencing and following a successful Development Consent Order application

1.3.2 This document covers two main elements. The first part sets out the aims of the Phase 2, post-consent archaeological investigations, and the methods and standards that will be employed. At present these works comprise archaeological trench evaluation, Palaeolithic test pit evaluation which are designed to inform the nature and extent of further archaeological mitigation. Purposive geoarchaeological boreholes may be required dependent upon the extent and distribution of the geotechnical works. In format and content, it conforms to current best practice, as well as to the guidance in *Management of Research Projects in the Historic Environment* (MoRPHE, Historic England 2015a) and the Chartered Institute for Archaeologists' (CIfA) *Standard and guidance for archaeological field evaluation* (CIfA 2023a).

1.3.3 The archaeological trial trench and Palaeolithic test pit evaluation is required to sample the length of the onshore elements of the project to assess the potential for archaeological remains to be present, and to inform any further mitigation that may be required. A focused pre-consent trial trenching campaign was undertaken in 2023 which evaluated the OnSS area, as there is less flexibility to microsite within the OnSS footprint. As part of these works Palaeolithic test pits were excavated at the ends of selected trenches to map, characterise the deposits and assess their potential for Palaeolithic remains and paleoenvironmental evidence reflective of past landscapes and environments.

1.3.4 Purposive geoarchaeological boreholes may be required (following the scope and distribution of ground investigations) to map and characterise the superficial geological deposits at the landfall zone, identifying archaeological and geoarchaeological potential.

The geoarchaeological desk-based assessment will guide the strategy for Palaeolithic test pits and purposive boreholes.

1.3.5 The second part of this document consists of a further mitigation strategy. This is a high level approach, and reflects the overall strategy set out in the AMS. It outlines the approaches to achieving preservation by record where harm is unavoidable and the protocols to be followed with regard to further assessment, mitigation and monitoring during detailed design and construction. It is intended that any further mitigation works (to be undertaken as Phase 3 of the approach set out in the AMS) will have their own detailed WSIs which will specify their nature, location and scope.

2 CONSULTATION

2.1.1 During the development of the VE application, consultation has been undertaken on the archaeological aspects of the Environmental Impact Assessment (EIA), which included a commitment to present an outline WSI with the Development Consent Order application. Complete records of the consultation are presented within the relevant chapters of the Environmental Statements (ES). A draft of this document has been submitted to the historic environment advisor for the relevant planning authority and Historic England for comment prior to submission.

3 BASELINE ASSESSMENTS

3.1 Introduction

3.1.1 The archaeological and historical background was assessed in a prior desk-based assessment (Wessex Archaeology/Royal Haskoning 2023), which considered the recorded historic environment resource within a 500m study area of the draft Order Limits. A summary of the results is presented below, with relevant entry numbers from the Essex Historic Environment Record (EHER) and the National Heritage List for England (NHLE) included. Additional sources of information are referenced, as appropriate.

3.2 National Mapping Programme and Aerial Photographs

3.2.1 A key part of the data gathering for the desk-based assessment was the review of the existing information collected by the National Mapping Programme with regard to potential archaeological remains identified from aerial photographs. This was a large scale project undertaken across many counties in the UK in the 1990s. This information was provided by the Historic Environment Record. This was then supplemented and verified by independent review of aerial photographs undertaken to Aerial Photo Services in 2021 and 2022. The examined the aerial photographs and digitised potential archaeological features, any discrepancies between the location of the features from the NMP when compared to the APS work was noted in the accompanying report.

3.2.2 Both surveys identified a number of archaeological features within and adjacent to the Onshore ECC and OnSS. A concentration of features were identified at Little Bromley in the form of a number of ring ditches, possible henge, enclosures and possible settlement areas. Other features along the route included the occasional ring ditch and a large number of linear features some of which are likely to relate to post-medieval to modern land management features.

3.3 Previous investigations related to the proposed development

Geophysical Survey (2022/2023)

3.3.1 The geophysical survey was undertaken to inform the route selection process (along with

other factors) and as such the actual area surveyed covers land parcels which now lie outside of the Order Limits (Figure 3A and 3B). The geophysical survey has identified possible and probable archaeological features along the route including linear features relating to field boundaries (some of which can be identified on historic mapping), enclosures, ring ditches, possible bank and ditch, an enclosure possibly relating to settlement activity, another enclosure possibly relating to industrial activity and the potential route of a roman road.

3.3.2 The results of the geophysical survey were tested at the OnSS and the results of the trial trenching were found to correspond well to the results of the geophysical survey (Wessex Archaeology 2023a). Discrepancies between the NMP data and the geophysical survey data in terms of the positioning of the features have been shown to derive from errors in the NMP mapping.

Archaeological and Geoarchaeological Monitoring of Geotechnical Investigations (2022/2023)

3.3.3 Geotechnical Investigations were undertaken in 2022 and 2023. In 2022, three boreholes at the landfall zone were monitored. This monitored three boreholes and their hand excavated starter pits and identified a sequence of superficial deposits including Kesgrave sands and gravels and Holocene alluvium including peat. The alluvial sequence represents sediment accumulated under the influence of rising post-glacial sea levels and deposited within an estuarine environment. The peat deposits within the Holocene alluvial sequence are considered to be of high geoarchaeological potential (Wessex Archaeology 2022).

3.3.4 A further seven boreholes and their hand excavated starter pits were monitored in 2023. No archaeology was identified in the starter pits or the boreholes. Kesgrave sands and gravels were encountered in four of the boreholes at depths between 1.2 and 2.00m bgl, directly overlying the London Clay bedrock. The sands and gravels are likely to be equivalent to the Cooks Green Gravel and have the potential to contain Lower Palaeolithic archaeology and organic and other fossiliferous sediments of significant geoarchaeological potential. Brickearth was found in five of the boreholes and dependent upon its age it has the potential to contain lower or middle palaeolithic archaeology and fossiliferous sediments of significant geoarchaeological potential (Wessex Archaeology 2023b).

Archaeological/Palaeolithic Evaluation- OnSS Area (2023)

3.3.5 The Archaeological and Palaeolithic evaluation was undertaken at the OnSS in 2023 in two phases. This comprised the archaeological excavation and recording of a total of 124 trial trenches across the area for the OnSS. This predominantly revealed linear features thought to relate to land management and/or field division. The majority of these were undated however some were dated to the post-medieval to modern period. Within the Phase 1 evaluation, towards the northern part of the OnSS area, a small number of datable features were found including a later prehistoric ditch and discrete features dating to the medieval period. The route of a Roman Road is thought to traverse the northern section of the Site and whilst the roadside ditches were identified during the aerial photograph survey and the geophysical survey, the ditches were found, but could not be dated during the evaluation. There was no evidence of any metalled surface between the two parallel ditches. Similarly, a single possible cremation burial was also revealed during the Phase 1 evaluation but could not be dated (Wessex Archaeology 2023c and 2023d).

4 POST-CONSENT ASSESSMENT STRATEGY

4.1 Introduction

4.1.1 Prior to the commencement of any development, further assessment will be required to

inform the detailed design stage of the development and inform the nature and extent of further mitigation. The post-consent Phase 2 assessment will comprise;

- Completion of the remaining approx. 14.5ha of geophysical survey;
- Archaeological and Geoarchaeological Watching Brief on ground investigation (geotechnical) works;
- Archaeological Trial Trench and Palaeolithic Test Pit Evaluation; and
- Purposive Geoarchaeological Borehole Survey (although the requirement for and scope of this will be reviewed based upon the nature, scope and distribution of the watching brief on the ground investigation works).

4.2 General aims

4.2.1 The general aims (or purpose) of the evaluation, in compliance with the CIfA *Standard and guidance for archaeological field evaluation* (CIfA 2023a), are to:

- provide further information about the archaeological and geoarchaeological potential of the site;
- to inform decision-making on appropriate responses to the archaeological resource, by establishing the likely significance of remains and deposits encountered in both the Phase 1 (pre-consent) and proposed Phase 2 (post-consent) evaluation;
- to establish the scope and extent of those appropriate responses, whether that be amendment to design to achieve preservation in situ, or where this is not possible, inform decision-making on any archaeological and geoarchaeological work that may be required to achieve preservation by record, in line with the process set out in the AMS
- Based upon the results of the evaluation, develop a research agenda to support the developing scope, aims and objectives for a proportionate mitigation strategy. This would be developed as part of subsequent WSI(s).

4.3 General objectives

4.3.1 In order to achieve the above aims, the general objectives of the Phase 2 post-consent assessment are to:

- determine the presence or absence of archaeological features, deposits, structures, artefacts or ecofacts within the Order Limits;
- establish, within the constraints of the assessment, the extent, character, date, condition, quality and significance of any surviving archaeological remains;
- determine the significance and importance of relevant deposits with regard to their geoarchaeological potential;
- obtain geoarchaeological samples of relevant deposits (where appropriate);
- place the deposits within their wider geoarchaeological context; place any identified archaeological remains within a wider historical and archaeological context in order to assess their significance; and
- make available information about the archaeological resource within the Order Limits by reporting on the results of the evaluation.

4.4 Completion of the Geophysical Survey

4.4.1 Detailed Magnetometry Survey has been undertaken across all parts of the Order Limits that were available (subject to landowner access restrictions) and suitable for survey (excepting areas such as roads, hedges, woodland, water bodies and edges of land parcels). The results of the survey is presented as an Annex to the ES. Due to poor weather conditions and access constraints, approx. 14.5ha of surveyable area remains to be complete. The outstanding areas would be undertaken prior to detailed design to inform the archaeological trial trench evaluation. As the geophysical survey is a continuation of an ongoing piece of work, a Written Scheme of Investigation is already agreed and in place. As such the methods to be used for the completion of the survey are not repeated here.

4.5 Archaeological and Geoarchaeological Monitoring (Watching Brief) on Geotechnical Works

4.5.1 A programme of Archaeological/Geoarchaeological monitoring will be undertaken on geotechnical works post-consent as Part of the Phase 2 assessment. This is part of a programme of Ground Investigation (GI) works required to inform detailed design of the proposed development within the Order Limits.

4.5.2 As the scope, methods and timing of these works are currently unknown, details of the watching brief are not set out here (but will be supplied in the form of location and/or activity specific WSIs once that detail is known). Ground Investigation (GI) locations will be reviewed once available and interventions will be selected for monitoring, this will be dependent upon the total number of interventions proposed, the distribution of the interventions and the methods to be used. As projects of this scale usually involve a large number of GI interventions for engineering reasons, it is proposed that a sample of these are monitored, informed by the archaeological/geoarchaeological potential and in relation to the archaeological works proposed. The results of the geoarchaeological monitoring and review of any GI logs will be integrated into the existing geoarchaeological deposit model for the Onshore Project Area (see **Section 7.4**).

4.5.3 Geoarchaeological monitoring priorities will be determined based on the results of a prior Geoarchaeological Desk-based Assessment (Wessex Archaeology 2023). Key areas may be subject to more intensive monitoring due to increased potential such as the landfall zone (GCZ1 in the geoarchaeological DBA) where organic waterlogged deposits with high geoarchaeological potential have been identified. GI logs for any unmonitored interventions will be subject to review by a geoarchaeological specialist.

4.5.4 The OnSS area may be subject to impacts from piling for the OnSS foundations, these would not be required on other areas of the route, and as such this is also likely to be a key area for the monitoring of geotechnical works.

4.5.5 Should the GI works take place prior to the archaeological and geoarchaeological works proposed below, the scope/distribution of the archaeological and geoarchaeological works can be refined to account for the additional information provided by the GI works.

4.5.6 The scope of the programme of archaeological monitoring would be agreed through a detailed WSI post-consent, which would outline the interventions to be watched and approved by the relevant planning authority under a DCO requirement.

4.6 Aims- GI geoarchaeological monitoring programme

4.6.1 The general aims (or purpose) of the geoarchaeological monitoring of GI works, in compliance with the CIfA *Standard and guidance for archaeological field evaluation* (CIfA

2020a), are:

- provide information about the archaeological and geoarchaeological potential of the Site;
- consider the possible significance of any archaeological and geoarchaeological evidence present, or potentially present, in the context of national and regional research priorities and agendas, and
- inform either the scope and nature of any further archaeological and geoarchaeological work that may be required; or the formation of a mitigation strategy (to offset the impact of the development on the archaeological resource); or a management strategy.

4.7 Objectives- GI geoarchaeological monitoring programme

4.7.1 The specific objectives of the geoarchaeological monitoring are as follows:

- To record the sequence of superficial deposits at each GI location;
- To obtain geoarchaeological samples of relevant deposits (where possible within the scope of the GI works);
- To undertake deposit modelling of the data arising from geoarchaeological monitoring, integrating any available existing GI data and relevant BGS archive boreholes, in order to map the extent, thickness and depth of Quaternary superficial deposits;
- Interpret the probable environments represented;
- Determine the importance of the deposits with regard to their archaeological and geoarchaeological (including palaeoenvironmental) potential; and
- Make specific recommendations for further work, where appropriate, which may include geoarchaeological borehole survey, palaeoenvironmental assessment and/or scientific dating.

5 ARCHAEOLOGICAL TRIAL TRENCHING AND TEST PITTING- FIELDWORK METHODS

5.1 Introduction

5.1.1 Health and safety will override archaeological considerations in all works. The density, quantity and final location of the trenches/test pits proposed for Phase 2 will be agreed by the relevant planning authority (via their historic environment advisors), in line with the processes set out in the AMS; a nominal 4% sample is envisaged at the current time

5.1.2 The trench locations will be selected in order to sample probable and possible archaeological features identified through the geophysical survey and also apparent ‘blank’ areas. Test pits undertaken for the assessment of Palaeolithic deposits will be placed at regular intervals. A detailed WSI post- consent will set out the number and distribution of the trenches/test pits.

5.1.3 The results of the post-consent trench/test pit evaluation will inform the location and scope of any further mitigation works that may be required. Those works will be subject to separate WSIs.

5.2 Objectives- Archaeological Trial Trenching

5.2.1 Following consideration of the archaeological potential of the site the specific objectives of

the trial trench evaluation are to:

- test the results of the geophysical survey (including apparent 'blank' areas);
- test the results of the National Mapping Programme (NMP) Survey and aerial photograph examination undertaken for the application;
- assess and characterise potential prehistoric, Roman and medieval features which may exist within the Order Limits;
- assess and characterise evidence for medieval/post-medieval agricultural activity within the Site.

5.2.2 The objectives of the trial trench evaluation would be developed further with reference to specific research questions/themes based on the Revised Research Framework for the East of England (Medleycott 2011), in the detailed WSI post consent.

5.3 Objectives- Palaeolithic test pit evaluation

5.3.1 The prior GDBA (Wessex Archaeology 2023) identified the presence of Pleistocene deposits in the Project Area that may contain significant Palaeolithic geoarchaeological resources (artefacts and/or paleoenvironmental evidence). Test pitting, augmented where appropriate with purposive geoarchaeological boreholes (see **section 6**), is the most appropriate method for evaluating this resource. The specific objectives of Palaeolithic test pit evaluation are to:

- establish the potential of Pleistocene deposits to preserve Palaeolithic archaeology;
- establish the potential of Pleistocene deposits to preserve paleoenvironmental and scientific dating evidence, and
- inform on possible requirements for further targeted work that may be required to mitigate the impact of the Project on the Palaeolithic geoarchaeological resource or develop a management strategy to prevent impacts.

5.4 Setting out of the trenches/test pits

5.4.1 All trenches/test pits will be set out using a Global Navigation Satellite System (GNSS) or similar. Minor adjustments to the layout may be required to take account of constraints such as vegetation or located services, and to allow for machine manoeuvring. The trench locations will be tied into the Ordnance Survey (OS) National Grid and Ordnance Datum (OD) (Newlyn), as defined by OSTN15 and OSGM15.

5.5 Service location and other constraints

5.5.1 The Applicant will provide information regarding the presence of any below/above-ground services, and any ecological, environmental or other constraints.

5.5.2 Before excavation begins, the evaluation area will be walked over and visually inspected to identify, where possible, the location of any below/above-ground services. All trial trench/test pit locations will be scanned before and during excavation with a Cable Avoidance Tool (CAT) to verify the absence of any live underground services.

5.6 Excavation methods

Trenches

5.6.1 The trenches will typically be 30m x 1.8m in extent, except as agreed. They be excavated using a 360º tracked excavator equipped with a toothless bucket. Machine

excavation will be under the constant supervision and instruction of the monitoring archaeologist. Machine excavation will proceed in level spits of approximately 50–200 mm until either the archaeological horizon or the natural geology is exposed. Where necessary, the base of the trench/surface of archaeological deposits will be cleaned by hand.

5.6.2 All archaeological features and deposits identified will be hand-excavated, unless by agreement with the historic environment advisors to the relevant planning authority. Spoil (derived from machine stripping and hand-excavation) and any archaeological features will be scanned with a metal detector to maximise the recovery of metal objects. Artefacts and other finds will be collected and bagged by context.

5.6.3 The following sampling strategy is suggested;

- Linear features will be hand excavated to achieve a 10% sample along their length, with a minimum section width of 1.00m;
- The termini of any linear feature would be 100% excavated;
- Discrete features will be hand excavated to achieve a 50% sample;
- Significant bonded or structural remains building slots or postholes will be preserved intact for excavation in more appropriate circumstances, even if fills are sampled;
- Complex features such as hearths, will be 100% hand excavated, unless part of a larger structure where cleaning and preservation for excavation in appropriate circumstances would be required or where archaeomagnetic dating is being considered.

5.6.4 If an exceptional number and/or complexity of archaeological deposits are identified, sample excavation will aim to be minimally intrusive, but sufficient to resolve the principal aims of the evaluation, to a level agreed by the relevant planning authority under requirement.

5.6.5 Intersections between features will be avoided when excavating sample sections to maximise uncontaminated material and avoid removing evidence of relationships in confined circumstances. The surface of the features will be cleaned to establish the relationship as far as possible. More substantial features that extend beyond the limit of the excavation will be recorded in plan only, particularly where partial excavation has the potential to impede later characterisation, chronological assumptions or preservation of fragile artefacts such as waterlogged deposits. Where required, trenches and features deeper than 1.2m will be stepped once.

5.6.6 If human remains are uncovered, the specific methods outlined below (section 5.11.2) will be followed.

5.6.7 Where complex archaeological stratification is encountered, deposits will be left *in situ* and alternative measures taken to assess their depth, as agreed with the relevant planning authority (via their historic environment advisors). Where modern features are seen to truncate the archaeological stratification, these may be removed, where practicable, in a manner that does not damage the surrounding deposits to enable the depth of stratification to be assessed.

Palaeolithic test pits

5.6.8 Palaeolithic test pits will be carried out under the supervision of a geoarchaeological specialist experienced in interpreting Pleistocene sediments and identifying Palaeolithic artefacts. Test pits will be positioned at the end of the trenches.

5.6.9 The test pits will be excavated using a 360º mechanical excavator with a toothless bucket.

Machine excavation will be under the constant supervision and instruction of the geoarchaeological specialist, who will record and number the sequence of sedimentary units as excavation progresses following standard descriptive practices. The textural characteristics (grain-size, consolidation, colour, material and sedimentary structures) of sedimentary units will be recorded, and the shape and nature of their lithostratigraphic contacts (dip, conformity and overall geometry).

5.6.10 Machine excavation will proceed in level spits of approximately 50-100 mm, respecting the interface between sedimentary units, until either the bedrock geology is exposed, or further excavation becomes impractical.

5.6.11 Test pits will be entered at the maximum safe depth (usually c. 1.2 m, but less if loose sands/gravel are present) to record the upper stratigraphy. After excavation has progressed beyond this depth, recording will typically take place without entering the test pit. It may be occasionally necessary to widen and step out the upper part of a test pit to allow direct access to its lower part, for instance for controlled artefact retrieval, to investigate for the presence of an undisturbed land surface, or for controlled palaeoenvironmental and/or sediment sampling.

5.6.12 Sediment samples of at least 100 litre will be taken at regular intervals in stratigraphic succession through the Quaternary stratigraphy in each test pit and sieved on-site through a 10 mm mesh to investigate whether artefacts and/or macro vertebrate faunal remains are present. If the sediment encountered is not suitable for dry-sieving (i.e. too clayey), excavation will proceed in shallower spits of c. 50 mm, looking carefully for the presence of any (geo)archaeological evidence, and the spit samples will also be carefully investigated by hand (using archaeological trowels) for any archaeological evidence.

5.6.13 The potential for deposits to preserve paleoenvironmental evidence will be assessed for each Quaternary sediment unit by the monitoring geoarchaeological specialist. If deposits suitable for palaeoenvironmental sampling are encountered and can be safely sampled, appropriate samples will be taken. Sampling methodologies are outlined in **Section 5.13**.

5.6.14 Consideration will also be given to the suitability of any sediment units for luminescence dating or dating of mollusc shells, if abundant enough, by Amino Acid Racemisation (AAR).

5.6.15 Samples for luminescence dating may be taken if the deposits are safely accessible. Where deposits cannot be safely accessed for sampling during the evaluation stage, the outline mitigation strategy allows for stepped test pits with associated sampling as a second phase of work, if appropriate (Section 10.2.1).

5.6.16 If exceptionally complex/significant geoarchaeological deposits are identified, test pitting will aim to be minimally intrusive, but sufficient to resolve the aims of the evaluation, to a level agreed with the relevant planning authority (via their historic environment advisors) and The Applicant. If this is not possible, deposits will be left in situ and alternative assessment measures implemented, as agreed with the relevant planning authority (via their historic environment advisors).

5.6.17 If any archaeological features are identified in deposits overlying or cut into the Pleistocene stratigraphy, these will be excavated and recorded following the above methodology for trenches or the location of the test pit moved to avoid disturbance.

5.6.18 Where modern features are seen to truncate the geoarchaeological deposits, these may be removed, where practicable.

5.6.19 The results of the Palaeolithic test pit evaluation will be integrated into the existing geoarchaeological deposit model for the Onshore Project Area (see **Section 7.4**).

5.7 Recording

Trenches

5.7.1 All exposed archaeological deposits and features will be recorded using the archaeological contractor's pro-forma recording system.

5.7.2 A complete record of excavated archaeological features and deposits will be made. This will include plans and sections, drawn to appropriate scales (generally 1:20 or 1:50 for plans, 1:10 for sections) and tied to the OS National Grid.

5.7.3 A full photographic record will be made using digital cameras equipped with an image sensor of not less than 16 megapixels. This will record both the detail and the general context of the principal features and the Site. Digital images will be subject to managed quality control and curation processes, which will embed appropriate metadata within the image and ensure long term accessibility of the image set. Photographs will also be taken of all areas, including access routes, to provide a record of conditions prior to and on completion of the evaluation.

Test Pits

5.7.4 The test pits will be recorded using the archaeological contractor's pro-forma recording system, along with a drawn measured sketch section of at least one face.

5.7.5 For each lithostratigraphic unit descriptions and interpretations of the deposits will be provided, using the archaeological contractors in house standard geoarchaeological field and laboratory descriptions guidelines, which are in accordance with BS EN ISO 14688-1:2018 Geotechnical investigation and testing – Identification and classification of soil.

5.7.6 Descriptions of deposits will include information such as:

- Depth
- Texture
- Composition
- Colour
- Inclusions
- Structure
- Shape and nature of contacts between deposits

5.7.7 Interpretations will include, where possible, probable depositional environments and formation processes.

5.7.8 All samples taken will be individually numbered. The location, size, stratigraphic context, purpose and whether retained or processed on site will be recorded.

5.7.9 A full photographic record will be made using digital cameras equipped with an image sensor of not less than 10 megapixels. This will record both the detail and the general context of the principal lithological and stratigraphic features, and the evaluation area as a whole. Digital images will be subject to managed quality control and curation processes which will embed appropriate metadata within the image and ensure long term accessibility of the image set. Photographs will also be taken of all areas, including access routes, to

provide a record of conditions prior to and on completion of the evaluation.

5.8 Survey

5.8.1 The real time kinematic (RTK) survey of all trenches and features will be carried out using a Leica GNSS (or similar) connected to Leica's SmartNet service. All survey data will be recorded in OS National Grid coordinates and heights above OD (Newlyn), as defined by OSTN15 and OSGM15, with a three-dimensional accuracy of at least 50 mm.

5.9 Monitoring

5.9.1 The Applicant will inform the relevant planning authority in writing in advance of the start of the evaluation and keep them updated on its progress. Access will be arranged for representatives of the relevant planning authority to make site visits to inspect and monitor the progress of the evaluation.

The progress of the evaluation and the effectiveness of the techniques used will be regularly reviewed together with the archaeological curators.

5.10 Reinstatement

5.10.1 The trenches will only be backfilled following inspection by or with the agreement of the Historic Environment Consultant. Trenches completed to the satisfaction of The Applicant and the relevant planning authority (via their historic environment advisors) will be backfilled using excavated materials in the order in which they were excavated, and left level on completion. No other reinstatement or surface treatment will be undertaken.

5.10.2 Test pits will be immediately backfilled on completion using excavated materials in the order in which they were excavated. No further reinstatement will be carried out.

5.11 Finds

General

5.11.1 All archaeological finds will be retained, although those of clearly very recent origin with negligible potential to provide information relevant to the project aims and objectives may be recorded on site and not retained. Where appropriate, soil samples may be taken and sieved to aid in finds recovery. Any finds requiring conservation or specific storage conditions will be dealt with immediately in line with *First Aid for Finds* (Watkinson and Neal 1998).

Human remains

5.11.2 In the event of discovery of any human remains (articulated or disarticulated, cremated or unburnt), all excavation of the deposit(s) will cease pending evaluation.

5.11.3 Initially the remains will be left *in situ,* covered and protected, pending discussions regarding the need for excavation/removal or sampling. Where this is deemed appropriate, the human remains will be fully recorded, excavated and removed from site in compliance with the DCO. If human remains are discovered, a subsample of the assemblage will be investigated so that an appropriate mitigation strategy can be developed.

5.11.4 Excavation and post-excavation processing of human remains will be in accordance with the archaeological contractor's protocols and in-line with current guidance documents (e.g., McKinley 2013) and the standards set out in CIfA Technical Paper 13 (McKinley and Roberts 2013). Appropriate specialist guidance/site visits will be undertaken if required.

5.11.5 The final deposition of human remains subsequent to the appropriate level of osteological analysis and other specialist sampling/examinations will follow the requirements set out in

the DCO.

Treasure

5.11.6 The archaeological contractor will immediately notify The Applicant and the historic environment advisors for the relevant planning authority on discovery of any material covered, or potentially covered, by the *Treasure Act 1996*. All information required by the Treasure Act (i.e., finder, location, material, date, associated items etc.) will be reported to the Coroner within 14 days and the Portable Antiquities Scheme via the Essex Finds Liaison Officer.

5.12 Environmental sampling- Trial Trenches

5.12.1 All sampling will adhere to the principles outlined in Historic England's guidance (English Heritage 2011 and Historic England 2015b).

5.12.2 Bulk environmental soil samples, for the recovery of plant macrofossils, wood charcoal, small animal bones and other small artefacts, will be taken as appropriate from well-sealed and dateable contexts. In general, features directly associated with particular activities (e.g., pits, latrines, cesspits, hearths, ovens, kilns, and corn driers) should be prioritised for sampling over features, such as ditches or postholes, which are likely to contain reworked and residual material. However, this will be considered on a case-by-case basis to identify deposits of interest worthy of sampling infilling other features (e.g. ditches).

5.12.3 Should deposits such as fired clay be discovered an archaeomagnetic dating specialist would be contacted to assess the suitability for archaeomagnetic dating. This contact would be made remotely and would include photographs of the deposit(s).

5.12.4 Features such as cesspits and latrines would also be sampled to assess the presence of remains such as parasites. Further details on the types and methods of samples will be provided in the detailed WSI, post-consent.

5.12.5 If waterlogged or mineralised deposits are encountered, an environmental sampling strategy will be devised and agreed with the relevant planning authority (via their historic environment advisors) and the Historic England Science advisor as appropriate. Specialist guidance will be provided by a member of the archaeological contractor's geoarchaeological and environmental team, with site visits undertaken if required.

5.12.6 Any samples will be of an appropriate size – typically 40 litres for the recovery of environmental evidence from dry contexts, and 10 litres from waterlogged deposits. Historic England guidance on the recording sampling and conservation of waterlogged wood would be consulted as appropriate (Historic England 2010).

5.12.7 Following specialist advice, other sampling methods such as monolith, Kubiena or contiguous small bulk (column) samples may be employed to enable investigation of deposits with regard to microfossils (e.g., pollen, diatoms) and macrofossils (e.g., molluscs, insects), soil micromorphological or soil chemical analyses.

5.13 Geoarchaeological Sampling-Test Pits

Palaeoenvironmental Sampling

5.13.1 The potential for Pleistocene deposits to preserve paleoenvironmental evidence will be assessed by the monitoring geoarchaeological specialist. If deposits suitable for palaeoenvironmental sampling are encountered, and are safely accessible for sampling, appropriate samples will be taken following the methodology outlined below.

5.13.2 Palaeoenvironmental sampling will adhere to the principles outlined in Historic England's

guidance (English Heritage 2011 and Historic England 2015b). Bulk samples will be taken from suitable deposits and assessed for palaeoenvironmental indicators. The size of the samples to be taken are summarised in **Table 1**.

Table 1 Bulk palaeoenvironmental sampling

Indicator	Deposits	Sample size (litres)
Ostracods and foraminifera	Waterlain clays, silts and fine sands	0.30
Diatoms	Clays and silts	0.10
Pollen	Clays, silts and peats	0.10
Molluscs	Clays, silts and fine sands and clayey/silty gravels	2.00
Small vertebrates	Clays, silts and fine sands and clayey/silty gravels	30.00
Large vertebrates	Clays, silts and fine sands and clayey/silty gravels	80.00
Insects and plant macro remains	Organic clays, silts and peat	10.00

5.13.3 If appropriate, other sampling methods such as monoliths or contiguous small bulk (column) samples may be employed to enable investigation of deposits with regard to microfossils (e.g., pollen) and macrofossils (e.g., molluscs).

Sedimentological Sampling

5.13.4 Samples may be taken for sedimentological analysis.

5.13.5 To assist in assessing mode of deposition (e.g., aeolian, alluvial, colluvial etc.) of key sediments, samples of 20 millilitres may be taken from fine grained sediments for particle size analysis.

5.13.6 Bulk samples of 20-40 litres may be taken from clastic sediments for clast lithological analysis to assist in determining the mode of deposition and, for fluvial contexts, reconstruct palaeo-drainage history (including fluvial diversions and catchment changes).

5.13.7 Recommendations for sedimentological sample assessment will be made in the evaluation report, where appropriate.

Scientific Dating

5.13.8 Consideration will also be given to the suitability of any Pleistocene sediments exposed in the test pits for luminescence dating. Luminescence dating sampling will be carried out in accordance Historic England's *Luminescence Dating: Guidelines on using luminescence dating in archaeology* (English Heritage 2008).

5.13.9 If mollusc shells are identified, their potential for dating by Amino Acid Racemisation (AAR) will be considered.

5.13.10 If organic sediments are identified, their potential to contain short lived plant remains suitable for AMS radiocarbon dating will be considered.

6 GEOARCHAEOLOGICAL BOREHOLE SURVEY- FIELDWORK METHODS

6.1 Introduction

6.1.1 This section outlines the methods for the geoarchaeological borehole survey.

6.1.2 A principal focus of the borehole survey is anticipated to be deeply buried superficial deposits identified in geoarchaeological monitoring of GI (Wessex Archaeology 2022 and

2023) by the prior GDBA (Wessex Archaeology 2023) in the area of the ECC landfall between Holland Haven and Frinton on Sea. Additional purposive geoarchaeological boreholes may be required to investigate deeply buried Pleistocene deposits with geoarchaeological potential at other locations in the Project Area. The requirement for the geoarchaeological boreholes will be determined based on the results of geoarchaeological monitoring of GI.

6.1.3 It is proposed to carry out a geoarchaeological and archaeological monitoring of Ground Investigation works to be carried out as part of the project as set out in above in **Section 4.5**.

6.1.4 Geoarchaeological borehole survey may be required following monitoring of the Ground Investigation works. The requirement be dependant upon a) the quantity and distribution of the ground investigation works and b) the results of the ground investigation works. The aims of the purposive geoarchaeological borehole survey are set out below.

6.1.5 Purposive borehole survey may be required to map and characterise the superficial geological deposits across the foreshore and former marshland to the west, identifying areas of geoarchaeological and archaeological potential. It is anticipated that the borehole survey will be restricted to GCZ1 as defined in the geoarchaeological desk-based assessment (**Figure 2**), although boreholes may be required in other locations in the Project Area.

6.2 Specific aims- geoarchaeological borehole survey

6.2.1 The specific aims of the geoarchaeological borehole survey are as follows;

- provide information about the geoarchaeological potential of the survey area;
- consider the possible significance of any geoarchaeological evidence present, or potentially present, in the context of national and regional research priorities and agendas (e.g., EH 2008a, Medleycott 2011); and
- to inform on possible requirements for proportionate geoarchaeological work that may be required to offset the impacts of the proposals on the geoarchaeological resource or develop a management strategy to prevent impacts.

6.2.2 The specific aims of the survey will be addressed by achieving the following objectives;

- record the sequence of deposits at each borehole location;
- obtain geoarchaeological samples of relevant deposits including for palaeoenvironmental assessment (where possible);
- undertake deposit modelling of the data arising from the borehole survey, integrating any available GI data and relevant BGS archive boreholes, in order to map the extent, thickness and depth of deposits;
- interpret the probable environments represented;
- determine the importance of the deposits with regard to their geoarchaeological potential; and
- make specific recommendations for further work, where appropriate, which may include palaeoenvironmental assessment and/or scientific dating.

6.3 Fieldwork Methods

6.3.1 Boreholes will be carried out using a mechanical drilling rig. Specific drilling methods and borehole locations will be defined within a detailed WSI post-consent and will be developed in conjunction with the proposals for post-consent GI works.

6.3.2 The drilling rig will be operated by experienced engineers under the supervision of a suitably experienced geoarchaeologist.

6.3.3 The supervising geoarchaeologist will record, describe and interpret the sequences of deposits encountered in order to allow assessment of likely geoarchaeological potential. Paleoenvironmental, sedimentological and dating sampling with be carried based on professional judgement and in accordance with aims and objective of the evaluation. Sampling will be carried out in accordance with the methodology outlined in **section 5.13**.

6.3.4 Where deposits of geoarchaeological potential are identified in the boreholes, the archaeological contractor will retain suitable core lengths in sleeved liners.

6.3.5 If deposits is geoarchaeological potential are identified in hand-dug starter pits, a suitable sampling strategy will be devised including column or bulk sampling where practical.

6.3.6 Retained core lengths will be sealed and marked with the project number, site number, borehole number and sample depth and retain for laboratory assessment,

6.3.7 Boreholes described in the field or retrieved for later description will include the following information;

- Depth
- Texture
- Composition
- Colour
- Inclusions
- Structure
- Contacts between deposits.

6.3.8 Interpretations will include, where possible, probable depositional environments and formation processes.

6.3.9 A full photographic record will be made using digital cameras equipped with an image sensor of not less than 10 megapixels. This will record both the detail and the general context of the principal lithological and stratigraphic features, and the survey area as a whole.

6.3.10 Digital images will be subject to managed quality control and curation processes which will embed appropriate metadata within the image and ensure long term accessibility of the image set. Photographs will also be taken of all areas, including access routes, to provide a record of conditions prior to and on completion of the borehole survey.

6.3.11 Methods for reinstatement at borehole locations will be agreed and outlined within a detailed WSI.

6.3.12 The real time kinematic (RTK) survey of all boreholes will be carried out using a Leica GNSS or similar connected to Leica's SmartNet service. All survey data will be recorded in OS National Grid coordinates and heights above OD (Newlyn), as defined by OSGM15 and

OSTN15, with a three-dimensional accuracy of at least 50 mm.

7 POST-EXCAVATION METHODS

7.1 Trial Trenches

Stratigraphic evidence

7.1.1 All written and drawn records from the evaluation will be collated, checked for consistency and stratigraphic relationships. Key data will be transcribed into a database, which can be updated during any future analyses. The preliminary phasing of archaeological features and deposits will be undertaken using stratigraphic relationships and the spot dating from finds, particularly pottery.

7.1.2 A written description will be made of all archaeologically significant features and deposits that were exposed and excavated, ordered either by trench or by period as appropriate. Detail of all contexts will be provided in trench tables in the appendix of the report.

Finds evidence

7.1.3 All retained finds will, as a minimum, be washed (as appropriate), weighed, counted and identified . They will then be recorded to a level appropriate to the aims and objectives of the evaluation. Recording and reporting will conform to the Type 2 (Appraisal) level according to CIfA's *Toolkit for Specialist Reporting*, to include appropriate quantification, characterisation and assessment of significance and potential. The report will include a table of finds by feature/context or trench.

7.1.4 Metalwork from stratified contexts will be X-rayed and, along with other fragile and delicate materials, stored in a stable environment. The X-raying of objects and other conservation needs will be undertaken by an appropriate conservation centre.

7.1.5 Finds will be suitably bagged and boxed in accordance with the guidance given by the relevant museum and generally in accordance with the standards of the CIfA (2014b).

Environmental evidence

7.1.6 Bulk environmental soil samples will be processed by standard flotation methods. The residues will be fractionated into 5.6/4 mm and 1/0.5 mm and dried if necessary. The coarse residue fraction (>5.6/4 mm), and the fine fraction when appropriate, will be sorted and discarded, with any finds recovered given to the appropriate specialist. The flot will be retained on a 0.25 mm mesh and scanned to assess the range of environmental remains present and their preservation. Unsorted fine residues will be retained until after any analyses and discarded following final reporting (in accordance with the Selection policy, below).

7.1.7 In the case of samples from cremation-related deposits the flots will be retained on a 0.25 mm mesh, with residues fractionated into 4 mm, 2 mm and 1 mm. In the case of samples from inhumation burial deposits, the sample will be wet-sieved through 9.5 mm and 1 mm mesh sizes. The coarse fractions (9.5 mm) will be sorted with any finds recovered given to the appropriate specialist together with the finer residues.

7.1.8 Any waterlogged samples will be processed by standard waterlogged flotation methods.

7.1.9 Recording and reporting will conform to the Type 2 (Appraisal) level according to CIfA's *Toolkit for Specialist Reporting*, to include appropriate quantification, characterisation and assessment of significance and potential.

7.2 Test Pitting

Lithostratigraphic Evidence

7.2.1 All written and drawn records from the evaluation will be collated, checked for consistency.

7.2.2 Where possible, probable depositional environments, formation processes and chronology will be considered.

7.2.3 A written description will be made of all geoarchaeological deposits, ordered either by intervention and lithostratigraphy. Details of all lithostratigraphic contexts will be provided in tables in an appendix to the report.

Finds Evidence

7.2.4 All retained finds will, as a minimum, be washed, weighed, counted and identified (as appropriate). They will then be recorded to a level appropriate to the aims and objectives of the evaluation. The report will include a table of finds by lithostratigraphic context and/or intervention.

7.2.5 Metalwork from stratified contexts will be X-rayed and, along with other fragile and delicate materials, stored in a stable environment. The X-raying of objects and other conservation needs will be undertaken by an appropriate conservation centre.

7.2.6 Finds will be suitably bagged and boxed in accordance with the guidance given by the relevant museum and generally in accordance with the standards of the CIfA (2014b).

Palaeoenvironmental, Sedimentological and Scientific dating samples

7.2.7 Palaeoenvironmental and dating samples may be obtained during the evaluation. Where appropriate samples are identified, and which have the potential to contribute to the overarching aims and objectives of the evaluation, sample assessment and/or dating may be recommended. Recommendations will be made in the evaluation report.

7.3 Borehole Survey

Stratigraphic evidence

7.3.1 All written and drawn records from the evaluation will be collated, checked for consistency.

7.3.2 Where possible, probable depositional environments, formation processes and chronostratigraphic context will be considered.

7.3.3 Deposits will be preliminary phased using stratigraphic relationships, augmented with additional chronological information, if available.

7.3.4 A written description will be made of all geoarchaeological deposits, ordered by intervention. Detail of all contexts will be provided in tables in the appendix of the report.

Finds Evidence

7.3.5 All retained finds will, as a minimum, be washed, weighed, counted and identified. They will then be recorded to a level appropriate to the aims and objectives of the evaluation. Recording and reporting will conform to the Type 2 (Appraisal) level according to CIfA's *Toolkit for Specialist Reporting*, to include appropriate quantification, characterisation and assessment of significance and potential. The report will include a table of finds by feature/context or trench.

7.3.6 Metalwork from stratified contexts will be X-rayed and, along with other fragile and delicate

materials, stored in a stable environment. The X-raying of objects and other conservation needs will be undertaken by an appropriate conservation centre.

7.3.7 Finds will be suitably bagged and boxed in accordance with the guidance given by the relevant museum and generally in accordance with the standards of the CIfA (2014b).

Palaeoenvironmental assessment and scientific dating

7.3.8 Where appropriate deposits are identified in retained cores, and which have the potential to contribute to the overarching aims and objectives of the borehole survey, paleoenvironmental assessment and dating may be recommended.

7.3.9 This assessment may include a suite of complementary techniques comprising targeted and proportionate assessment of pollen, diatom, ostracod, plant macrofossil, molluscan and coleopteran remains, supported by radiocarbon and/or Optically Stimulated Luminescence (OSL) dating. Multiple techniques are typically assessed in accordance with Historic England guidelines on good practice in environmental archaeology (Historic England 2011) and geoarchaeology (Historic England 2015).

7.3.10 Detailed recommendations for assessment will be provided in the borehole survey report.

7.4 Deposit Modelling

7.4.1 Data obtained during the evaluation will be used to update the geoarchaeological deposits model for the Project provided in the prior GDBA (Wessex Archaeology 2023). Data will principally derive from geoarchaeological monitoring of GI, Palaeolithic test pitting evaluation and geoarchaeological borehole survey, but will be augmented with the results of the archaeological trial trenching as appropriate.

7.4.2 Deposit modelling identifies the range of Quaternary deposits that may be present in a defined area and maps their lateral extent and depth. The deposit modelling will be carried out in accordance with *Deposit modeling and archaeology: guidance for mapping buried deposits* (HE 2020).

7.4.3 Only lithostratigraphic records with sufficiently detailed descriptive terminology and location data (including surface elevation) will be included in the model.

7.4.4 All available data points will be entered into industry standard geological utilities software (Rockworks™ 23). Each stratigraphic unit will be given a colour and pattern allowing cross correlation and grouping of the different sedimentary units. The grouping of these deposits will be based on lithological descriptions, which define distinct depositional environments referred to as ‘stratigraphic units’ (e.g., Bedrock, Alluvium and Made Ground).

7.4.5 Outputs generated using RockWorks 23™ may include two-dimensional stratigraphic profiles (‘transects’) of selected interventions and/or models of surface height and/or thickness were generated using an inverse-distance weighted (IDW) algorithm for the stratigraphic units present.

7.4.6 The modelling algorithms employed in the creation of the outputs will be described in the methods section of the report. The results of the deposit modelling will be reviewed and utilised within the final report with a comment on data coverage and the limitations and practical use of the deposit model.

7.5 Geoarchaeological Landscape Characterisation

7.5.1 The results of the GI monitoring and evaluation will be used to provide an updated GLC for

VE provided in the prior GDBA (Wessex Archaeology 2023). The GLC works on the same principles as a Historic Landscape Characterisation (English Heritage 2004) and Landscape Character Assessment (Natural England 2014), but in this case largely considers the shallow buried and outcropping superficial geological elements of the landscape.

7.5.2 The GLC will considers variations in the Quaternary geology across the site, sub-dividing the evaluation into different Geoarchaeological Characterisation Zones (GCZs), where appropriate.

7.5.3 The GLC will provide an assessment of the archaeological and geoarchaeological potential of Quaternary deposits in each GCZ. It provides a framework for more precisely determining archaeological and geoarchaeological potential at a scale which can most effectively inform future decision making, including the formation of details for the mitigation strategy (to offset the impact of the proposals on the geoarchaeological resource); or a management strategy to prevent impacts.

8 REPORTING

General

8.1.1 Following completion of the Phase 2 fieldwork and the subsequent evaluation of the stratigraphic, artefactual and ecofactual evidence, draft reports will be submitted for approval the relevant planning authority (via their historic environment advisors), for comment. Once approved, a final version will be submitted.

8.1.2 The report will include the following elements:

- Non-technical summary;
- Project background;
- Archaeological and historical context;
- Aims and objectives;
- Methods;
- Results – stratigraphic, finds and environmental;
- Conclusions in relation to the project aims and objectives, and discussion in relation to the wider local, regional or other archaeological contexts and research frameworks and recommendations for further work, as appropriate;
- Archive preparation and deposition arrangements;
- Appendices, including trench summary tables;
- Illustrations; and
- References.

8.1.3 A copy of the final report will be deposited with the HER, along with surveyed spatial digital data (.dxf or shapefile format) relating to evaluation.

8.1.4 This report will inform decision making with the archaeological curators as to the scope and extent of any further archaeological work required for formal mitigation to be undertaken as Phase 3.

Publication (Phase 4)

8.1.5 If no further mitigation works are undertaken, a report on the results of the evaluation will be

prepared for publication in a suitable journal, if considered appropriate and agreed with The Applicant and the relevant planning authority (via their historic environment advisors).

8.1.6 In the event that further mitigation is required (Phase 3), consideration will be given to appropriate post-excavation analysis and the preparation of an appropriate programme of publication and dissemination. Details will be set out in a Written Scheme of Investigation to be agreed with the archaeological curators.

OASIS

8.1.7 An OASIS (online access to the index of archaeological investigation) record (http://oasis.ac.uk) will be created, with key fields completed, and a .pdf version of the final report submitted. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service (ADS) ArchSearch catalogue.

8.1.8 An OASIS sheet shall be completed at the end of the project and supplied to the relevant planning authority (via their historic environment advisors). This will be completed in digital form. A copy should also be emailed to the Hon. Editor of the Essex Archaeology and History Journal for inclusion in the annual round-up of projects in the Journal.

9 ARCHIVE STORAGE AND CURATION (Phase 4)

9.1 Museum

9.1.1 It is recommended that the project archive resulting from the evaluation be deposited with Colchester Museum. Provision has been made for the cost of long-term storage in the post-fieldwork costs. The museum will receive notification of the project prior to fieldwork commencing. A Site code for the evaluation will be obtained from the relevant planning authority (via their historic environment advisors).

9.2 Transfer of title

9.2.1 On completion of the evaluation (or extended fieldwork programme), every effort will be made to persuade the legal owner of any finds recovered (i.e., the landowner), with the exception of human remains and any objects covered by the *Treasure Act 1996*, to transfer their ownership to the museum in a written agreement.

9.3 Preparation of archive

Physical archive

9.3.1 The complete physical archive, which may include paper records, graphics, artefacts, and ecofacts, will be prepared following the standard conditions for the acceptance of excavated archaeological material by Colchester Museum, and in general following nationally recommended guidelines (Brown 2011; CIfA 2014b; SMA 1995). The archive will usually be deposited within one year of the completion of the project, with the agreement of The Applicant.

Digital archive

9.3.2 The digital archive generated by the project will be deposited with a Trusted Digital Repository, in this instance the Archaeology Data Service (ADS), to ensure its long-term curation. Digital data will be prepared following ADS guidelines (ADS 2013 and online guidance) and accompanied by metadata.

9.4 Selection strategy

9.4.1 It is widely accepted that not all the records and materials (artefacts and ecofacts) collected

or created during the course of an archaeological project require preservation in perpetuity. These records and materials will be subject to selection in order to establish what will be retained for long-term curation, with the aim of ensuring that all elements selected to be retained are appropriate to establish the significance of the project and support future research, outreach, engagement, display and learning activities, i.e., the retained archive should fulfil the requirements of future researchers and the receiving Museum.

9.4.2 The selection strategy, which details the project-specific selection process, is underpinned by national guidelines on selection and retention (Brown 2011, section 4) and generic selection policies (SMA 1993) and follows CIfA's *Toolkit for Selecting Archaeological Archives*. It should be agreed by all stakeholders and fully documented in the project archive.

9.4.3 In this instance, given that the level of finds recovery is expected to be relatively low, decisions on selection will be deferred until after the fieldwork stage, and no detailed strategy is presented here. Any material not selected for retention may be used for teaching or reference collections by the museum, or by Wessex Archaeology.

9.5 Security copy

9.5.1 In line with current best practice (e.g., Brown 2011), on completion of the project a security copy of the written records will be prepared in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.

10 FURTHER MITIGATION STRATEGY

10.1 Introduction

10.1.1 The overall approach to mitigation options is set out within the AMS, and decisions will be made based on significance of archaeological remains concerned, in consultation with the archaeological curators. A formal review will be undertaken at the completion of the proposed Phase 2 works (or any sub-phase as required), informed by the report on Phase 2 evaluation (this report to be provided to the archaeological consultees in advance of discussions on Phase 3), as stated in the AMS and in section 10.3 below.

10.1.2 Preservation in situ and preservation by record are the two options by which impacts to archaeological remains can be mitigated. Preservation in situ is the conservation of an archaeological asset in their original location and is the preferred method of conservation for assets of national or international significance in accordance with best practice. Preservation by record through archaeological and geoarchaeological investigation is the process by which archaeological and geoarchaeological remains are excavated and sampled, recorded, assessed, analysed and published to offset the construction effects and to disseminate information to the public.

10.2 Mitigation Strategy OnSS Area

10.2.1 Archaeological assessment of the OnSS area has been undertaken to inform the Environmental Statement. Dependent upon the final location of the OnSS, depth of the works and associated activities works may be required to mitigate the effects of the proposals. Detailed recommendations for mitigation work that may be required are provided in evaluation reports (Wessex Archaeology 2023). In summary, recommendations made comprise:

- Geoarchaeological stepped test pits with associated sampling, sample assessment,

dating and, if required, analysis to investigate in detail selected Pleistocene deposits with uncertain Palaeolithic geoarchaeological potential.

- Purposive geoarchaeological borehole survey and/or geoarchaeological monitoring of GI boreholes to investigate Pleistocene deposits >3.20 m bgl.
- Palaeoenvironmental assessment and, if required, analysis of geoarchaeological samples recovered during evaluation;
- Strip, map sample excavation of defined areas such as the possible Roman Road or area around the cremation burial, should these areas be subject to below ground impacts.

10.2.2 The need for and scale of the mitigation works will be developed following the detailed design phase once the below ground impacts in this area are known. Areas for test pitting, borehole survey or excavation, within the OnSS area will be defined through a Written Scheme of Investigation approved by the relevant planning authority under requirement.

10.3 Mitigation Strategy (outline)

10.3.1 Once the evaluation of the Onshore ECC is complete and combined with the existing information gathered pre-determination, the mitigation strategy can be refined based on the results of the investigations. The details and scope of these further works will be discussed with the relevant planning authority (via their historic environment advisors) and detailed WSIs will be produced. Where there is still some flexibility with design through the Rochdale Envelope, the results of the evaluation will be used to inform detailed design of the elements not yet finalised, where applicable. Mitigation could comprise;

- Excavation- undertaken in areas where significant archaeology has been identified through evaluation;
- Detailed geoarchaeological recording, sampling and dating of deposits identified through evaluation;
- Preservation in situ- as described above where archaeological remains of national or international significance are identified and where it is practicable to do so;
- Amendments to design- the Rochdale envelope allows for some degree of flexibility within certain aspects of the design (such as micrositing within the Onshore ECC or the use of trenchless technologies to cross features). Potential archaeological concerns will be considered during the finalisation of the detailed design;
- Archaeological monitoring programme - a programme of monitoring (watching brief) on groundworks during construction in areas where the archaeological potential is considered to be low.

10.3.2 The design of the mitigation will be informed by the construction programme, so that appropriate techniques can be programmed (either before or during construction) without causing delay to the construction programme. Ideally as much of the mitigation as possible would be carried out prior to the main construction phase to minimise delays during construction.

10.3.3 All phases of mitigation would be subject to one or more detailed WSIs informed by earlier phases of work and consultation with the relevant planning authority (via their historic environment advisors).

10.4 Excavation Methodology

10.4.1 In accordance with the CIfA guidance Standards and Universal Guidance for Archaeological Excavation (2023b), the general aims of the archaeological excavation will be to:

- Further define the features identified during the evaluation;
- Examine the archaeological resource within the Order Limits;
- Seek a better understanding of and compile a lasting record of the resource, within a defined framework of research objectives; and
- Analyse and interpret the results and disseminate them.

10.4.2 Archaeological excavation should entail:

- Removal of the topsoil or made ground under archaeological supervision to either the subsoil or first archaeological horizon;
- Hand cleaning of archaeological deposits to identify the extent of discrete features. Features should be surveyed, photographed and recorded;
- Sampling techniques and sizes will be set out within the WSI but this could include sections of circular or linear features, quadrants of large circular features. Features would be hand excavated to record internal stratigraphy and for artefact recovery. Typical sample based excavations involve hand excavation of 50% of discrete features and 20-25% of linear features;
- Certain types of features (burials, hearths, stratified remains or significant features) may be hand excavated in their entirety by the archaeologist and recorded; and
- Palaeoenvironmental sampling of buried soil horizons and bulk sampling of certain deposits will also be undertaken to retrieve additional evidence.

10.4.3 The depth and complexity of archaeological deposits across the site will be assessed. Sections shall be positioned to record accurate cross section profiles of any remains and to identify structural/phasing sequences (for example terminus and intersections).

10.4.4 The spot height of all principal features and levels will be calculated in meters relative to Ordnance Datum, correct to two decimal places. Plans, sections and elevations will be annotated with spot heights as appropriate.

10.4.5 Should prehistoric lithic scatters. including those of Palaeolithic date, be identified through evaluation, any required excavation should be carried in accordance with a WSI that conforms to Historic England guidance ‘Managing Lithic Scatters and Sites’ (consultation draft) and ‘Advice on Excavation and Recording of Lithic Scatters’ (Pope, 2016).

10.4.6 A full photographic record will be maintained using digital images, to include detailed views of archaeological features and deposits, the general context of archaeological remains and to record the progress of the investigations, including images potentially suitable for use in publicity material.

10.4.7 Metal detectors may be used as appropriate to scan stripped surfaces and archaeological features prior to and during excavation as appropriate, and to scan spoil heaps where practicable.

10.4.8 Details of the methods and types of samples to be taken would be specific to the excavation and would be provided in the detailed WSI for the work.

10.5 Geoarchaeological sampling, sampling assessment and analysis

10.5.1 Appropriate methods of geoarchaeological sampling are dependent on sampling requirements but could include stepped test pits or trenches for controlled recovery of

artefacts, and/or palaeoenvironmental and dating samples or targeted boreholes to recover palaeoenvironmental and dating samples. Geoarchaeological sampling, sample assessment and, if required, analysis is usually subject to a staged program of investigation, with detailed requirements determined at each stage.

10.5.2 Mitigative geoarchaeological works should be carried out in accordance with a WSI that conforms to Historic England guidance 'Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record' (2015b) and 'Curating the Palaeolithic' (2023).

10.6 Archaeological Monitoring and Recording

10.6.1 Archaeological Monitoring and Recording is a programme of observation, investigation and recording of archaeological remains discovered during the construction of the proposed development. It is used where archaeological remains have not been identified during the earlier stages of assessment but where there remains potential for archaeological remains to exist. The ground works would be monitored by an archaeologist and as such the method of working would not be directly controlled by the archaeologist (unless significant discoveries were made).

10.6.2 Both types described below involve monitoring attendance to observe the ground works and investigate and record archaeological remains observed during the works.

10.6.3 All work would be carried out in accordance with the CIfA Standards and Guidance for Archaeological Monitoring and Recording (2023c). Should a programme of archaeological monitoring (watching brief) be required the scope and methods would be agreed via a Written Scheme of Investigation approved by the relevant planning authority under requirement. This would agree the scope, methods, recording and sampling strategy to be used for the Archaeological Monitoring and Recording.

11 HERITAGE INTERPRETATION AND COMMUNITY ENGAGEMENT

11.1.1 Public benefit and engagement with the community could help to offset some of the physical effects of the development proposals. This would enhance the public value and engagement with the historic environment, contribute to place-making and provide information to the public on the special archaeological and historic interest of the area. The form of the community engagement will be dependent upon the findings of the investigations but some options could include:

- School workshops, activities and loan boxes;
- Workshops for local groups including finds handling and Q&A sessions;
- Guided site tours while archaeological investigations are in progress;
- Lectures and talks to local community groups to include both professional archaeologists and specialists;
- Ongoing blogs/vlogs or social media updates as the works progress;
- Information for use by The Applicant for newsletters, web content or media (social media or traditional media outlets);
- Provision of content for third party publishers (TV companies/Journalists);
- Displays and exhibitions in the local area either permanent or temporary; and/or
- Volunteer or student placements.

12 PROTOCOL FOR UNEXPECTED ARCHAEOLOGICAL DISCOVERIES

12.1.1 As set out in the AMS, a protocol for unexpected discoveries will be set out and agreed with the archaeological curators. This protocol will be briefed out to contractors under the CoCP. All of the Principal Contractor's site staff will be informed of its content and how it is to be complied with.

12.1.2 The purpose is to allow archaeological intervention in the event that an unexpected archaeological discovery is made during the construction works, including in areas that have been "signed-off" by the Archaeological curators and released for construction.

12.1.3 This is in addition to any statutory reporting duties that apply, such as reporting any finds that qualify as "treasure" for purposes of the Treasure Act 1996 and the Treasure (Designation) (Amendment) Order 2023, or in the event of the discovery of potentially human remains.

12.1.4 In outline, the Protocol will set out that should site staff encounter potential archaeological remains during ground works, that this should be reported to an agreed contact (such as the Principal Contractor's, environmental manager, the Project Archaeologist (if still present on site) or other nominated party. Works should cease at that location and the remains protected, until a qualified person can assess the find.

12.1.5 In the event that an archaeological find is confirmed, the archaeological curators will be informed, so that appropriate arrangements for recording (or preservation in exceptional circumstances) can be agreed and implemented.

12.1.6 In the event that specific recording and/or preservation in situ works are required, details will be provided in a Written Scheme of Investigation for agreement, in accordance with the processes outlined in the AMS. Any finds/sites that are identified under the Protocol will be incorporated into the Phase 3 Mitigation programme (depending at what stage the in the construction programme the find is made) and the Phase 4 Post-excavation and publication programme in line with the AMS.

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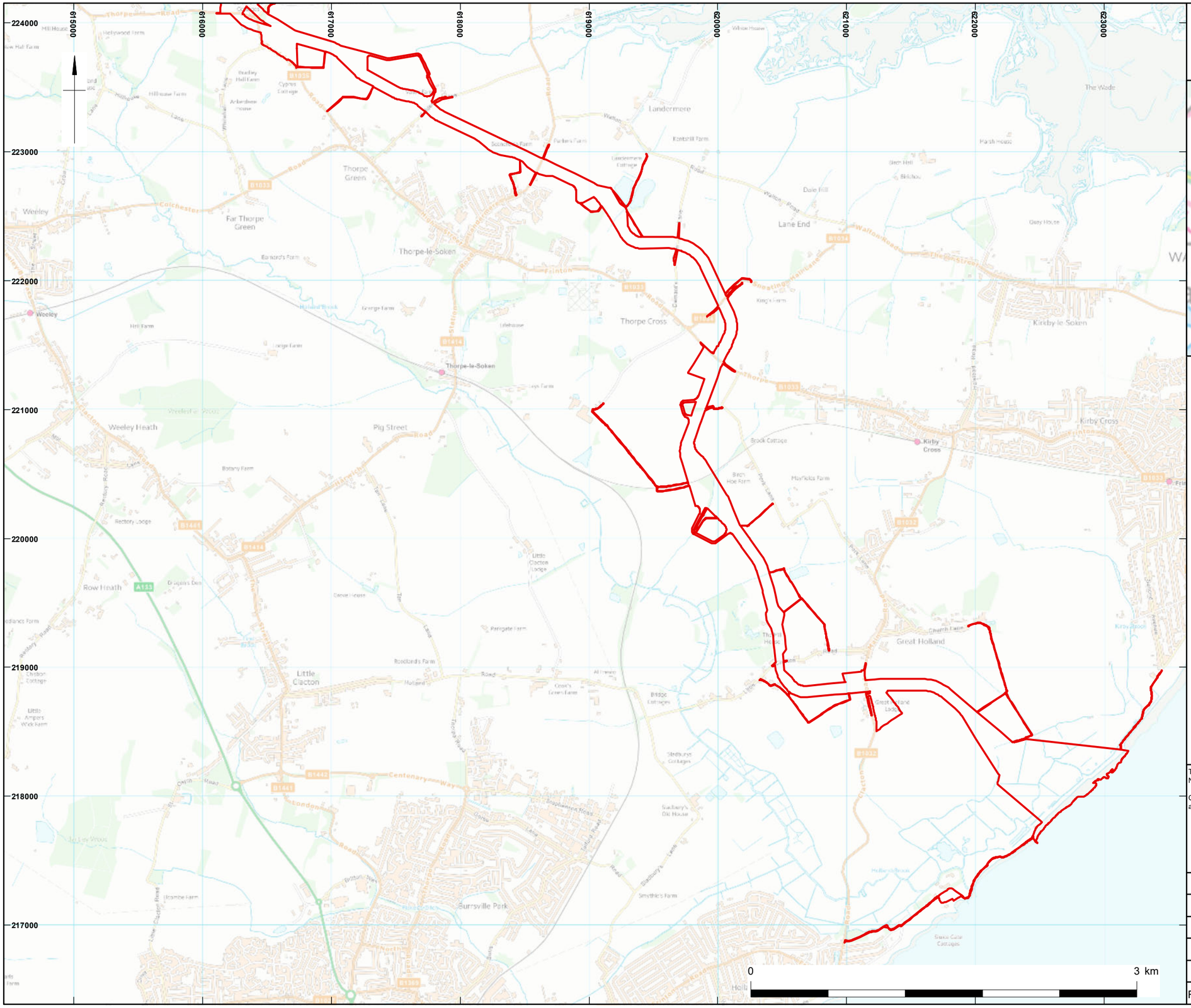

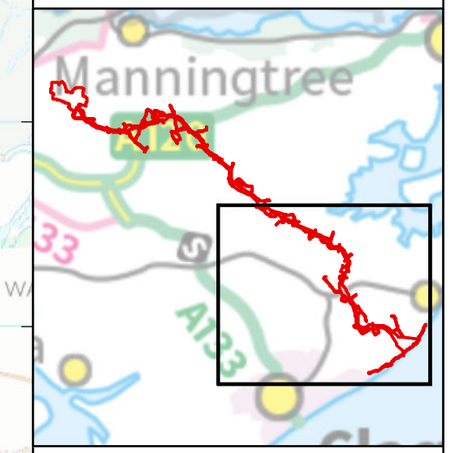

Proposed Order Limits

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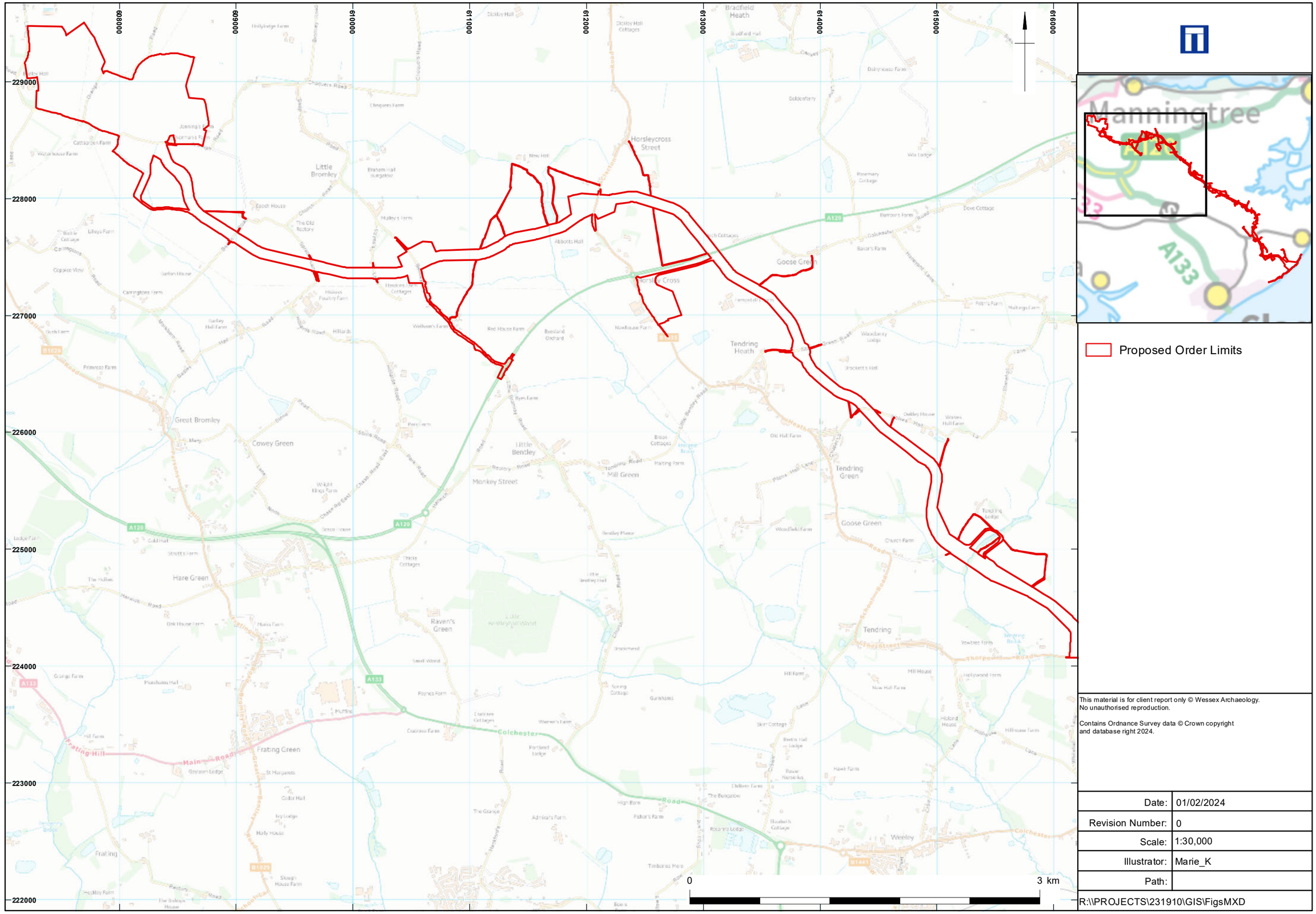
Proposed Order Limits Location Plan

Figure 1A



Proposed Order Limits Location Plan

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Figure 1B

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610000
615000
620000
230000
225000
220000
215000

GCZ 8
GCZ 8a
GCZ 8b
GCZ 7
GCZ 6
GCZ 5
GCZ 4
GCZ 4a
GCZ 3
GCZ 3b
GCZ 3a
GCZ 2
GCZ 1

Lawford
Bradfield
Foxash Estate
Bradfield Heath
Ramsey
Little Oakley
Wix
Wix Green
Great Oakley Airfield
Great Oakley
Little Bromley
Burnt Heath
Bromley Cross
Stones Green
Great Bromley
Little Bentley
Tendring Green
Beaumont
Elmstead Market
Tendring
Frating Green
Frating
Thorpe-le-Soken
Kirby-le-Soken
Great Bentley
Alresford
Weeley
Weeley Heath
Kirby Cross
Thorrington
Aingers Green
Great Holland
Little Clacton
Brightlingsea
St Osyth
Point Clear
Clacton-on-Sea

A120
B1352
B1029
B1033
B1035
B1414
B141A
B1032
B1442
B1027
A133

Proposed Order Limits
Geoarchaeological character zones

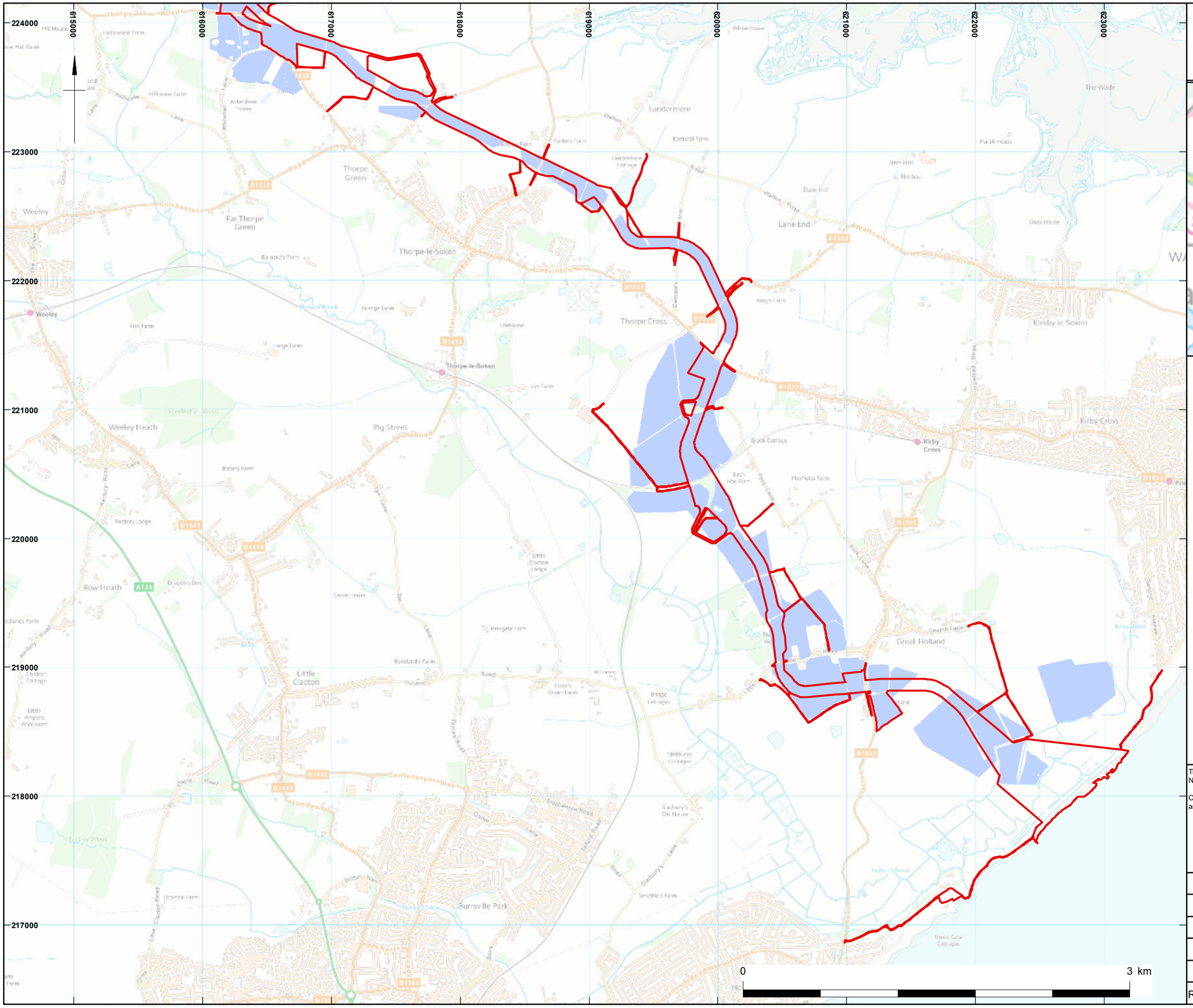
0 2 km

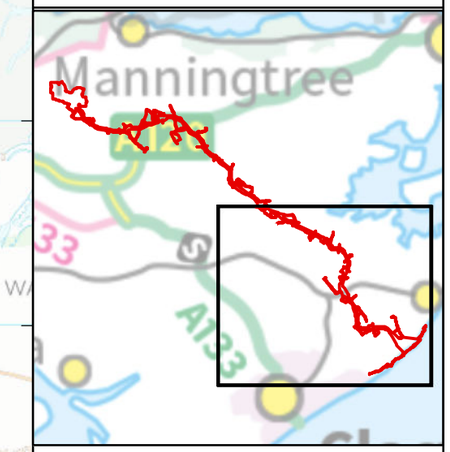
Coordinate system: OSGB 1936 British National Grid

Date: 05/01/2024 | Created by: AW

Scale: 1:60,000 at A3 | Revision: 0

Figure 2: Revised Geoarchaeological Character Zones (GCZs)





Proposed Order Limits

Survey Extent

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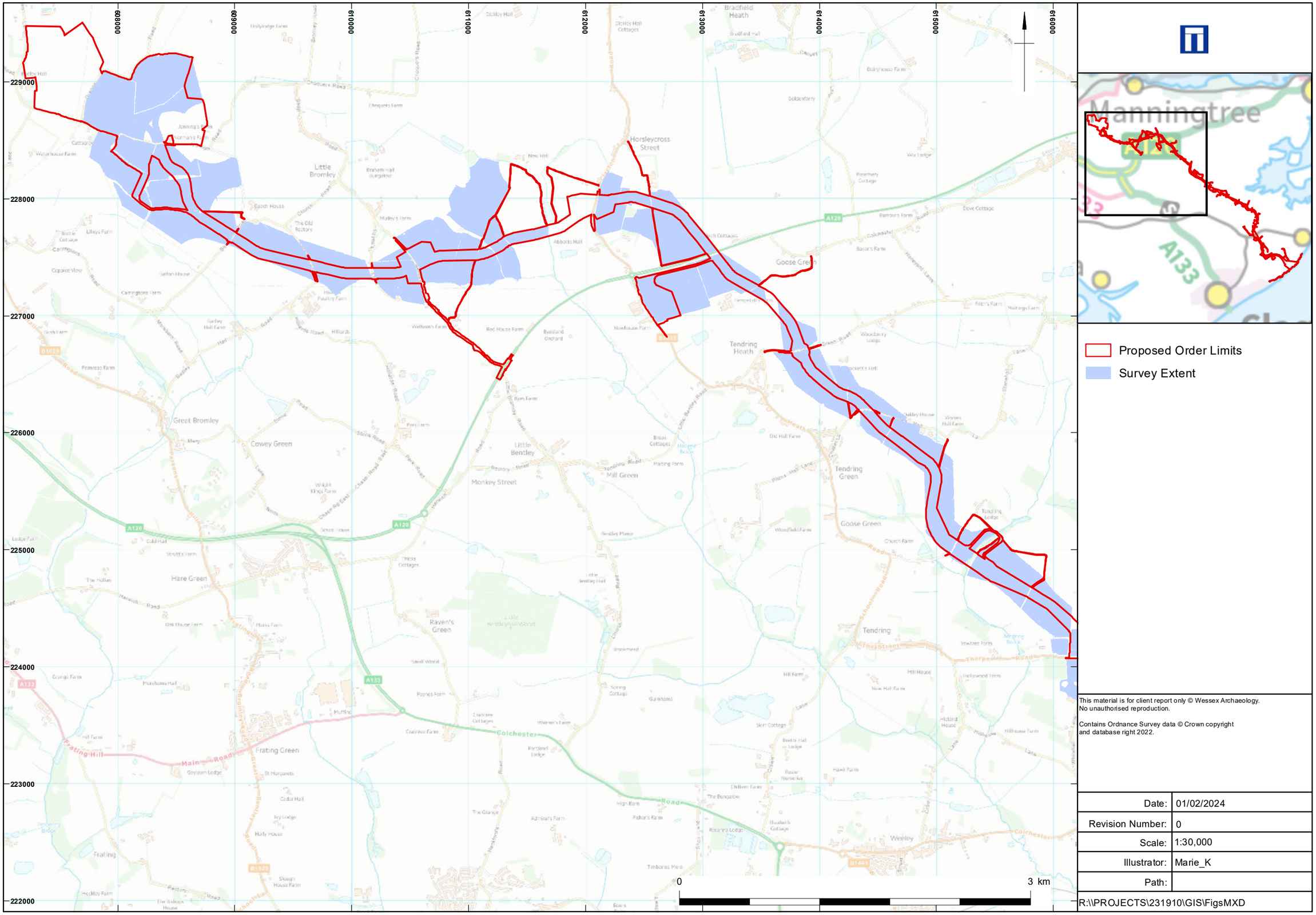
Completed areas of pre-consent geophysical survey

Figure 3A



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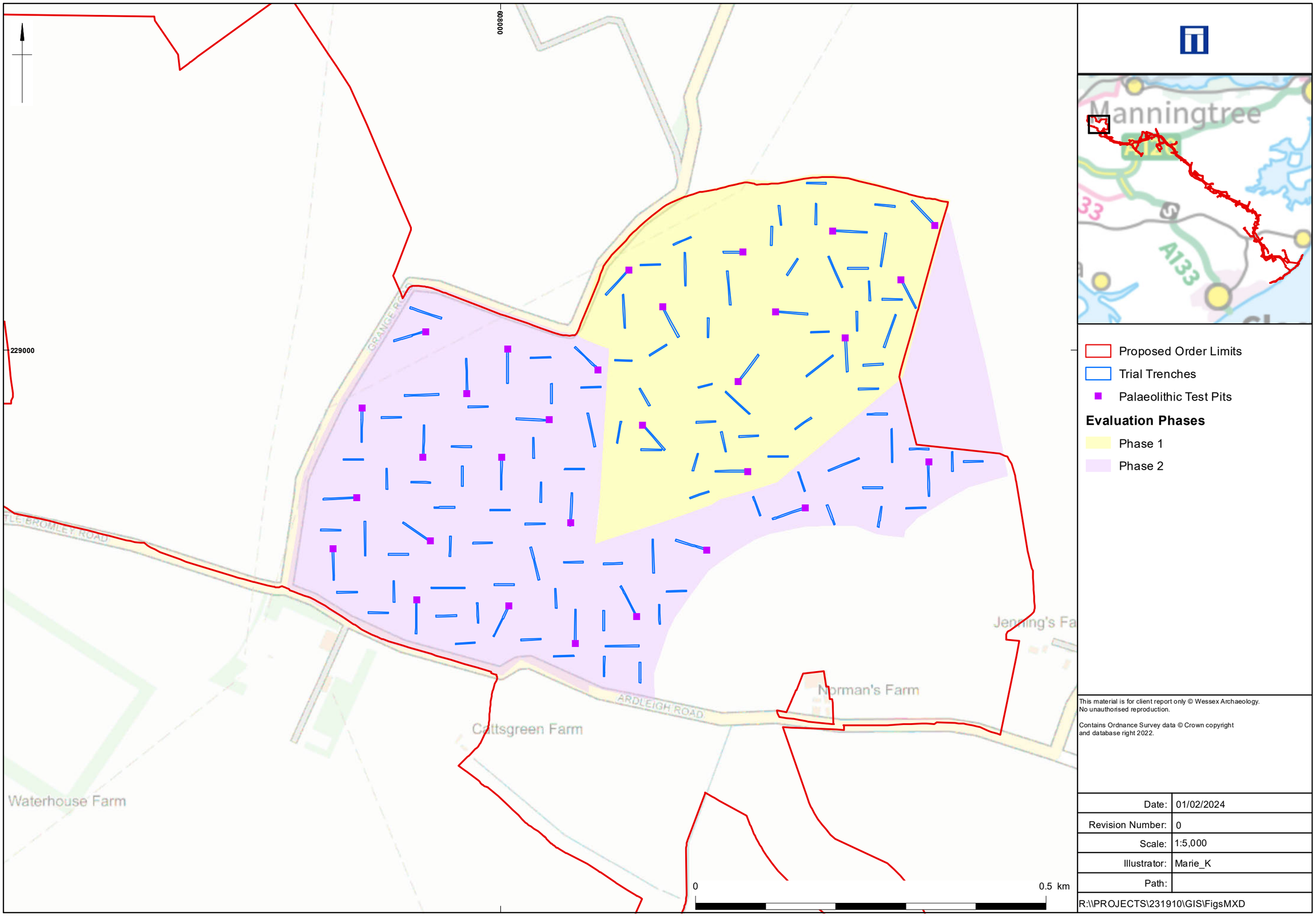
Completed areas of pre-consent geophysical survey

Figure 3B



Proposed Order Limits
Trial Trenches
Palaeolithic Test Pits

Evaluation Phases

Phase 1
Phase 2

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Revision Number:	0
Scale:	1:5,000
Illustrator:	Marie_K
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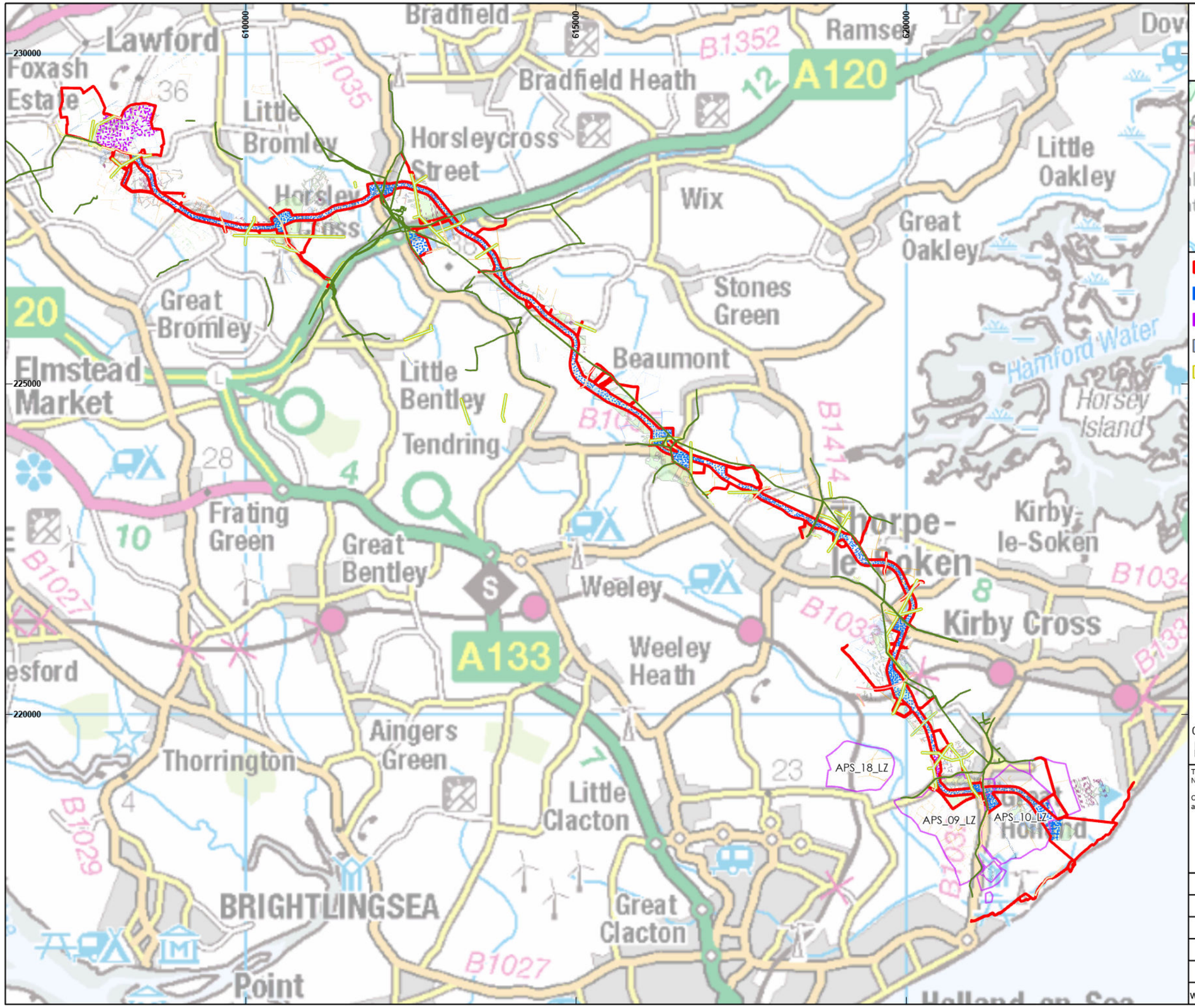
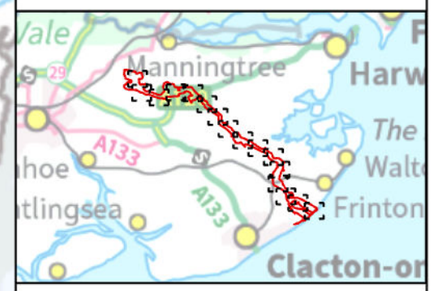
Completed pre-consent archaeological trial trenching and palaeolithic test pitting

Figure 4





Proposed Order Limits
Phase 2 Trenches
Phase 1 Trenches (Pre-consent)
Water Utilities Buffer
UK FES Emapsite Utiliy Buffers

0 2.5 km

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Revision Number:	0
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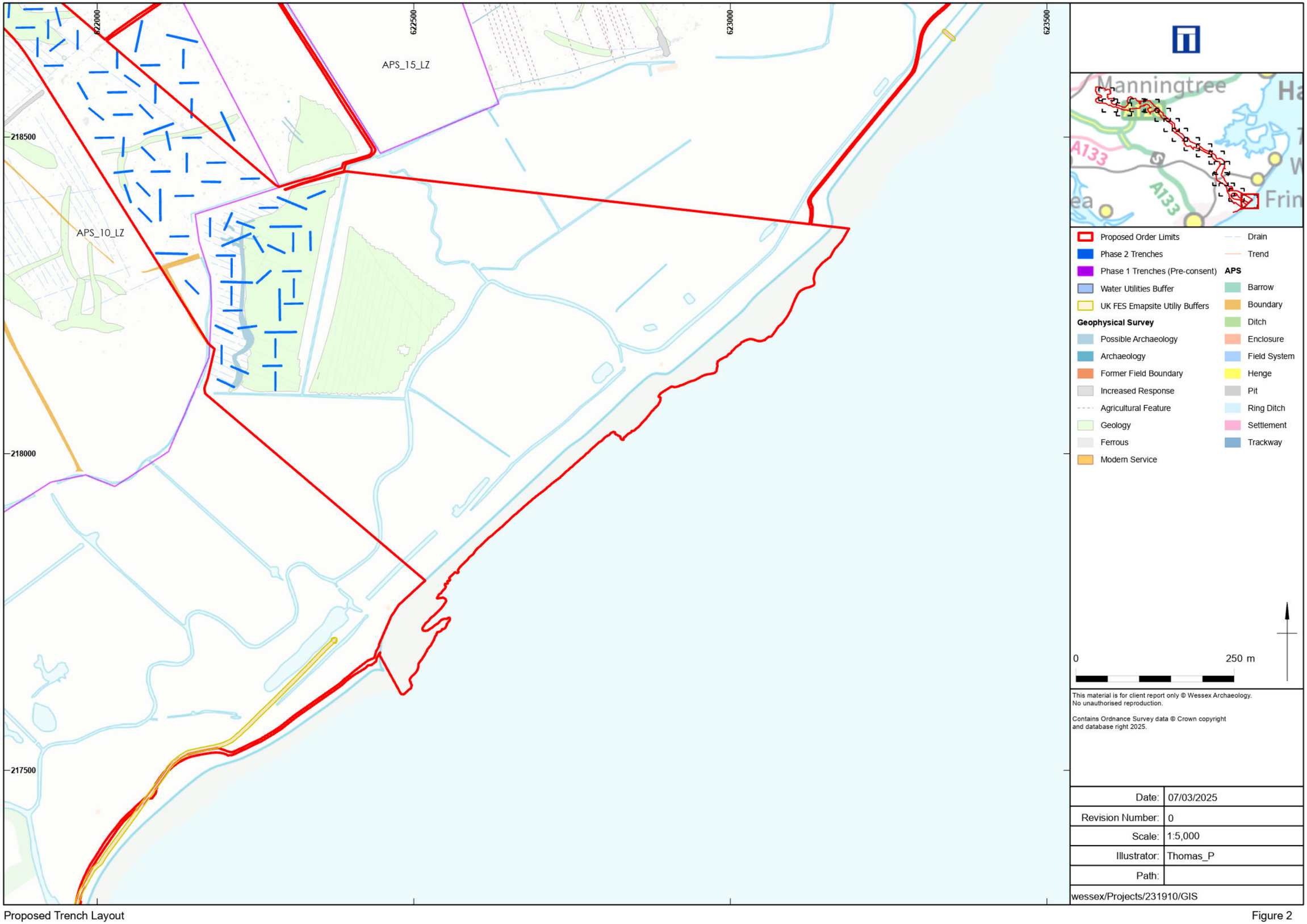
Proposed Trench Layout Key Sheet

Figure 1



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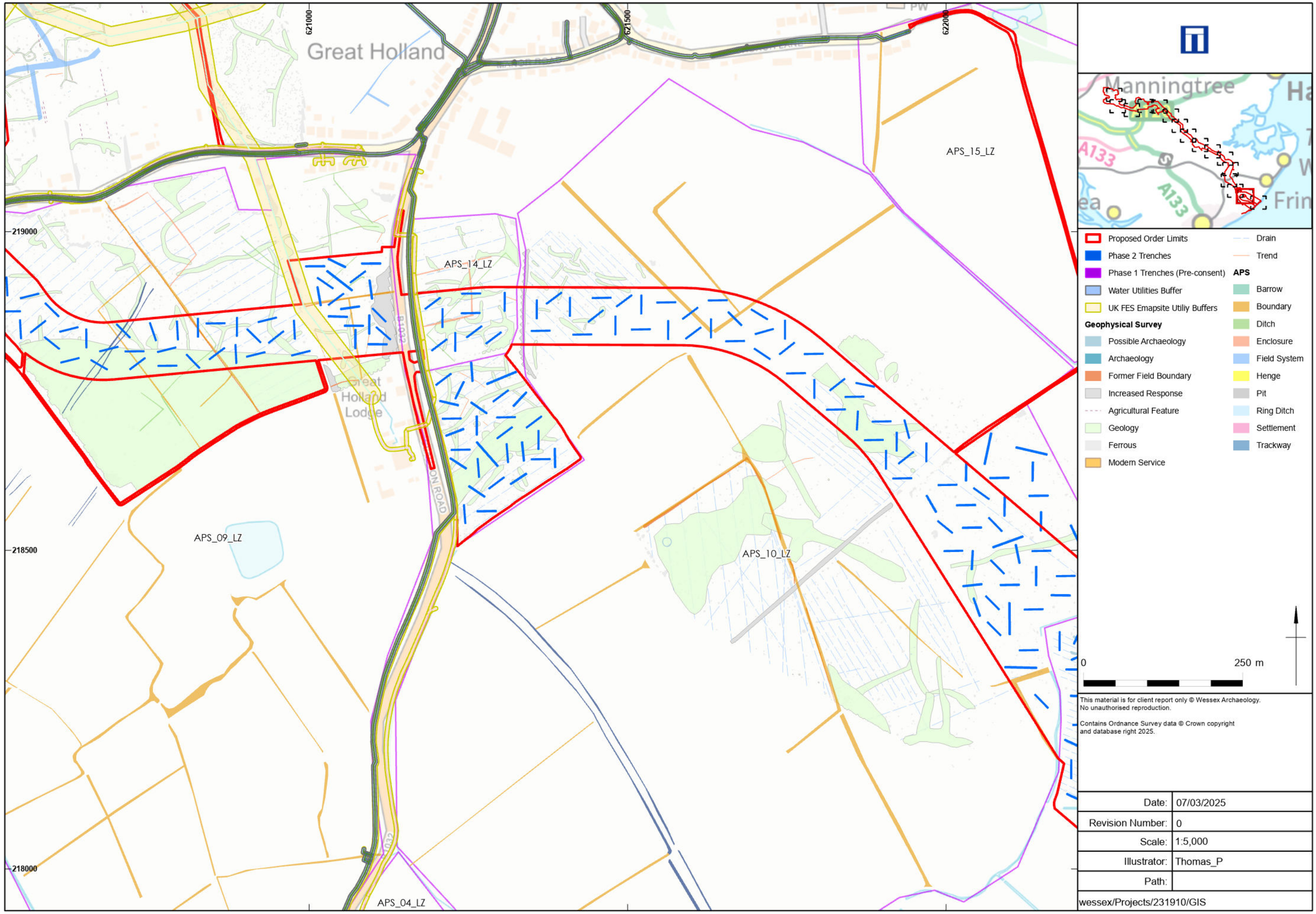
Proposed Trench Layout

Figure 2



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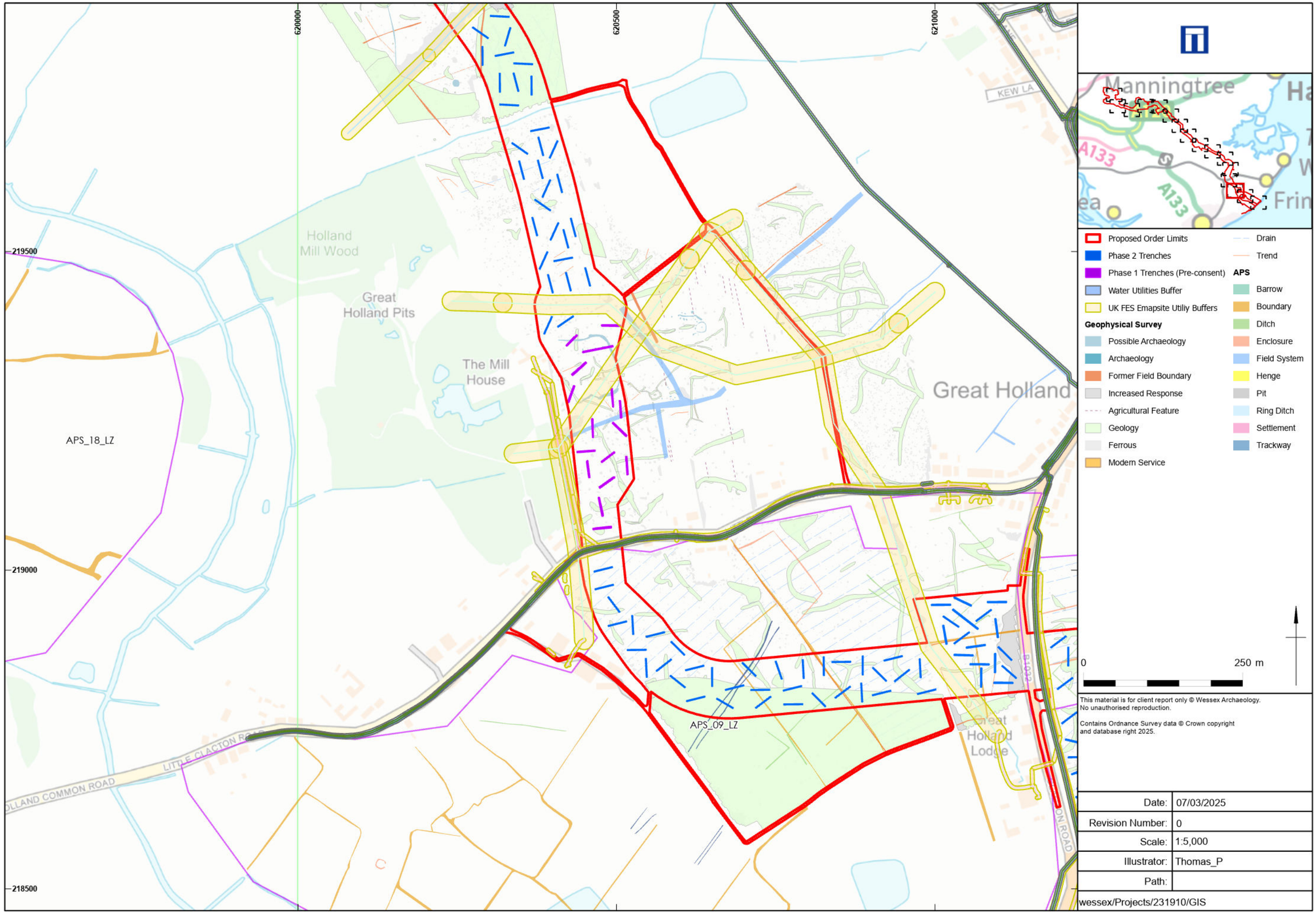
Proposed Trench Layout

Figure 3



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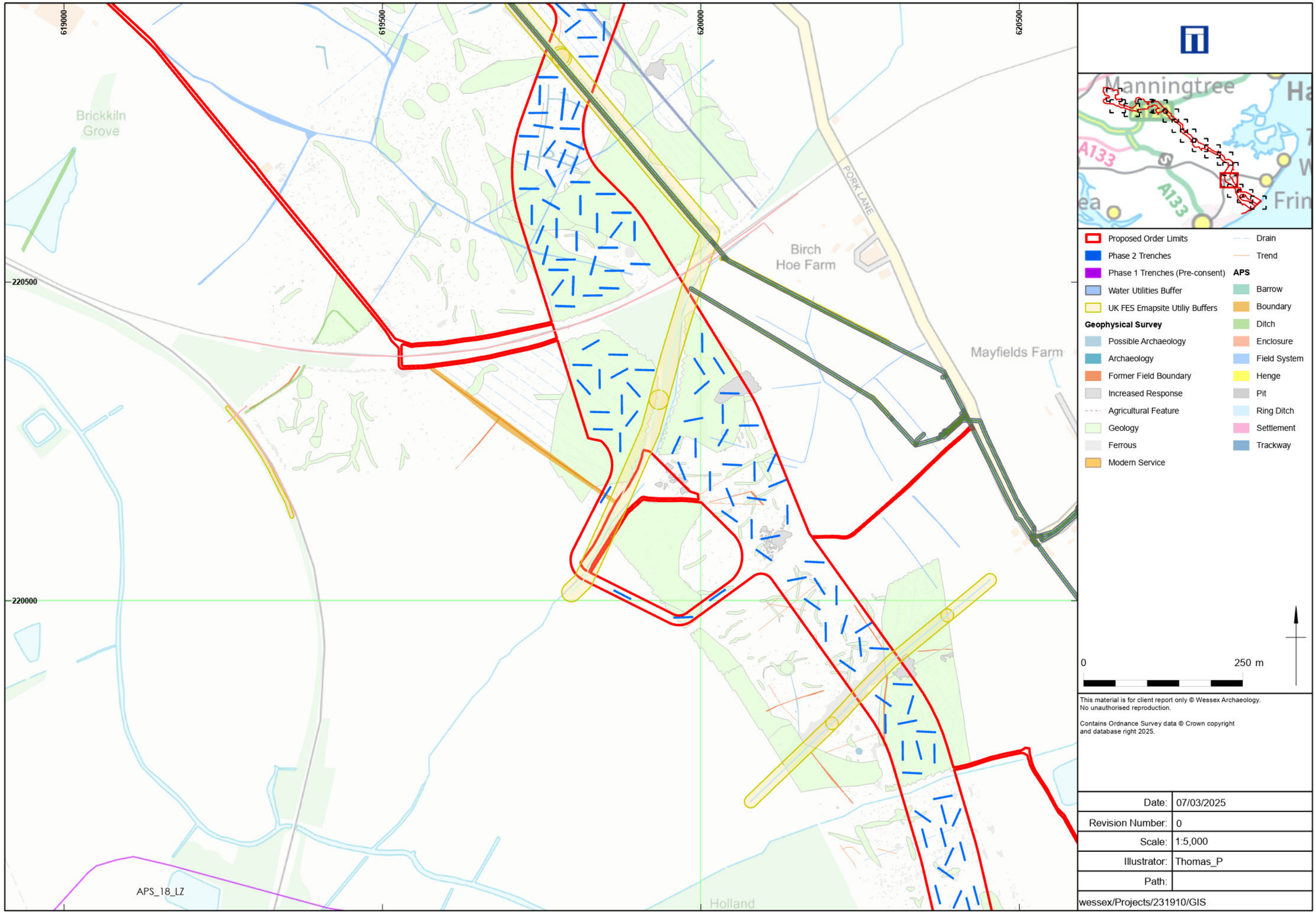
Proposed Trench Layout

Figure 4



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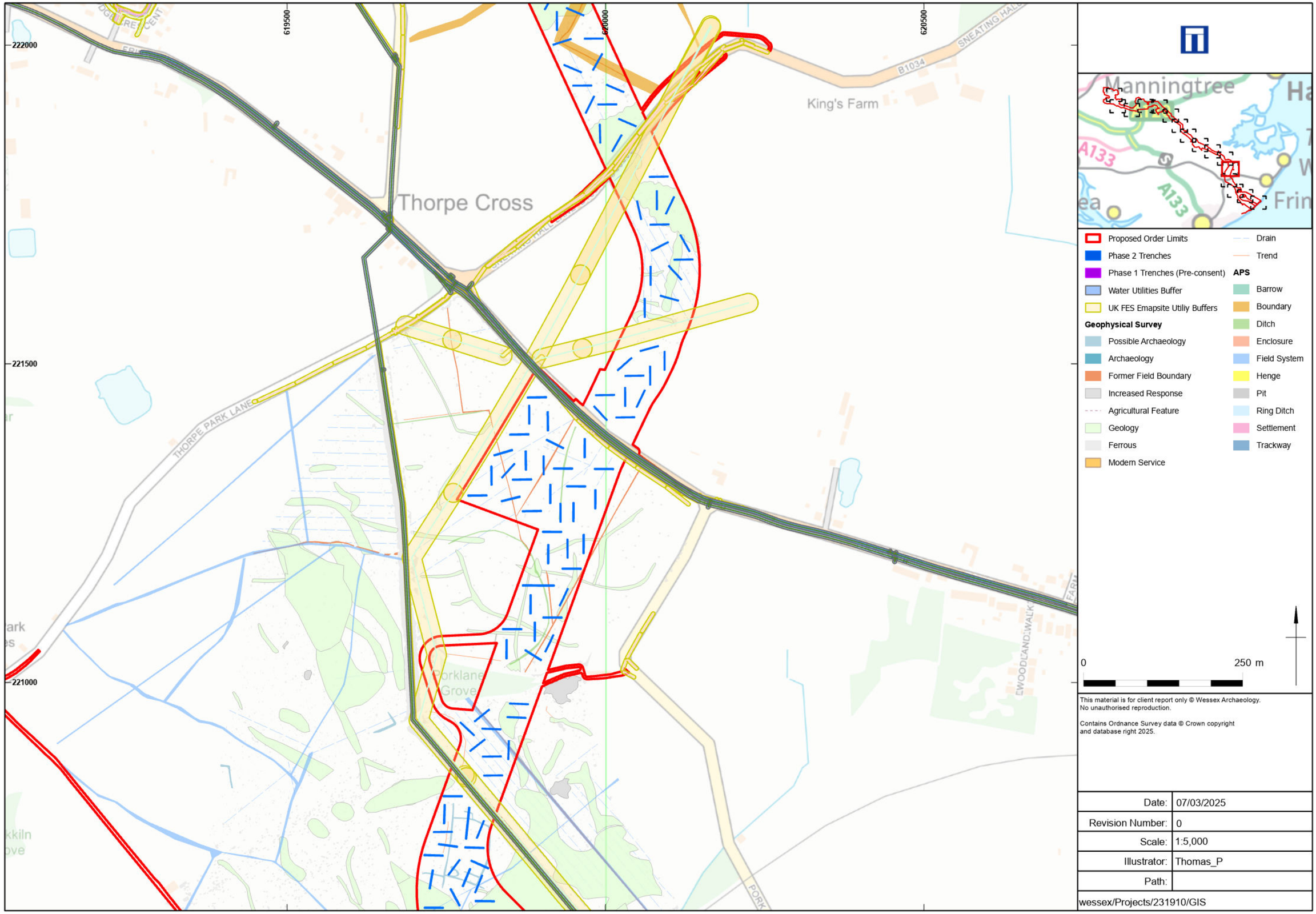
Proposed Trench Layout

Figure 5



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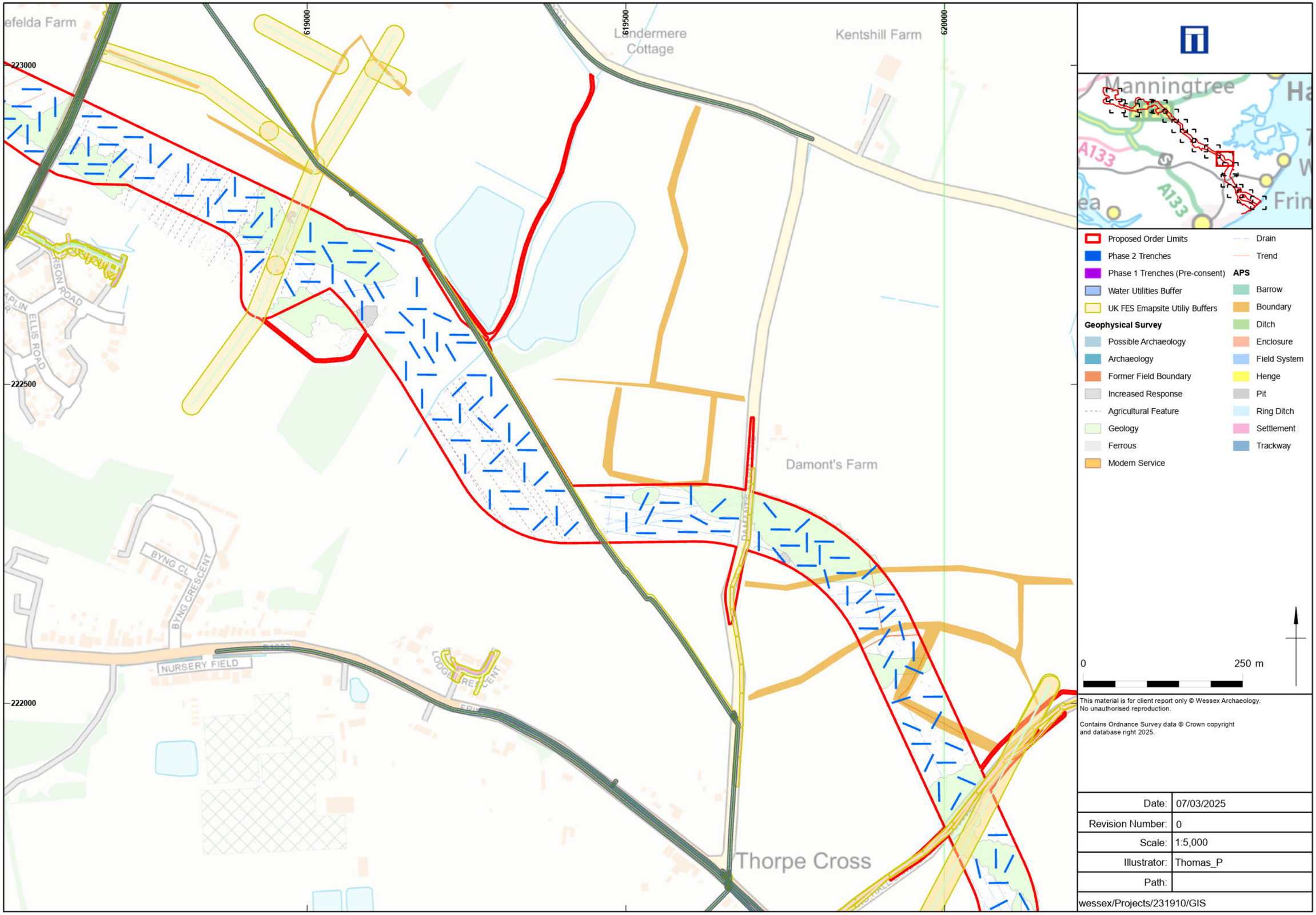
Proposed Trench Layout

Figure 6



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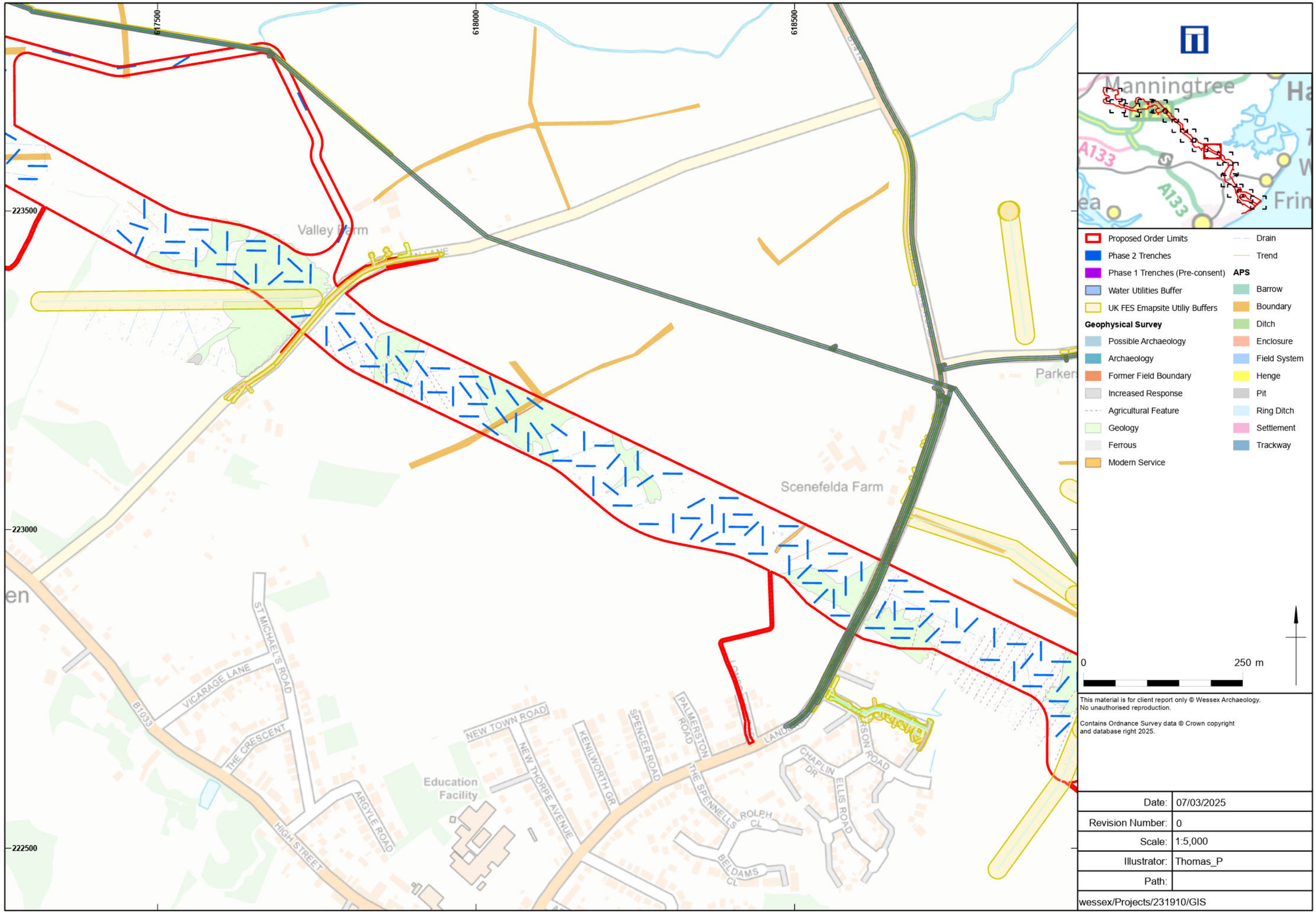
Proposed Trench Layout

Figure 7



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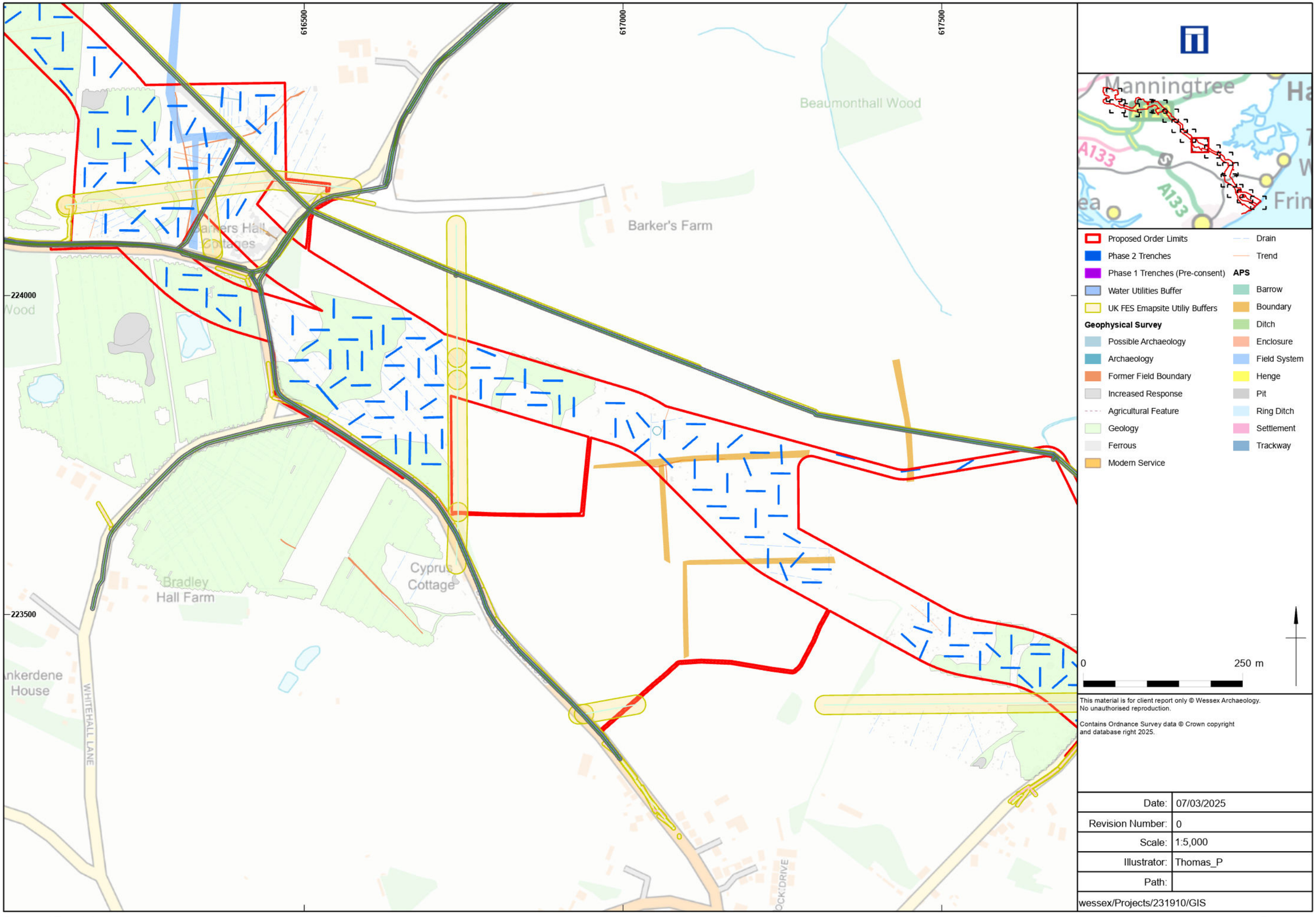
Proposed Trench Layout

Figure 8



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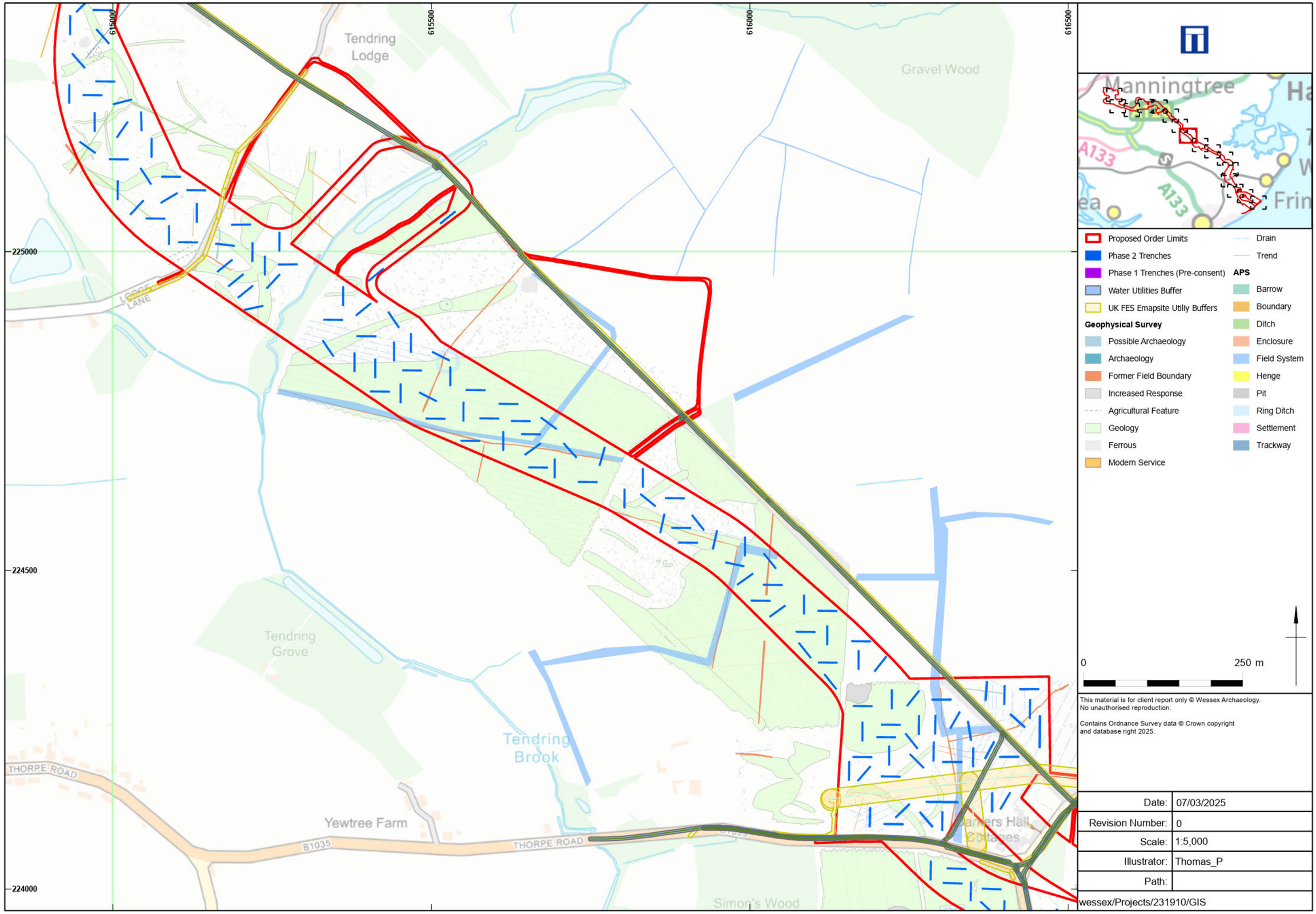
Proposed Trench Layout

Figure 9



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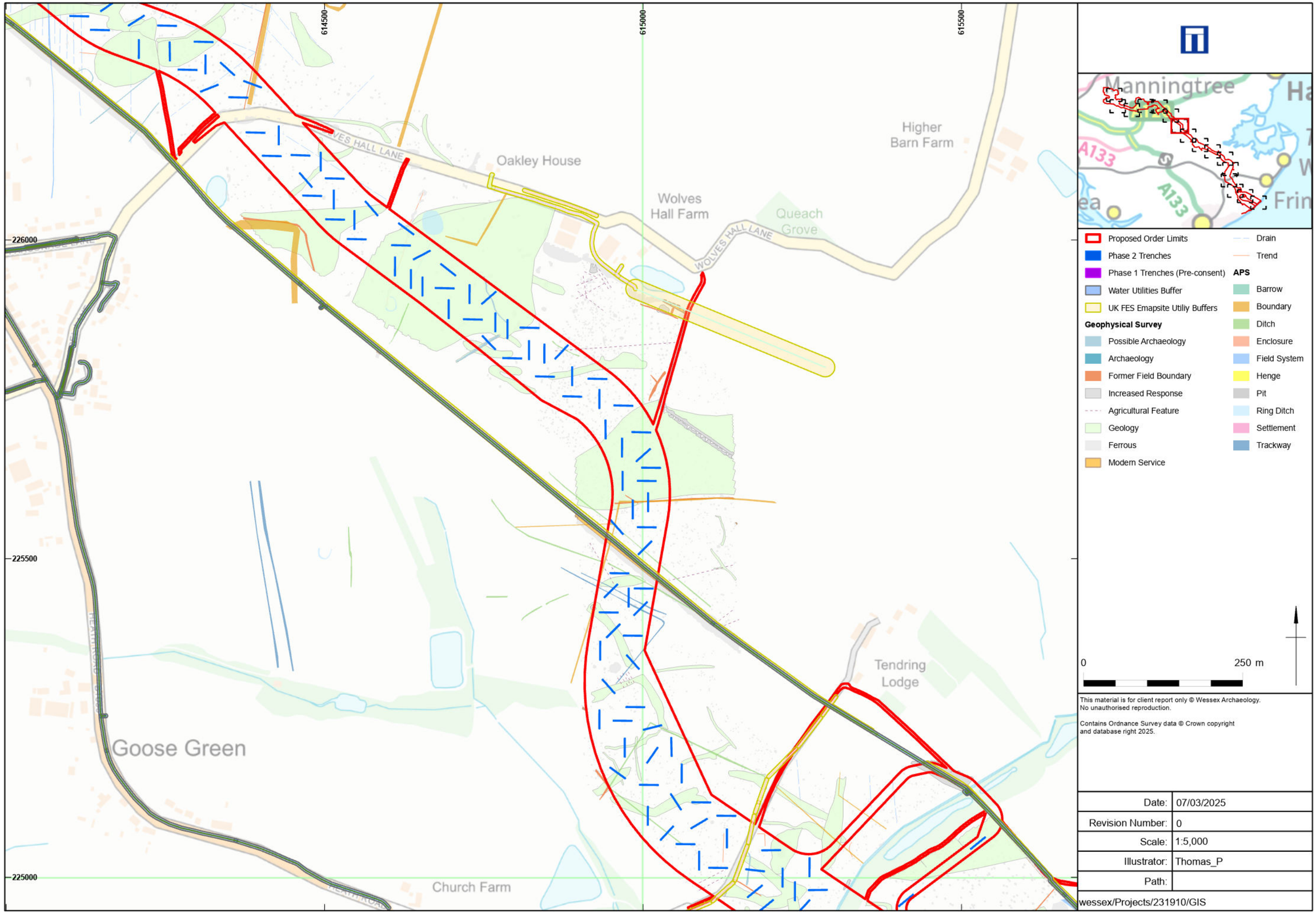
Proposed Trench Layout

Figure 10



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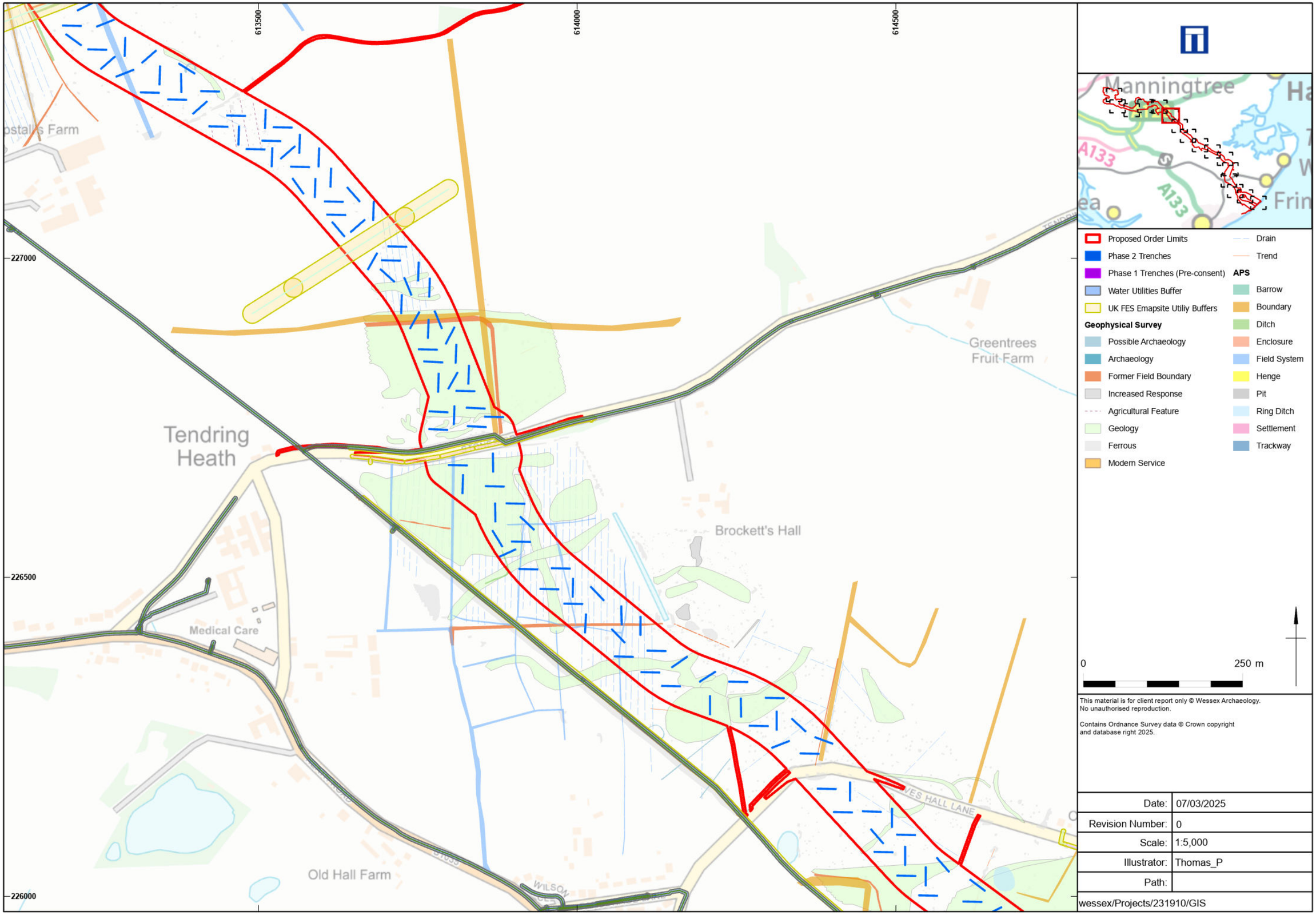
Proposed Trench Layout

Figure 11



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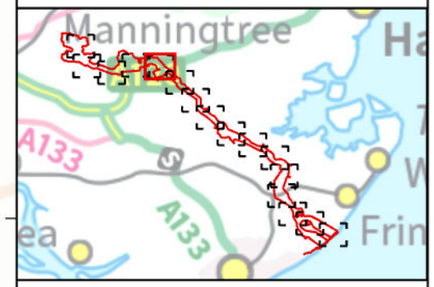
Proposed Trench Layout

Figure 12

612000
612500
613000
613500
228000
227500
227000
A120
Arch Cottages
Horsley Cross
Hempstalls Farm
Newhouse Farm



- Proposed Order Limits
- Phase 2 Trenches
- Phase 1 Trenches (Pre-consent)
- Water Utilities Buffer
- UK FES Emapsite Utiliy Buffers

Geophysical Survey

- Possible Archaeology
- Archaeology
- Former Field Boundary
- Increased Response
- Agricultural Feature
- Geology
- Ferrous
- Modern Service
- Drain
- Trend

APS

- Barrow
- Boundary
- Ditch
- Enclosure
- Field System
- Henge
- Pit
- Ring Ditch
- Settlement
- Trackway

0 250 m

Date:	07/03/2025
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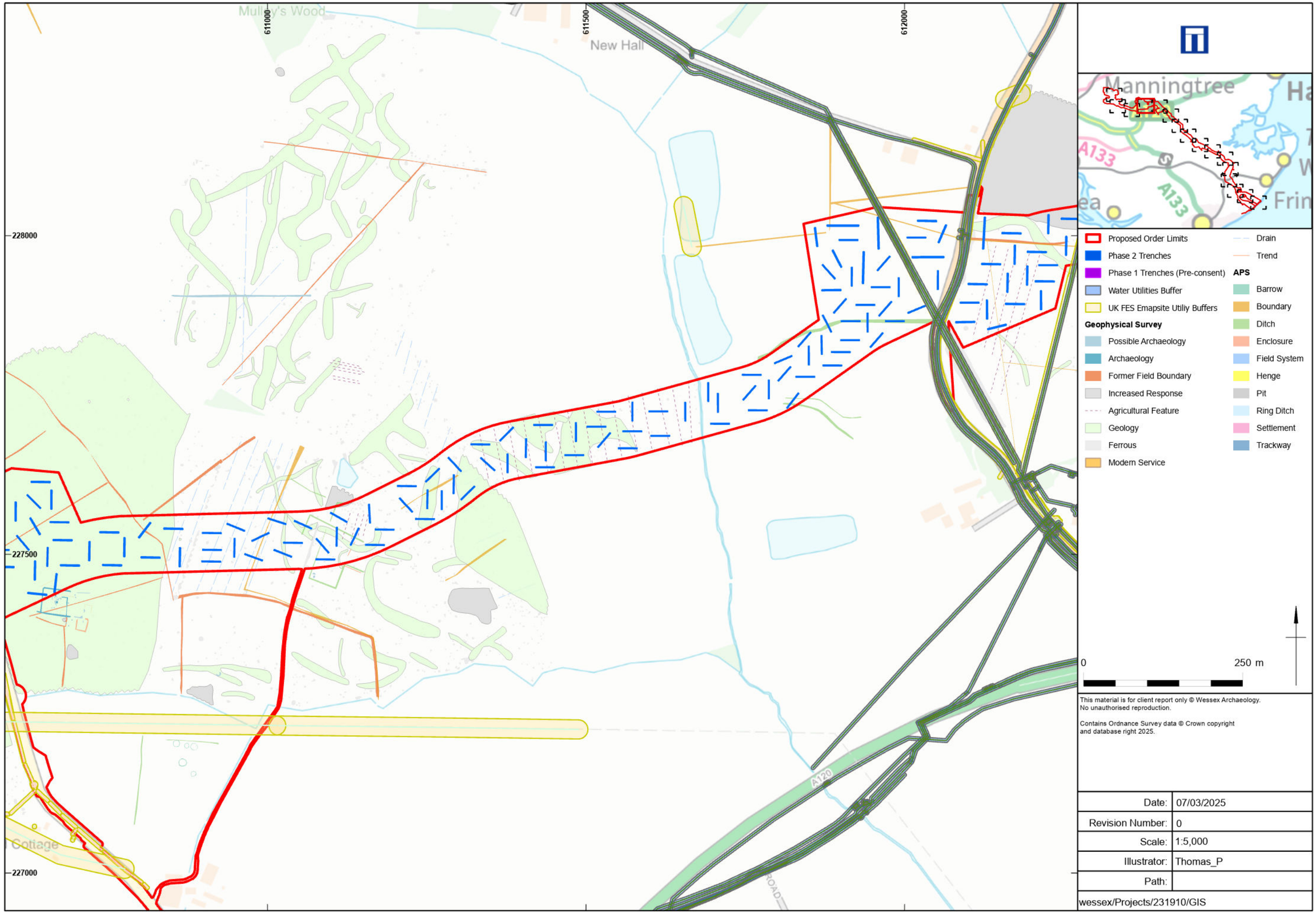
Proposed Trench Layout

Figure 13



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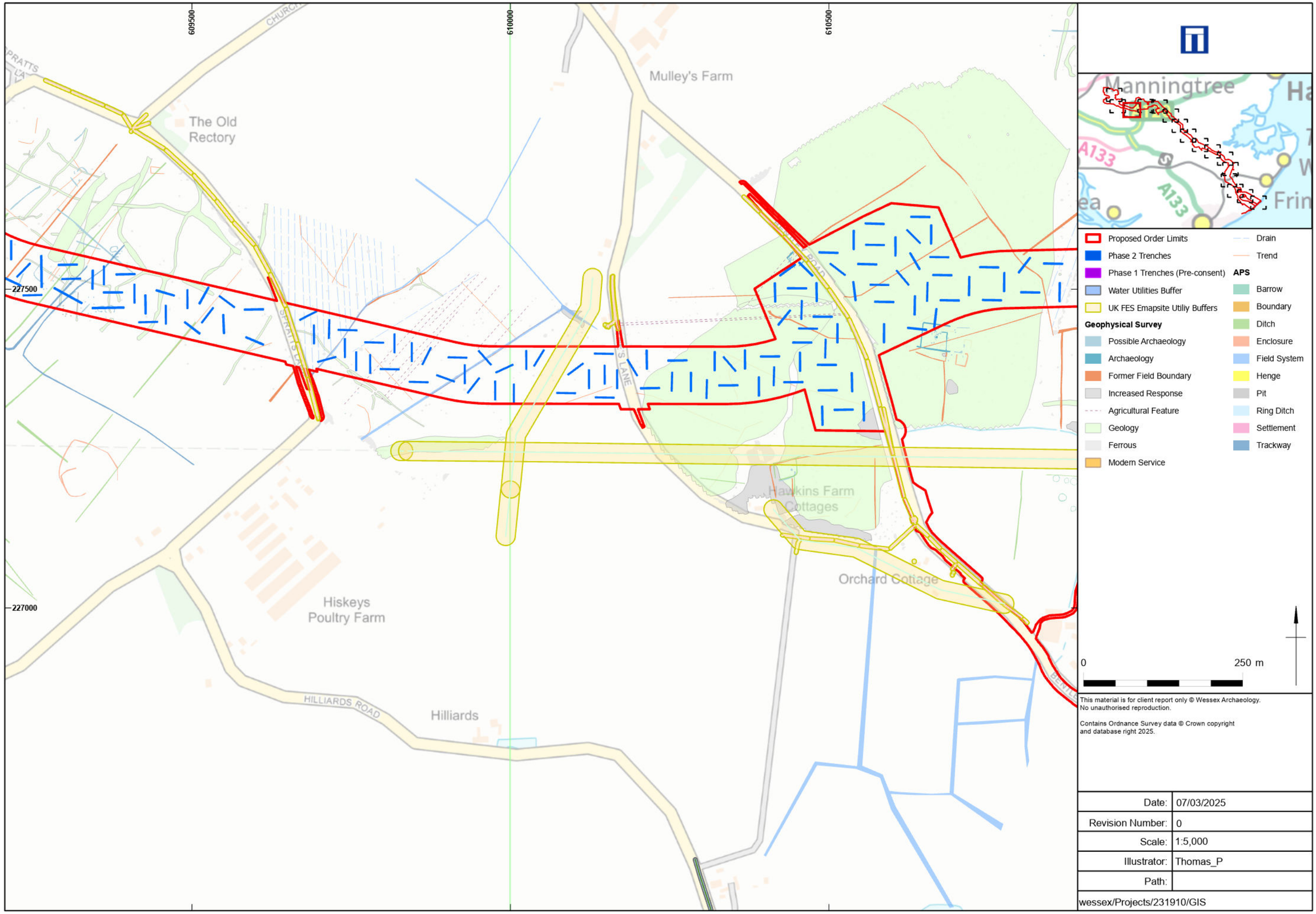
Proposed Trench Layout

Figure 14



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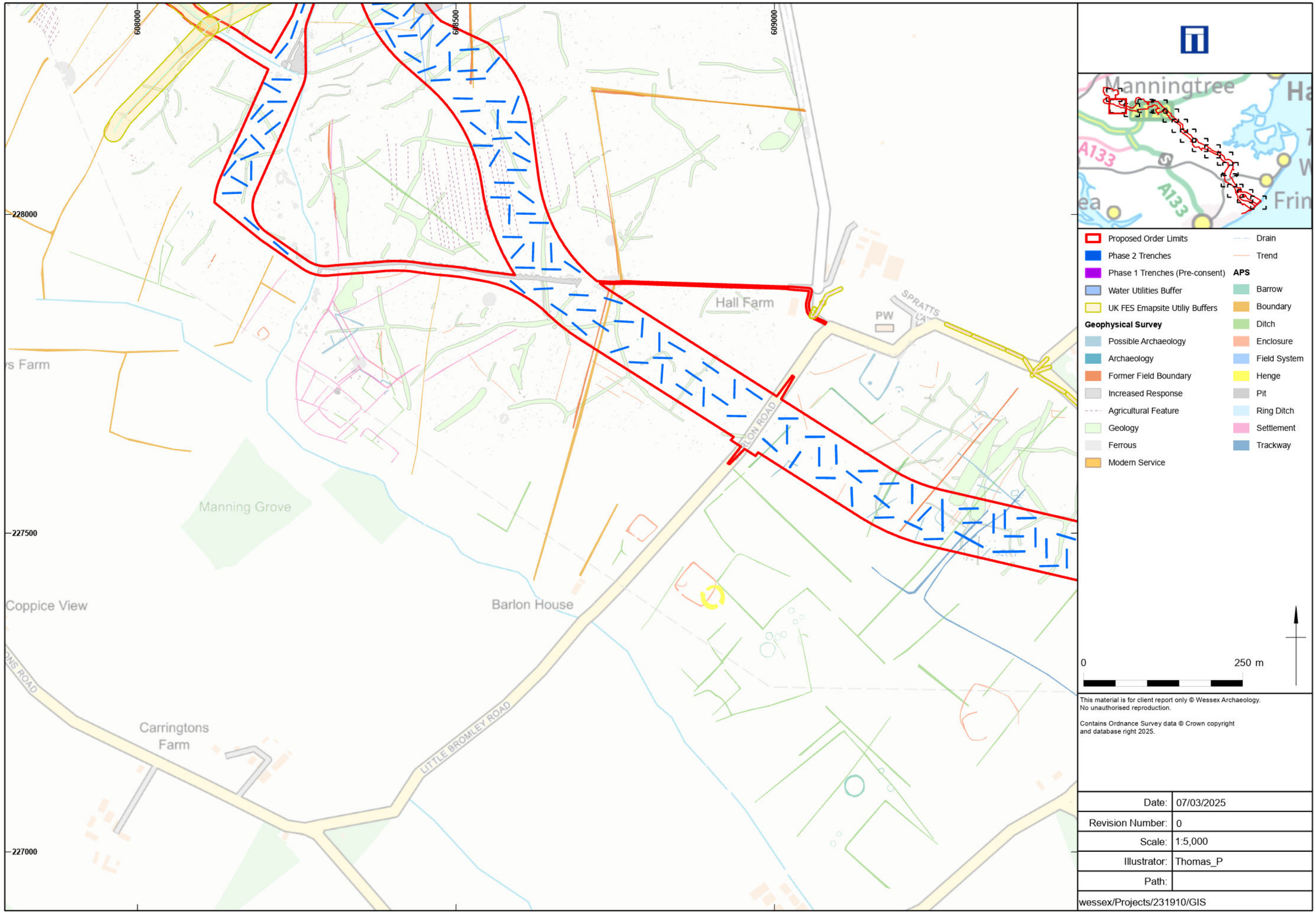
Proposed Trench Layout

Figure 15



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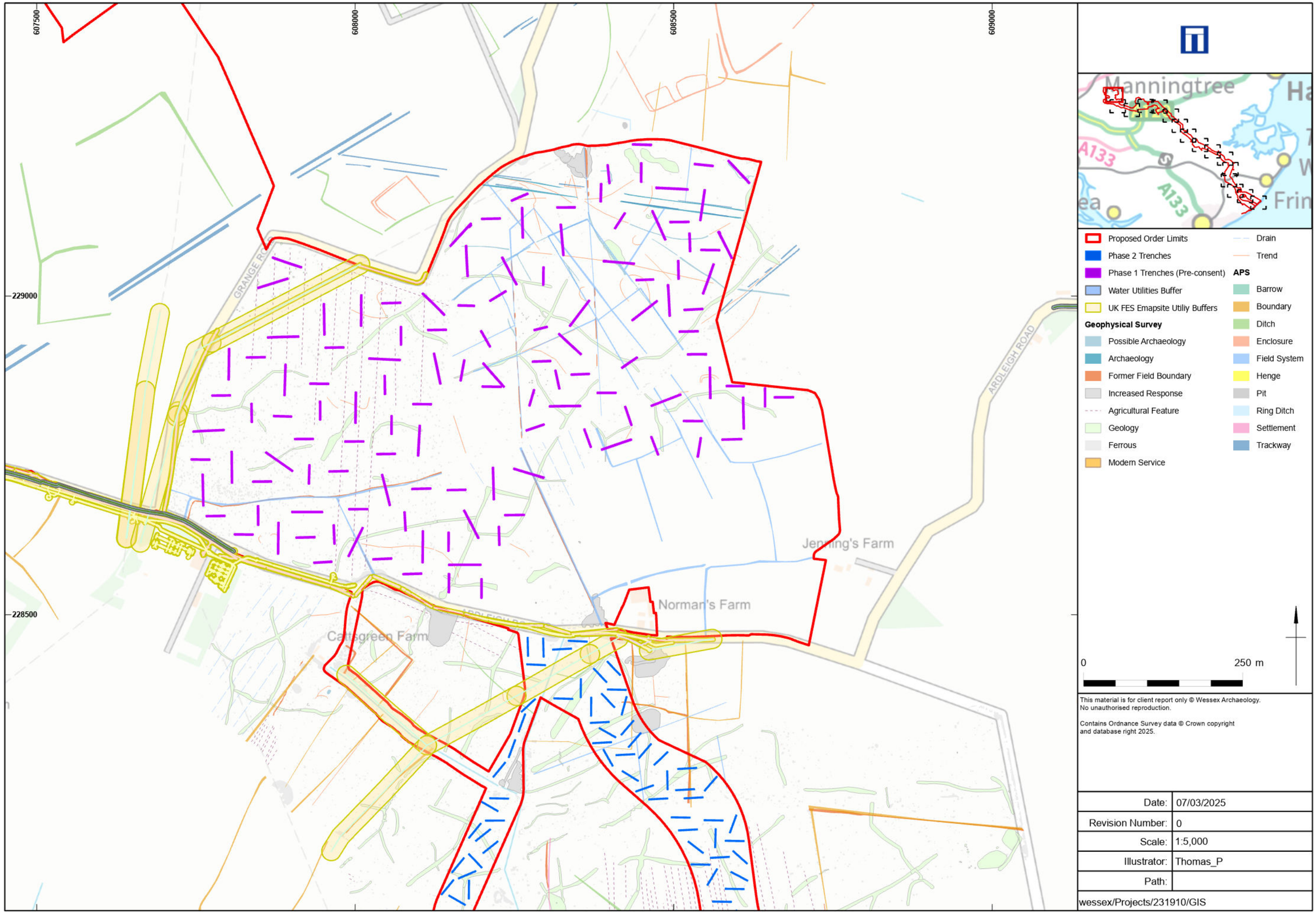
Proposed Trench Layout

Figure 16



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Proposed Trench Layout

Figure 17

Wessex Archaeology Ltd registered office Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB
Tel: 01722 326867 Fax: 01722 337562 [redacted]

FS 606559

Appendix 2: Terminology

Glossary

The terminology used in this assessment follows definitions contained within Annex 2 of NPPF:

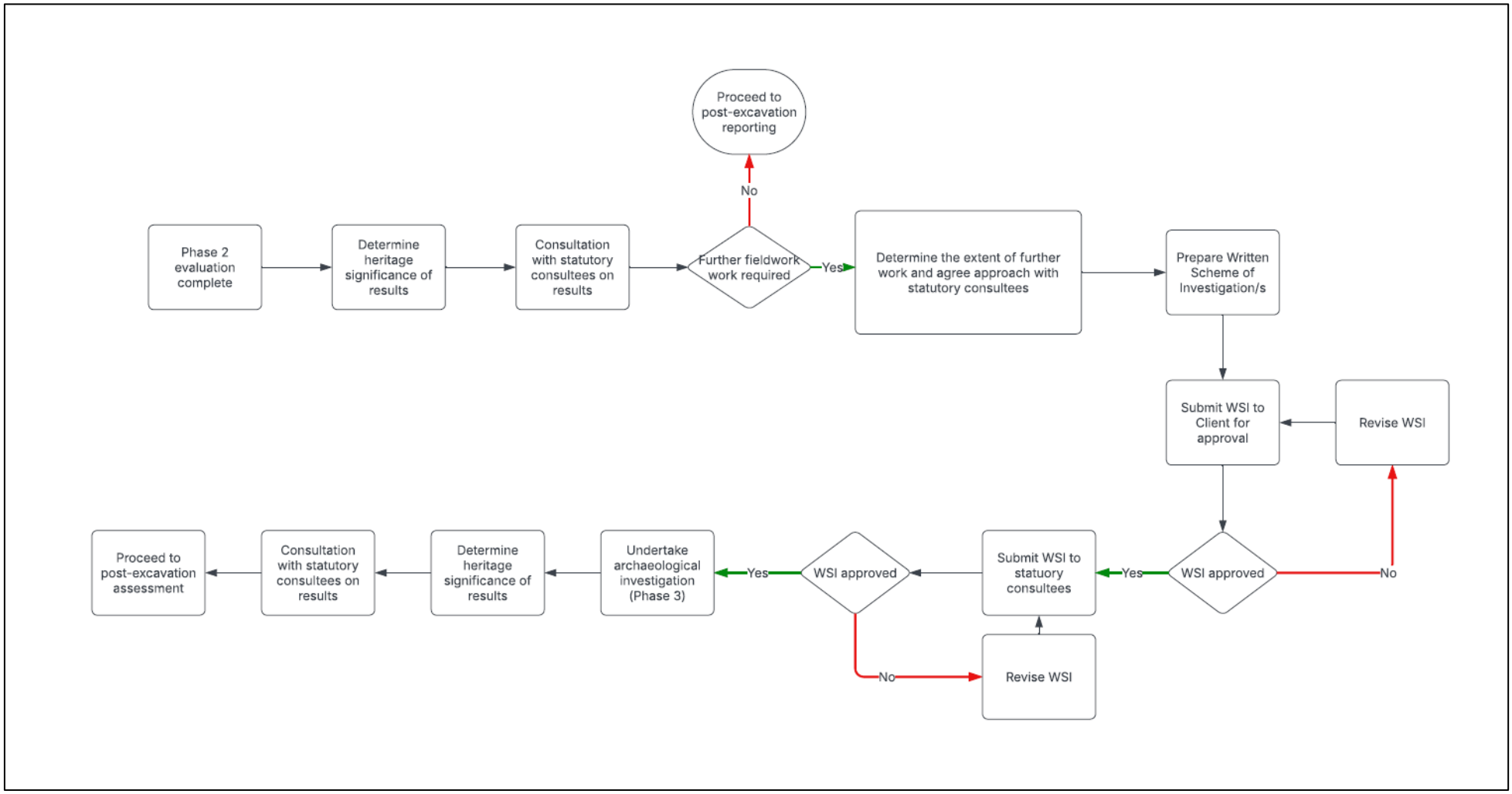
Archaeological interest	There will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point.
Conservation (for heritage policy)	The process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance.
Designated heritage asset	A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation.
Heritage asset	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. It includes designated heritage assets and assets identified by the local planning authority (including local listing).
Historic environment	All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.
Historic environment record	Information services that seek to provide access to comprehensive and dynamic resources relating to the historic environment of a defined geographic area for public benefit and use.
Setting of a heritage asset	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.
Significance (for heritage policy)	The value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting. For World Heritage Sites, the cultural value described within each site's Statement of Outstanding Universal Value forms part of its significance.

Chronology

Where referred to in the text, the main archaeological periods are broadly defined by the following date ranges:

Prehistoric		**Historic**	
Palaeolithic	970,000–10,00 BC	**Romano-British**	AD 43–410
Mesolithic	10,000–4000 BC	**Saxon**	AD 410–1066
Neolithic	4000–2400 BC	**Medieval**	AD 1066–1500
Bronze Age	2400–700 BC	**Post-medieval**	AD 1500–1800
Iron Age	700 BC–AD 43	**19th century**	AD 1800–1899
		Modern	1900–present day

Appendix 3: Indicative Flow Chart detailing AMS process



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Tel: 01722 326867 Fax: 01722 337562 [redacted]

FIVE ESTUARIES
OFFSHORE WIND FARM

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COMPANY NO Registered in England and Wales
company number 12292474