



Land Parcels adjacent to Worsell Drive, Copthorne

Archaeological Desk-Based Assessment

Miller Homes

Prepared by:

SLR Consulting Limited

Mountbatten House, 1 Grosvenor Square,
Southampton SO15 2JU

SLR Project No.: 404.064550.00001

4 December 2025

Revision: 1.8

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
01	28 November 2024	HM	JT	JT
1.2	12 December 2024	HM	JT	JT
1.3	19 December 2024	DH	JT	PL
1.4	13 February 2025	HM	JT	JT
1.5	15 August 2025	HM	JT	JT
1.6	20 November 2025	HM	JT	JT
1.7	20 November 2025	HM	JT	JT
1.8	4 December 2025	HM	JT	JT

Basis of Report

This document has been prepared by SLR Consulting Limited (SLR) with reasonable skill, care and diligence, and taking account of the timescales and resources devoted to it by agreement with Miller Homes (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.



Executive Summary

SLR Consulting Limited (SLR) has been commissioned by Miller Homes (the Client) to prepare an archaeological desk-based assessment (DBA) for a proposed development at land off Worsell Drive, Copthorne, West Sussex, RH10 2BB (NGR: TQ 3065 3925) (hereafter referred to as the 'Study Area'; Figure 1).

This assessment, undertaken in full accordance with the guidance provided by the Chartered Institute for Archaeologists, has found that no designated heritage assets are located within the Study Area. No designated heritage assets would therefore be physically affected by the proposals. The setting of designated assets in the wider vicinity has been considered. Due to distance no designated archaeological assets are considered sensitive to the proposed development.

The two parcels of land proposed for new homes sit within the existing Heathy Wood residential scheme. This benefitted from outline planning permission which was granted in May 2016 for 500 new homes. Various Reserved Matters applications have been approved to bring forward the detailed design of the Heathy Wood scheme at Copthorne.

The parcels were previously considered for a school and doctors surgery. However, after extensive review, West Sussex County Council (WSCC) has confirmed that a new primary school is not required at this location as a new school could undermine the sustainability of existing schools. Instead, and in line with the obligations of the 2016 outline planning permission, significant financial contributions have been made towards education in the local area. The local medical group has advised it is not viable for it to bring forward a doctors surgery. Therefore, as required by the outline planning permission, financial contributions have been made to support local healthcare facilities.

Accordingly, there are two sustainably located parcels of land at Heathy Wood that are vacant and unused. It is proposed to deliver new homes on these parcels to complement and integrate within the existing homes and wider Copthorne community.

This report is prepared on the proposal of delivering 69 new homes at across the two parcels of land. The description of development for the application is:

Description of Development: *Full planning application at two parcels of land adjacent to Worsell Drive, Copthorne, each accessed from existing bell-mouth junctions at Worsell Drive and Langridge Way, for the erection of new homes (Use Class C3) including affordable homes; internal access roads, landscaping and associated infrastructure.*

For information only (to be included as a condition): Number of Homes: 69

Both the Northern Parcel and the Southern Parcel (**Figure 1**) have been archaeologically evaluated and mitigated as part of a programme of archaeological works to discharge condition 12 of wider outline planning permission (Planning ref: 13/04127/OUTES). As such both parcels are considered to have no potential for significant archaeological remains of all dates. As such there are no design or planning constraints in relation to archaeology.

Overall, the proposals would be consistent with the provisions of the National Planning Policy Framework (NPPF) (December 2024), as well as policy DP34 of the Mid Sussex District Plan 2014-2031 and saved policy B18 of the Mid Sussex Local Plan (Adopted May 2004).



Table of Contents

1.0 Introduction	1
1.1 Proposed Development & Planning Background	1
1.2 Scope of Report	1
1.3 Standards.....	1
2.0 Methodology	3
2.1 Data Procurement	3
2.2 Assessment of Heritage Significance	4
2.3 Assessment of Effects	5
3.0 Statute, Policy & Guidance	6
3.1 Statute.....	6
3.2 Planning Policy.....	6
4.0 Archaeological & Historic Background	8
4.1 Introduction	8
4.2 Designated Heritage Assets	8
4.3 Non-Designated Heritage Assets, Archaeological Notification Areas and Historic Landscape Characterisation (HLC).....	8
4.4 Geology & Topography.....	8
4.5 Previous Archaeological Investigations	9
4.6 Chronological Background	11
5.0 Archaeology: Statement of Significance & Effects	15
5.1 Introduction	15
5.2 Significance.....	15
5.3 Development Effects	15
6.0 Conclusion.....	16
7.0 Bibliography	17

Plates

Plate 1: 2019 PCA Excavation Areas and 2018 ASE Evaluation trenches and features (PCA 2020)	10
Plate 2: 1872 Ordnance Survey six-inch scale map (Surrey Sheet XLII.SW)	13
Plate 3: 1948 six-inch scale Ordnance Survey (Sussex Sheet IV.NW).....	14
Plate 4: 2024 Google Earth aerial view of the Parcels.....	14

Figures in Text

Figure 1: Study Area Location Plan.....	18
---	----



Figure 2: Designated and Non-designated Heritage Assets, and Archaeological Notification Areas	19
Figure 3: Archaeological Events.....	20

Appendices

Appendix A Gazetteer of Heritage Assets

- A.1 Designated Heritage Assets
- A.2 West Sussex Archaeological Notification Areas (ANAs)
- A.3 Archaeological Investigations / Activities
- A.4 WSHER & SHER – Monuments

Appendix B Report on Archaeological Excavation – Strip, Map and Sample (PCA 2020)



Acronyms and Abbreviations

AOD	Above Ordnance Datum
ANA	Archaeological Notification Area
BGS	British Geological Survey
CIfA	Chartered Institute for Archaeology
DBA	Desk-Based Assessment
FAME	Federation of Archaeological Managers and Employers
ISO	International Organization for Standardisation
LiDAR	Light Detection and Ranging
MCIfA	Member of Chartered Institute for Archaeology
NHLE	National Heritage List for England
NPPF	National Planning Policy Framework
PPG	Planning Practice Guidance
SHER	Surrey Historic Environment Record
WHER	West Sussex Historic Environment Record



1.0 Introduction

SLR Consulting Limited (SLR) has been commissioned by Miller Homes (the Client) to prepare an archaeological desk-based assessment (DBA) for a proposed development at land off Worsell Drive, Copthorne, West Sussex, RH10 2BB (NGR: TQ 3065 3925) (hereafter referred to as the 'Study Area'). The Study Area comprises two separate parcels of land referred to within this report as 'Northern Parcel' (to the north) and 'Southern Parcel' (to the south).

1.1 Proposed Development & Planning Background

The two parcels of land proposed for new homes sit within the existing Heathy Wood residential scheme. This benefitted from outline planning permission which was granted in May 2016 for 500 new homes. Various Reserved Matters applications have been approved to bring forward the detailed design of the Heathy Wood scheme at Copthorne.

The parcels were previously considered for a school and doctors surgery. However, after extensive review, West Sussex County Council (WSCC) has confirmed that a new primary school is not required at this location as a new school could undermine the sustainability of existing schools. Instead, and in line with the obligations of the 2016 outline planning permission, significant financial contributions have been made towards education in the local area. The local medical group has advised it is not viable for it to bring forward a doctors surgery. Therefore, as required by the outline planning permission, financial contributions have been made to support local healthcare facilities.

Accordingly, there are two sustainably located parcels of land at Heathy Wood that are vacant and unused. It is proposed to deliver new homes on these parcels to complement and integrate within the existing homes and wider Copthorne community.

This report is prepared on the proposal of delivering 69 new homes at across the two parcels of land. The description of development for the application is:

Description of Development: Full planning application at two parcels of land adjacent to Worsell Drive, Copthorne, each accessed from existing bell-mouth junctions at Worsell Drive and Langridge Way, for the erection of new homes (Use Class C3) including affordable homes; internal access roads, landscaping and associated infrastructure.

1.2 Scope of Report

This report presents the results of a DBA. It identifies known and potential heritage assets within the Study Area and the surrounding area and discusses their significance, in accordance with the National Planning Policy Framework (NPPF) (2025) Paragraph 207.

The DBA focuses upon the potential archaeological implications of the groundworks associated with the proposed development. There are no anticipated issues in relation to the setting of above ground assets (i.e., Listed Buildings, Conservation Areas, Registered Parks and Gardens). Therefore, the setting and / or the character and appearance of heritage assets will not be considered any further in this report. However, where appropriate and relevant, these assets will be discussed in the archaeological and historical background of the Study Area.

1.3 Standards

This DBA has been undertaken in accordance with all relevant statute, policy, and guidance, including the NPPF (2025), the Chartered Institute for Archaeology (CIfA) *Standard and guidance for historic environment desk-based assessment* (2020), Historic England's *Managing Significance in Decision-Taking in the Historic Environment Historic Environment*



Good Practice Advice in Planning: 2 (2015), and *Statements of Heritage Significance: Analysing Significance in Heritage Assets, Historic England Advice Note 12* (2019).

The DBA has been undertaken, and the report prepared, by Helen MacQuarrie MCIfA, Principal Consultant – Archaeology & Heritage, SLR. The DBA has been reviewed and directed by John Trehay MCIfA, Technical Discipline Manager – Archaeology & Heritage, SLR.

SLR is a member of the Federation of Archaeological Managers and Employers (FAME).

SLR is ISO 9001 certified and operates a quality management system to help ensure all projects are managed in a professional and transparent manner.



2.0 Methodology

2.1 Data Procurement

2.1.1 Scope

For the purposes of baseline data collection, a 1km study area was utilised for heritage assets of an archaeological nature. This is considered a suitable buffer to understand the archaeological potential of the Study Area.

2.1.2 Sources

The following sources were consulted:

- the National Heritage List for England (NHLE), for all records relating to designated heritage assets of an archaeological nature i.e. Scheduled Monuments and other assets where relevant to historic background;
- the West Sussex Historic Environment Record (WSHER) and Surrey Historic Environment Record (SHER), for all records relating to archaeological remains and previous archaeological fieldwork within the study area;
- the British Geological Survey (BGS) and the Cranfield University Soilscales database for geological, topographic, and borehole information;
- historic mapping sources, including tithe mapping and early Ordnance Survey editions;
- grey literature relating to excavations within, and within proximity to, the Study Area; and
- the Mid Sussex District Council online planning application portal, for relevant documentation submitted in relation to proximate applications.

2.1.3 HER Data

The Study Area falls within West Sussex, however the 1km study area also falls within Surrey, therefore HER searches from both counties were undertaken. Data was obtained from West Sussex Historic Environment Record (WSHER ref: 202425-071) and Surrey Historic Environment Record (SHER ref: 256/24) in November 2024. The HER data was reconciled and analysed within the context of the objectives of the present assessment.

Whilst all the HER data received has been reviewed and considered (see **Appendix A**), not all HER records (monuments and events / activities) are discussed further within this report, only those that are of relevance, to the determination of potential, significance, and potential impact.

Assets are referenced by their WSHER or SHER number ('Prefref') or by their National Heritage List for England number (prefixed NHLE) for designated heritage assets.

2.1.4 Site Visit

As the Study Area has been evaluated and mitigated, a site visit to assess current ground conditions and past impacts is not considered necessary. Similarly, as there are no designated or non-designated archaeological assets considered sensitive to change by the proposed development, an on-site assessment of setting was not considered necessary.



2.1.5 LiDAR Data

The Study Area has been subject to previous archaeological desk-based assessment, evaluation and mitigation which identified no topographic features within the Study Area. Further LiDAR assessment is not, therefore, considered necessary.

2.2 Assessment of Heritage Significance

With reference to the policy contained within the (NPPF) 2025, the significance of heritage assets can be described in terms relating to their designated status. This essentially equates to assigning a descending level of significance as set out below.

- 1 **Designated heritage assets of the highest significance (importance)** are identified in Paragraph 213 of the NPPF as comprising Grade I and II* Listed buildings, Grade I and II* Registered Parks and Gardens, Scheduled Monuments, Protected Wreck Sites, World Heritage Sites and Registered Battlefields and non-designated heritage assets of archaeological interest which are demonstrably of equivalent significance to Scheduled Monuments (as identified in footnote 72 of the NPPF).
- 2 **Designated heritage assets of less than the highest significance (importance)** are identified in Paragraph 213 of the NPPF as comprising Grade II Listed buildings and Grade II Registered Parks and Gardens.
- 3 **Non-designated heritage assets** are defined within the Planning Practice Guidance (PPG) as *“buildings, monuments, Sites, places, areas or landscapes identified by plan-making bodies as having a degree of significance meriting consideration in planning decisions, but which do not meet the criteria for designated heritage assets”*.¹

However, whilst acknowledging that assets have varying levels of designated status (as set out above), understanding the effect of a proposal rests on achieving an understanding of where the ‘significance’ of an asset lies and the effect of the proposed development on this ‘significance’. The NPPF defines ‘significance’ as:

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

The NPPF glossary and the PPG provides a definition for these interests as:

- **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.”*
- **Architectural and artistic interest:** *“These are interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types. Artistic interest is an interest in other human creative skills, like sculpture.”*
- **Historic interest:** *“An interest in past lives and events (including pre-historic). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation’s history but can*

¹ MHCLG, PPG, paragraph 039, reference ID: 18a-039-20190723.



also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity.”

Historic England’s *Statements of Heritage Significance* (2019) concurs with the use of this terminology and methodology, both of which are thus adopted for the purposes of this report.

2.3 Assessment of Effects

An understanding of the presence / absence of heritage assets, their designated status and their significance provided by the above approach allows for a detailed and justifiable determination of how proposals would affect the archaeology and heritage resource. Once an understanding of significance has been achieved, the effect of proposals can be gauged on the basis of how the proposed development would affect the significance of the asset.

Potential development effects to designated heritage assets are discussed in terms of harm to significance. As clarified in the High Court, preservation does not mean no change; it specifically means no harm.² This is echoed in Historic England’s *Managing Significance in Decision-Taking in the Historic Environment* (GPA2), which states that “*Change to heritage assets is inevitable but it is only harmful when significance is damaged*” (Historic England 2015, p. 9), which states that “*Change to heritage assets is inevitable but it is only harmful when significance is damaged*”.

Where harm is identified, the NPPF, references the following levels of harm with respect to **designated heritage assets**:

- **‘Substantial harm or total loss’**

“Being a level of harm that would “have such a serious impact on the significance of the asset that its significance was either vitiated altogether or very much reduced;” and

- **‘Less than substantial harm’**

“Being any lesser level of harm than that defined above; recent case law has confirmed that this includes any level of harm (not considered substantial) regardless of its quantification, e.g., the finding of a ‘negligible’ level of harm must still be treated as less than substantial harm and be weighed in the balance under paragraph 202.”

With reference to the broad parameters referenced above, the PPG provides that the category of harm identified for any given asset be ‘explicitly identified’, and that the extent of that harm be ‘clearly articulated’.³ For purposes of this assessment, this can be done with reference to a ‘spectrum’, e.g., at the lower / upper end of the spectrum of less than substantial.

- **The NPPF does not provide that harm to non-designated heritage assets be categorised as ‘substantial’ or ‘less than substantial,’ only that the scale of any harm or loss is articulated.**

The assessment of anticipated development effects can thus be seen to have been undertaken in accordance with a robust methodology, formulated within the context of current best practice, the relevant policy provisions, and key professional guidance.

² *R (Forge Field Society) v Sevenoaks District Council* [2014] EWHC 1895 (Admin).

³ MHCLG, PPG, paragraph 018, reference ID: 18a-018-20190723.



3.0 Statute, Policy & Guidance

3.1 Statute

Nationally significant archaeological sites, monuments and structures are protected under the **Ancient Monuments and Archaeological Areas Act (1979)**.

3.2 Planning Policy

3.2.1 National Planning Policy Framework (2024)

Applicable national policy comprises the National Planning Policy Framework (December 2024), and specifically the following paragraphs:

Paragraph 207, which states that:

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

Paragraphs 212 and 213, which provide for designated heritage assets, and state respectively that:

“When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset’s conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance,” and

“Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

- a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;*
- b) assets of the highest significance, notably scheduled monuments, protected wreck Sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.”*

Paragraph 214, which relates to instances of ‘substantial harm’, and states that:

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

- a) the nature of the heritage asset prevents all reasonable uses of the Site; and*



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

Paragraph 215 which relates to instances of ‘less than substantial harm’, and states that:

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

Paragraph 216, which relates to non-designated heritage assets, and states that:

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

3.2.2 Local Planning Policy

The development plan for Mid Sussex is formed principally by the Mid Sussex District Plan 2014 – 2031 (Adopted March 2018) and saved policies from the Mid Sussex Local Plan (Adopted May 2004). Policy DP34: Listed Buildings and Other Heritage Assets relates largely to built environment, although it is noted that heritage assets may have an archaeological interest (not reproduced in full). The key policy in relation to archaeology is saved policy B18 from the Mid Sussex Local Plan.

3.2.2.1 Mid Sussex Local Plan (Adopted May 2004)

B18 *Sites of archaeological interest and their settings will be protected and enhanced where possible. In particular, the fabric and setting of Scheduled Ancient Monuments and other nationally important archaeological sites should be preserved intact.*

Development proposals or changes of use or management which would have a detrimental impact on sites of archaeological importance and their settings will not normally be permitted. An exception may be made only where the benefits of the proposal (which cannot reasonably be located elsewhere) are so great as to outweigh the possible effects on the archaeological importance of the site.

Where it appears that a proposed development may affect the archaeological or historic interest of a known or potential site of archaeological importance, the applicant will be required to carry out an archaeological assessment and field evaluation. A statement of the findings will be required to accompany the planning application.



4.0 Archaeological & Historic Background

4.1 Introduction

This section sets out the archaeological baseline relative to the Study Area and its immediate surroundings, in order to identify known archaeological historic assets and to inform an understanding of the Study Area's broader archaeological potential.

4.2 Designated Heritage Assets

There are no designated heritage assets of an archaeological nature either within the Study Area or within the 1km study area. The scheduled remains of the deserted medieval settlement at Tinsley Green ('100m south-east and 150m south-west of Oldlands Farm, Tinsley Green') (NHLE 1018681) lies c. 1.4km north-west of the Parcels (**Figure 2**), however, due to distance and intervening development this is not considered sensitive to proposed development. This is supported by the conclusions of the earlier outline application which did not raise any settings issues in relation to this asset.

4.3 Non-Designated Heritage Assets, Archaeological Notification Areas and Historic Landscape Characterisation (HLC)

The Study Areas fall within a larger WSHER (MWS15126) polygon for the multi-period evidence revealed by the 2017 archaeological evaluation by ASE and 2019-20 excavation PCA. This is discussed in more detail in Section 4.5.

The Study Areas do not fall within an Archaeological Notification Area (ANA). The following two ANA's are recorded within the 1km study area, which are listed in **Appendix A** and illustrated on **Figure 2**:

- Medieval iron-working and settlement site c. 760m west of the Study Area (WSHER DWS8659); and
- Toovies Farm medieval earthworks c. 610m north-east of the Study Area (WSHER DWS8675).

The WSHER Historic Landscape Characterisation (HLC) (not illustrated) records the Northern Parcel as falling within a larger polygon described as '*modern field amalgamation*' (WSHER HWS9156). The northern part of the Southern Parcel is also recorded as '*modern field amalgamation*' (WSHER HWS9156); the Southern Parcel is recorded as '*regenerated wood*' (WSHER HWS9152). It is noted that this description is out of date given the current development of the Study Area and surrounding area.

4.4 Geology & Topography

The proposed development comprises two areas (north and south) totalling 1.82ha. Both parcels are vacant development plots within the wider development. The plots are relatively flat and measure c. 65m above Ordnance Datum (aOD).

The British Geological Survey (BGS) records the underlying bedrock geology of the parcels comprising Upper Tunbridge Wells Sand (sandstone and siltstone, interbedded). Superficial deposits are recorded in the northern part of the Southern Parcel only, where Alluvium (clay, silt, sand and gravel) are recorded associated with the Copthorne Brook.⁴

⁴ <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/> [accessed November 2024].



The soils within the Study Area consist of slightly acid loamy and clayey soils with impeded drainage.⁵

4.5 Previous Archaeological Investigations

The Study Area forms part of an earlier desk-based assessment produced to inform outline planning permission (Planning ref: 13/04127/OUTES) (Terence O'Rourke, 2013). As a condition of outline planning permission archaeological evaluation was undertaken in 2018 by Archaeology South-East, and strip, map, sample in 2019 by PCA (Planning ref: DM/17/2853; PCA 2018; Appendix B).

Archaeological Evaluation (ASE 2018; WSHER EWS2018)

The 2018 Archaeology South-East (ASE) evaluation comprised the excavation of 67-trenches across the area of the wider outline planning application (ASE 2018; WSHER EWS2018). Of the 67 trenches, 28 revealed archaeological finds or features, primarily comprising ditches and pits. The majority of these features were undated by associated material culture, with only four trenches producing dateable material. A small assemblage of Mesolithic or Neolithic struck flint was recovered from Trenches 15, 21 and 43. The geoarchaeological potential of the Copthorne Brook was evaluated as part of the 2018 works. This confirmed little evidence for alluvial sediments extending north or south from the current extent of the brook. The investigation did reveal a potential burial land surface with Mesolithic or early Neolithic artefacts within Trench 27. Late Iron Age to Romano-British pottery was recovered from Trenches 40 and 43. Four sherds of 13th century medieval potential were also recovered from Trench 43. Whilst undated by cultural material, it is suggested that many of the undated features could be prehistoric, Roman, medieval or early post-medieval or a combination of these (ASE 2018).

Evaluation trenches particularly relevance to the Northern Parcel is Trench 42 which recorded a number of undated, inter-cutting features, including a possible tree throw, a shallow pit and a gully in the centre of the trench. Towards the north of the trench a further small irregular, undated, discrete pit was recorded (**Plate 1**).

Evaluation trenches particularly relevance to the Southern Parcel are Trenches 25 - 31. The focus of archaeological interest in the Southern Parcel centred on a geoarchaeological test pit in Trench 27. The test pit revealed worked flints, interpreted as knapping waste of Mesolithic or Early Neolithic date, and a possible in situ early prehistoric land surface (**Plate 1**).

Two shallow undated gullies were recorded in Trenches 28 and 29. Trenches 25, 26, 30 and 31 were negative. It is noted that the southern part of the Southern Parcel was scoped out of intrusive archaeological evaluation or mitigation due to the dense woodland character of this area prior to development, which would have disturbed the archaeological horizon, if present.

Strip, Map, Sample (PCA 2019; WSHER EWS2018; Appendix B)

Following the above evaluation a further and final stage of archaeological mitigation works were required. The scope of works was secured by a Written Scheme of Investigation (McCulloch 2019) which was approved by the LPA Archaeological Advisor prior to commencement. The works included further intrusive investigation of two areas, post-excavation reporting, publication and archiving. The location of the investigations in relation to the current application is shown on **Plate 1**.

The works included the mechanical stripping and hand excavation / recording of a 1,670sqm area targeting features identified in Trenches 40 and 43, c. 60m west of the Northern Parcel. This mitigation area revealed irregularly shaped cut features dating to the prehistoric period and linear features dated to the later prehistoric to Romano-British and medieval periods. Two

⁵ <https://www.landis.org.uk/soilscapes/> [accessed November 2024].



undated linear features belonging to later prehistoric to Romano-British periods or later were also recorded. No further mitigation works were required in relation to the Northern Parcel.

A second area of mitigation works was completed targeting the archaeological remains in Trench 27, which lies within the current Application's Southern Parcel. The works comprised the hand excavation of a grid of 1m x 1m test pits (Test Pits 11-14) in 10cm spits with each spit being 100% bulk sampled for the recovery of artefacts and ecofacts / biological remains. The land surface postulated to exist within Area 2 was not found, although a sequence of alluvial deposits containing Mesolithic dated material was revealed. It was concluded that this represented seasonal flint working activity taking place during drier periods close to the periodically flooded Copthorne Brook rather than an intact developed soil horizon.

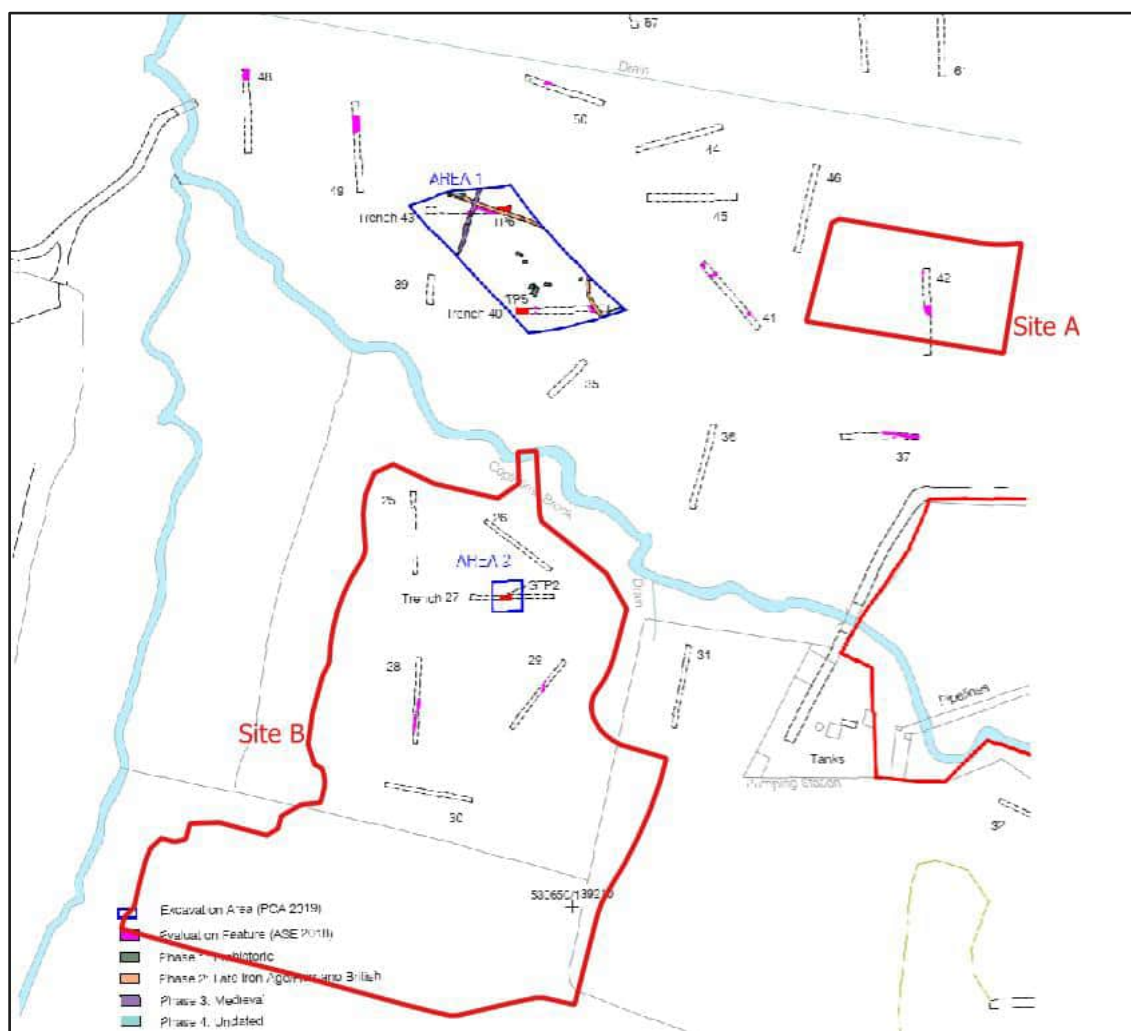


Plate 1: 2019 PCA Excavation Areas and 2018 ASE Evaluation trenches and features (PCA 2020)

Other relevant investigations

In addition to the aforementioned intrusive archaeological investigations, three further evaluations have occurred in the study area, along with four excavations and two watching briefs. These are listed in **Appendix A** and illustrated on **Figure 3**. Artefacts and features pertaining to these investigations are discussed, where relevant, below. The only new archaeological event since the 2019 investigations within the Study Area are the evaluation



and excavation works at Steers Lane, Forge Wood Crawley (WSHER EWS2128), c. 800m north-west of the Study Area. Due to distance, this is not relevant to the archaeological potential of the Study Area, however it is noted that the investigation was largely negative due to previous woodland disturbance. Fragmentary prehistoric and early medieval and medieval remains were identified (WSHER MWS12615).

The archaeological evaluation and excavation at Land East of Balcombe Road, Crawley c. 300m west of the Study Areas (ASE 2017; WSHER EWS1884) is most relevant to the archaeological potential of the Study Area, however this was undertaken and has been considered in relation to the previous phases of archaeological investigation within the Study Area. The fieldwork produced residual evidence of early prehistoric activity comprising flintwork of possible Upper-Palaeolithic to Middle Bronze Age date. Evidence of Late Bronze Age land division was also identified. Further later prehistoric land division dating to the Late Iron Age/Early Roman period and low level medieval/post-medieval activity was also encountered (WSHER EWS1884).

4.6 Chronological Background

4.6.1 Prehistoric (c. 700,000 BCE – 43 CE)

The parcels have been subject to archaeological evaluation and mitigated which has been discussed in Section 4.5. This includes a thorough assessment of the geoarchaeological context and potential for the Study Area. As outlined in the 2020 PCA report, Holocene alluvial and colluvial deposits consisting of weathered and reworked Upper Tunbridge Wells Sand are present along with alluvial deposits associated with the Copthorne Brook. Mesolithic material was recovered from the wider outline application site by a Mr McKerrow in 1938-39 (WSHER MWS989) and nationally important material is known from the wider area, such as from field walking between Horsham and Crawley (Clark 1934) and excavations between Haywards Heath and Tunbridge Wells (e.g. Jacobi and Tebbutt 1981) (PCA 2021, 11). As such the underlying early Holocene deposits present on the Study Area are considered to have potential for Mesolithic material. This, combined with the identification of prehistoric to Romano-British remains occupation evidence at Land East of Balcombe Road, Crawley (ASE 2017; WSHER EWS1884), were the triggers for archaeological investigation of the Study Area previously.

The 2018 to 2019 investigations on the wider outline site revealed no direct evidence of prehistoric activity within the Northern Parcel. Several undated features were recorded which did not warrant further investigation. The Southern Parcel lies within the alluvial floodplain of the Copthorne Brook. The investigations recorded Mesolithic to Early Neolithic flint artefacts and ecofacts which suggest seasonal flint working activity during drier periods close to the periodically flooded Copthorne Brook (PCA 2019). Mesolithic to Early Neolithic material was also recovered from the mitigation area north of the Copthorne Brook (**Plate 1**), albeit interpreted as likely re-deposited rather than *in situ*.

This represents the earliest recorded activity within the Study Area and the 1km study area: no Palaeolithic finds or features are recorded. A Bronze Age scrapper was also recovered from the 1938-39 investigations by McKerrow, c. 200m south of the Northern Parcel (WSHER MWS790).

As previously discussed, in 2019 PCA undertook mitigation work within the wider outline application which included the mechanical stripping and hand excavation / recording of a 1,670sqm area targeting features identified in Trenches 40 and 43, c. 60m west of the Northern Parcel. This mitigation area revealed irregularly shaped cut features dating to the prehistoric period and linear features dated to the later prehistoric to Romano-British and medieval periods. Two undated linear features belonging to later prehistoric to Romano-British periods or later were also recorded. This was interpreted as land management activity of local significance (PCA 2020, 22).



In terms of more recent discoveries in the vicinity of the Study Areas that would have the potential to change the prehistoric baseline, as previously discussed the recent works at Forge Wood WSHER MWS12615, c. 800m north-west of the Northern Parcel, revealed fragmentary prehistoric evidence only and are not particularly relevant to the Study Areas due to distance.

4.6.2 Roman (43 CE – 410 CE)

The Study Areas are covered by a larger WSHER (MWS15126) polygon for the multi-period evidence revealed by the 2017 archaeological evaluation by ASE and 2019-20 excavation PCA. This is discussed in more detail in Section 4.5.

There are no specific HER finds or features of Roman date within the 1km study area. Fragmentary Romano-British occupation evidence has been recovered from investigations in the wider area, for example at Land East of Balcombe Road, Crawley c. 300m west of the Study Areas (ASE 2017; WSHER EWS1884) and Forge Wood (WSHER MWS12615), c. 800m north-west of the Northern Parcel. However, due to distance and date these do not change the baseline understanding of the Study Areas during the Roman period. No specific Roman occupation evidence was recorded in either the Northern Parcel or the Southern Parcel during the 2018 and 2019 investigations. Fragmentary evidence of Romano-British land management of local significance was identified within the immediate vicinity of these Study Areas (PCA 2020, 22).

4.6.3 Early Medieval / Saxon (410 – 1066) and Medieval (1066 – 1539)

As discussed in the 2013 DBA, 2018 evaluation, and 2020 PCA report, the High Weald is an area of ancient countryside characterised by early enclosure and extensive woodland. This historic settlement pattern was sparse and dispersed extensive areas of heathland and woodland coverage with limited evidence for significant occupation activities during these periods. The Study Areas do not lie in close proximity to a pre-conquest or medieval manor; the closest to the Study Areas being Worth, c. 5km south of the Northern Parcel. The scheduled remains of a dispersed medieval settlement at Tinley Green lies c. 1.4km north-west of the Northern Parcel.

The paucity of archaeological evidence during this period is further supported by the HER data, which records a single entry for this period, a probable medieval rabbit warren identified in 1998 during a site walkover c. 740m north-west of the Northern Parcel (WSHER MWS7548). No new early medieval to medieval evidence is recorded on the 2024 Historic Environment Record search. The 2018 and 2019 investigations of the wider outline application which identified fragmentary evidence of medieval land management / field systems dated to the 13th century by associated ceramics (PCA 202, 16). No direct evidence of early medieval to medieval activity was identified within the Northern Parcel or the Southern Parcel.

4.6.4 Post-Medieval (1539 – 1900) to Modern (1900 – present)

The post-medieval to modern development of the Study Areas has been discussed in 2013 DBA, 2018 evaluation, and 2020 PCA report. The Study Areas are not covered by early 19th century Ordnance Survey Drawings, nor the 1841 Burstow Tithe, therefore the first detailed mapping of the Study Areas dates to 1872 (Error! Reference source not found.). At the end of the 19th century The Northern Parcel is located within an enclosed agricultural field. The southern part of the Southern Parcel falls within Heathy Ground woodland; the northern within an enclosed agricultural field south of the Brook. The linear settlement of Copthorne lies c. 500m east of The Northern Parcel. No structures or industrial activity is recorded within the Study Areas.

By 1948 (Error! Reference source not found.) the East Grinstead Sewage Works has been constructed immediately east of the Southern Parcel. The southern part of this field parcel



remains wooded. Field amalgamation is noted around the area of The Northern Parcel, which essentially remains part of a larger agricultural field.

The 2024 Google Earth satellite image records the Northern Parcel and the Southern Parcel within the wider development.

The majority of the post-medieval to modern finds and features relate to built assets which are not relevant to the archaeological potential of the Study Area. The 2018 and 2018 identified no post-medieval or modern finds or features of significance.



Plate 2: 1872 Ordnance Survey six-inch scale map (Surrey Sheet XLII.SW)



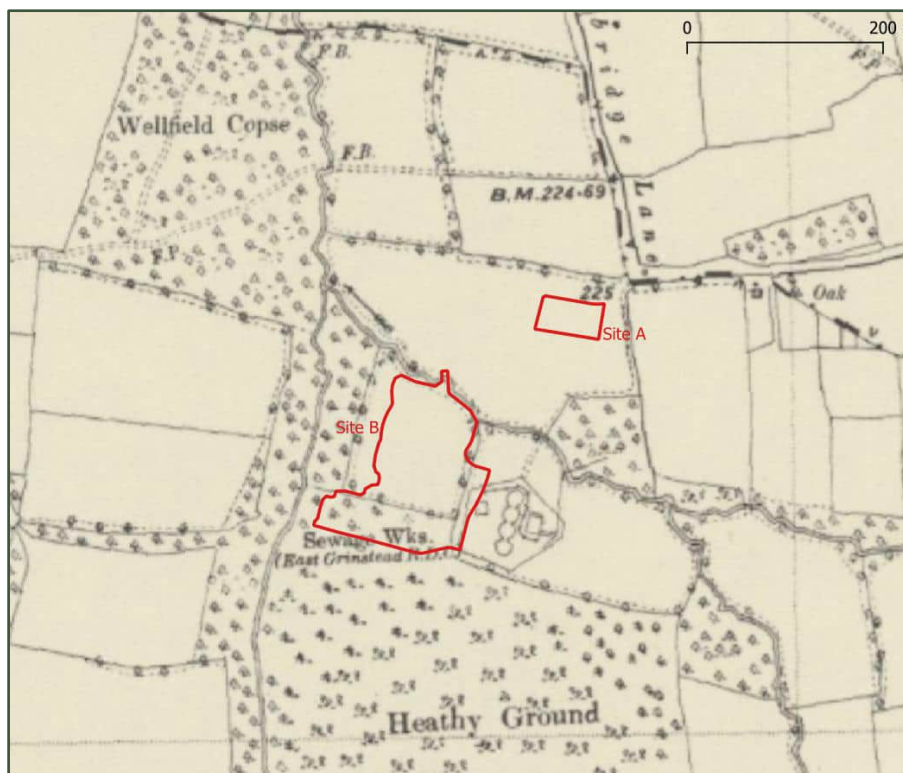


Plate 3: 1948 six-inch scale Ordnance Survey (Sussex Sheet IV.NW)



Plate 4: 2024 Google Earth aerial view of the Parcels



5.0 Archaeology: Statement of Significance & Effects

5.1 Introduction

This section discusses the significance of the known and potential archaeological remains identified within the Study Area.

5.1.1 Previous On-Site Activity

Both parcels A and B have been subject to archaeological evaluation and mitigation in 2018 and 2019. Vegetation and topsoil clearance of the Study Areas has occurred following the completion of these works.

5.2 Significance

An assessment of the Study Areas potential was undertaken in 2013 to inform the wider outline planning application (TOR 2013). Both the Northern Parcel and the Southern Parcel were subject to archaeological evaluation in 2018 (ASE) which concluded that no further mitigation works were required in relation to The Northern Parcel; further geoarchaeological works were required in the Southern Parcel. The mitigation works were completed in 2019 by PCA. As part of this assessment a review of the evaluation and excavation works has been undertaken along with a review of the current Historic Environment Record data (2024). Based on this assessment both parcels A and B have been fully archaeologically evaluated and mitigated of archaeological remains; there are no new archaeological discoveries that would alter this conclusion. As such both parcels are considered to have no potential for significant archaeological remains of all dates.

5.3 Development Effects

5.3.1 Development Effects

The proposed development involves the construction of residential dwellings, along with gardens, parking, roads and green-blue infrastructure including soft landscaping.

The smaller parcel, which is bordered by housing and roads, is currently devoid of trees. The twelve dwellings will be accessed from a junction off Worsell Drive.

The larger parcel will be accessed off Langridge Way from an existing bell mouth junction.

Both the Northern Parcel and the Southern Parcel have been archaeologically evaluated and mitigated as part of a programme of archaeological works to discharge condition 12 of outline planning permission (Planning Ref: 13/04127/OUTES; DM/17/2853). As such both Study Areas are considered to have no potential for significant archaeological remains of all dates. As such there are no design or planning constraints in relation to archaeology.



6.0 Conclusion

This assessment, undertaken in full accordance with the guidance provided by the Chartered Institute for Archaeologists, has found that no designated heritage assets are located within the Study Area. No designated heritage assets would therefore be physically affected by the proposals. The setting of designated assets in the wider vicinity has been considered. Due to distance no designated archaeological assets are considered sensitive to the proposed development.

The proposed development involves the construction of residential dwellings, along with gardens, parking, roads and green-blue infrastructure including soft landscaping on the land parcels off Worsell Drive.

The smaller parcel, which is bordered by housing and roads, is currently devoid of trees. The twelve dwellings will be accessed from a junction off Worsell Drive.

The larger plot will be accessed off Langridge Way from an existing bell mouth junction.

Both the Northern Parcel and the Southern Parcel have been archaeologically evaluated and mitigated as part of a programme of archaeological works to discharge condition 12 of outline planning permission (Planning Ref: 13/04127/OUTES; DM/17/2853). As such both parcels are considered to have no potential for significant archaeological remains of all dates. As such there are no design or planning constraints in relation to archaeology.



7.0 Bibliography

Archaeology South-East 2018 *Archaeological Evaluation Report: Land West of Copthorne West Sussex*

Chartered Institute for Archaeology., 2020. *Standard and guidance for historic environment desk-based assessment.*

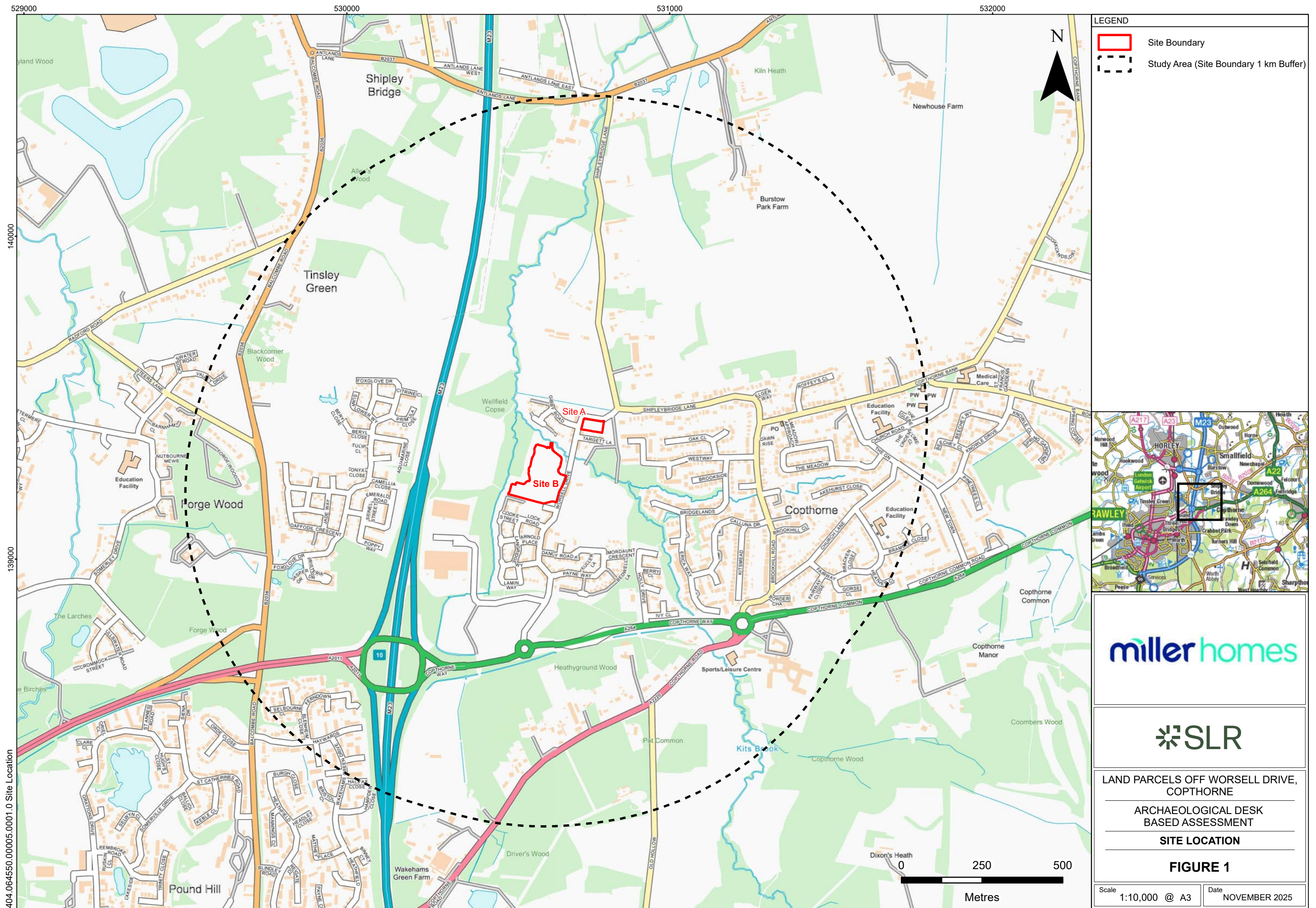
Historic England. 2015. *Managing Significance in Decision-Taking in the Historic Environment Historic Environment Good Practice Advice in Planning: 2.* Historic England, Swindon.

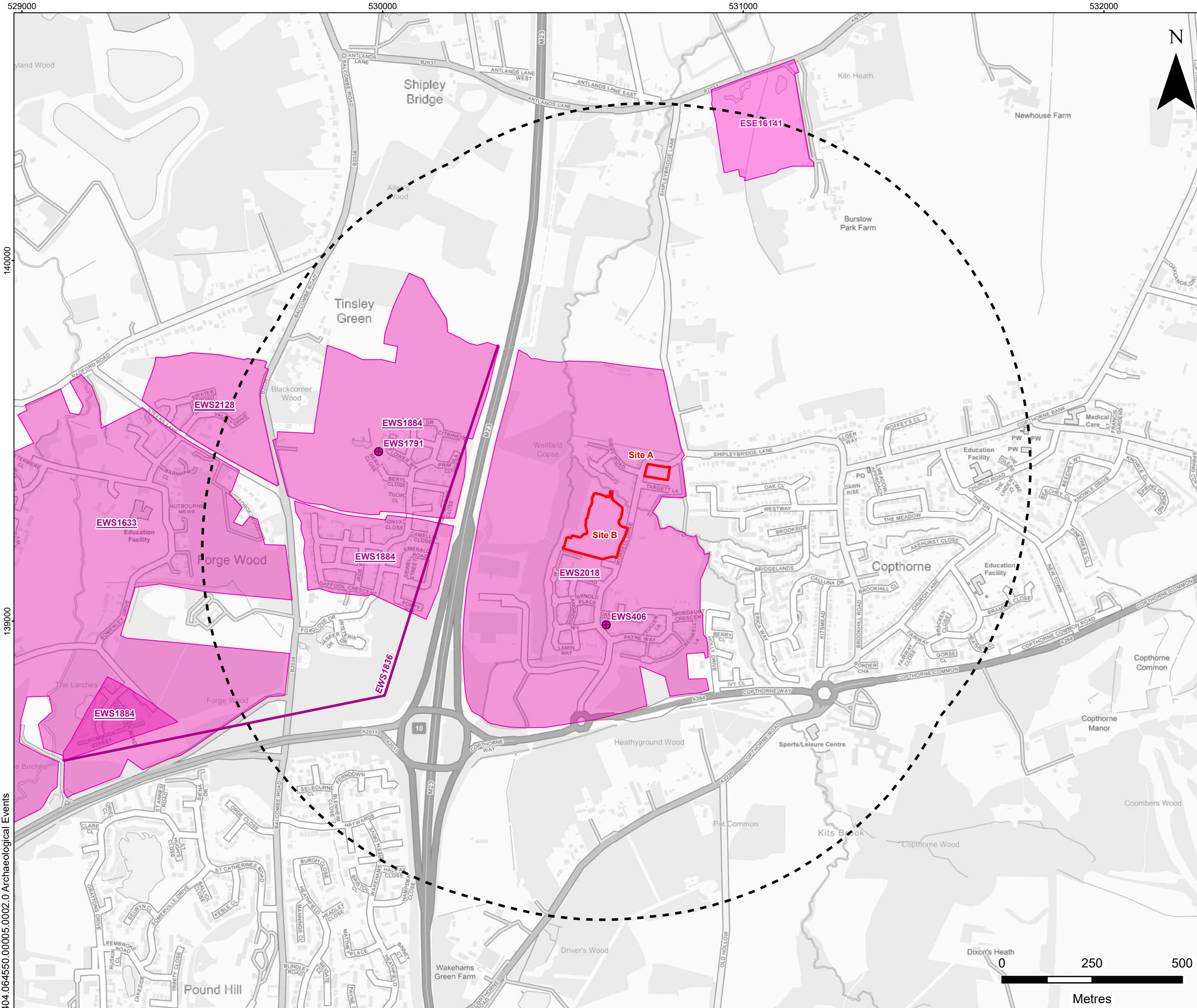
Historic England., 2019. *Statements of Heritage Significance: Analysing Significance in Heritage Assets, Historic England Advice Note 12.* Historic England, Swindon.

Pre-Construct Archaeology 2020. *Land West of Copthorne, Copthorne Way, West Sussex: Report on Archaeological Excavation – Strip, Map and Sample*

Terrence O'Rourke 2013. *Land West of Copthorne: Desk Based Assessment.*







LEGEND

Site Boundary

Study Area (Site Boundary 1 km Buffer)

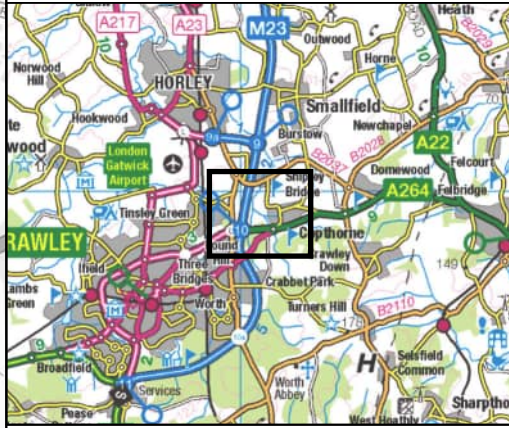
Archaeological Events

Event Location

Event Line

Event Area

Note
Event Labels for Points are in **bold**, for Lines are in *italics* and, for Areas are underlined.



LAND PARCELS OFF WORSSELL DRIVE,
COPTHORNE

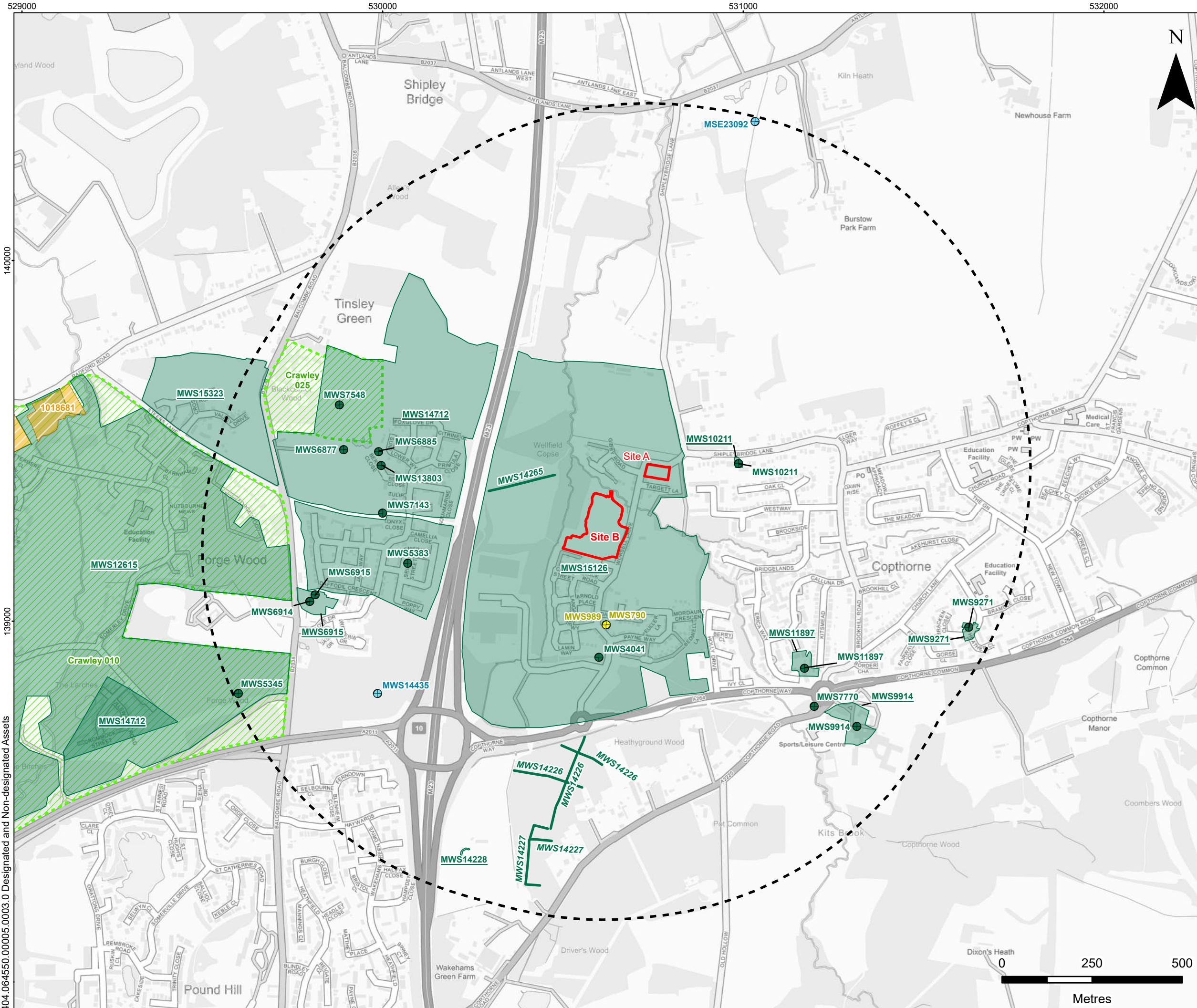
ARCHAEOLOGICAL DESK
BASED ASSESSMENT

ARCHAEOLOGICAL EVENTS

FIGURE 3

Scale
1:10,000 @ A3

Date
NOVEMBER 2025



LEGEND

Site Boundary

Study Area (Site Boundary 1 km Buffer)

Statutory Designations

Scheduled Monument

Non-statutory Designations

Archaeological Notification Area (ANA)

Gazetteer Site Location (Type)

Find Spot

Monument

Negative Evidence

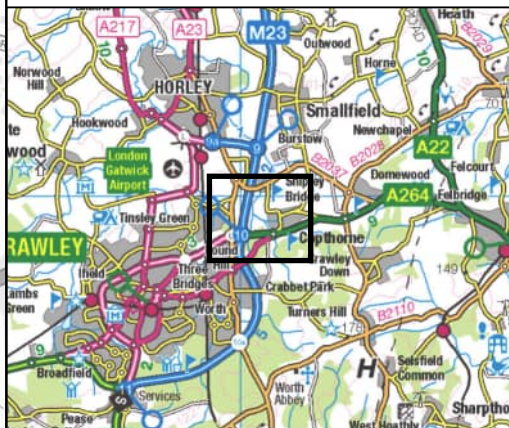
Gazetteer Site Line (Type)

Monument

Gazetteer Site Location (Area)

Monument

Note
Event Labels for Points are in **bold**, for Lines are in *italics* and, for Areas are underlined.



millerhomes

SLR

LAND PARCELS OFF WORSSELL DRIVE,
COPTHORNE

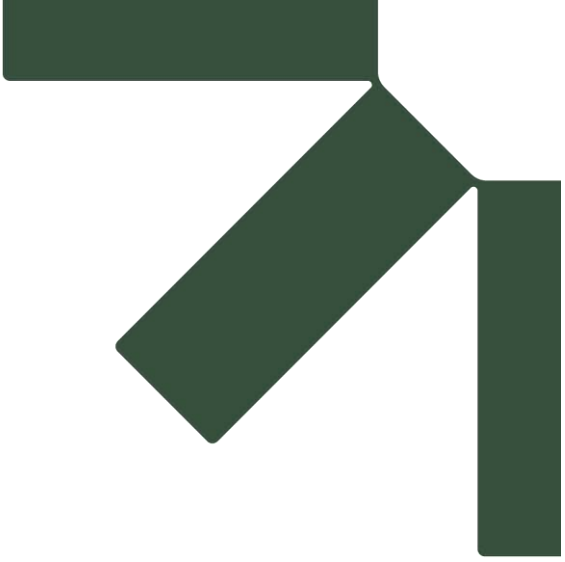
ARCHAEOLOGICAL DESK
BASED ASSESSMENT

ARCHAEOLOGICAL DESIGNATED AND
NON-DESIGNATED HERITAGE ASSETS

FIGURE 2

Scale1:10,000 @ A3

DateNOVEMBER 2025



Appendix A Gazetteer of Heritage Assets

Land Parcels off Worsell Drive, Copthorne

Archaeological Desk-Based Assessment

Miller Homes

SLR Project No.: 404.064550.00001

4 December 2025

A.1 Designated Heritage Assets

NHLE No.	NAME	DESIGNATION
1018681	MEDIEVAL SETTLEMENT REMAINS 100M SOUTH EAST AND 150M SOUTH WEST OF OLDLANDS FARM, TINSLEY GREEN	SM

A.2 West Sussex Archaeological Notification Areas (ANAs)

NAME
MEDIEVAL IRON WORKING AND SETTLEMENT SITE, TINSLEY GREEN, CRAWLEY
TOOVIES FARM MEDIEVAL EARTHWORKS, CRAWLEY

A.3 Archaeological Investigations / Activities

HER	EVUID	NAME	EVENT TYPE	DATE
WSHER	EWS1457	GATWICK AIRPORT, POLLUTION CONTROL LAGOON, DESK-BASED ASSESSMENT & FIELD RECONNAISSANCE	DBA	2011
WSHER	EWS2169	LAND AT STEERS LANE, TINSLEY GREEN, CRAWLEY - DESK BASED ASSESSMENT	DBA	2018
WSHER	EWS1739	GATWICK AIRPORT R2 HERITAGE ASSESSMENT: LIDAR ANALYSIS	LIDAR	2016
WSHER	EWS1633	LAND AT FORGE WOOD, TINSLEY GREEN, CRAWLEY PHASE 1 AND 3 - ARCHAEOLOGICAL EVALUATION AND EXCAVATION	EVAL AND EXCAVATION	2014
WSHER	EWS1884	LAND EAST OF BALCOMBE ROAD, CRAWLEY - ARCHAEOLOGICAL INVESTIGATIONS	EVAL AND EXCAVATION	2016-17
WSHER	EWS2018	LAND WEST OF COPTHORNE, WORTH - ARCHAEOLOGICAL INVESTIGATIONS	EVAL AND EXCAVATION	2018
WSHER	EWS2128	LAND AT STEERS LANE, FORGE WOOD, CRAWLEY - EVALUATION PHASE 1 AND 2	EVALUATION	2021-2024
WSHER	EWS1791	SPITFIRE 1A P9375 CRASH AT TOOVIES FARM, CRAWLEY - EXCAVATION	EXCAVATION	2017
WSHER	EWS406	PART EXCAV, MCKERROW EA, 1938-9	EXCAVATION	1938-39
WSHER	EWS1836	THREE BRIDGES MAIN - SMALLFIELD 132 KV OVERHEAD TOWER LINE DIVERSION AT TOOVIES FARM, CRAWLEY - WATCHING BRIEF	WATCHING BRIEF	2018



HER	EVUID	NAME	EVENT TYPE	DATE
SHER	ESE16141	ARCHAEOLOGICAL WATCHING BRIEF, BURSTOW GOLF COURSE, ANTLANDS LANE, SHIPLEY BRIDGE, SURREY	WATCHING BRIEF	2016

A.4 WSHER & SHER – Monuments

HER	PREFREF	NAME	PERIOD	TYPE
SHER	MSE23092	NEGATIVE EVIDENCE, BURSTOW GOLF COURSE, SHIPLEY BRIDGE	NEGATIVE	SITE
WSHER	MWS14435	THREE BRIDGES MAIN - SMALLFIELD 132 KV OVERHEAD TOWER LINE DIVERSION AT TOOVIES FARM, CRAWLEY - WATCHING BRIEF	NEGATIVE	NEGATIVE EVIDENCE
WSHER	MWS14226	FIELD BOUNDARIES, WORTH	UNKNOWN	FIELD BOUNDARY
WSHER	MWS14227	FIELD BOUNDARIES, WORTH	UNKNOWN	FIELD BOUNDARY
WSHER	MWS14228	POSSIBLE DITCH OR ENCLOSURE, WORTH	UNKNOWN	ENCLOSURE?; DITCH?
WSHER	MWS14265	FIELD BOUNDARY, WORTH	UNKNOWN	FIELD BOUNDARY; BANK (EARTHWORK)
WSHER	MWS5345	PLACENAME - FORGE WOOD	UNKNOWN	IRONSTONE WORKINGS; BANK (EARTHWORK)
WSHER	MWS6877	LIME KILN - TRENCH 21	UNKNOWN	LIME KILN
WSHER	MWS6914	HEATHY GROUND FARM, CRAWLEY - EVALUATION	UNKNOWN	POST HOLE
WSHER	MWS15323	LAND AT STEERS LANE, FORGE WOOD, CRAWLEY - ARCHAEOLOGICAL INVESTIGATIONS	UNKNOWN, POST-MEDIEVAL	BOUNDARY DITCH?; DITCH; DITCH; GULLY; PIT
WSHER	MWS989	MESOLITHIC IMPLEMENTS - HEATHY GROUND, WORTH	MESOLITHIC	FINDSPOT
WSHER	MWS790	BRONZE AGE SCRAPER - HEATHY GROUND, WORTH	BRONZE AGE	FINDSPOT
WSHER	MWS13691	GATWICK AIRPORT R2 HERITAGE ASSESSMENT: LIDAR ANALYSIS - OVERVIEW RECORD	MULTI-PERIOD	ARCHAEOLOGICAL FEATURE
WSHER	MWS12615	LAND AT FORGE WOOD, TINSLEY GREEN, CRAWLEY - ARCHAEOLOGICAL INVESTIGATIONS	MULTI-PERIOD, PREHISTORIC TO MODERN	PIT; PIT; GULLY; POST HOLE; DITCH; PIT; PIT; DITCH; DITCH; PIPELINE; FIELD BOUNDARY; DITCH; POST HOLE; PIT; GULLY
WSHER	MWS15126	LAND WEST OF COPTHORNE, WORTH - ARCHAEOLOGICAL INVESTIGATIONS	MULTI-PERIOD, PREHISTORIC, ROMAN, MEDIEVAL,	BURIED LAND SURFACE; PIT; POST HOLE; DITCH; DITCH; DITCH; DITCH; DITCH; DITCH;

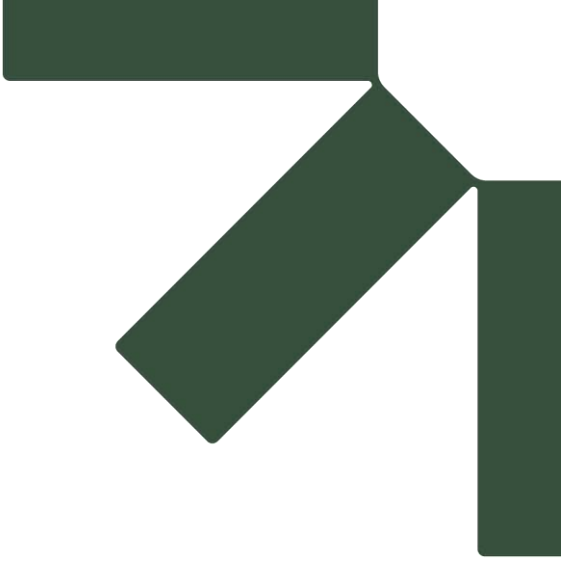


HER	PREFREF	NAME	PERIOD	TYPE
			POST-MEDIEVAL	DITCH; DITCH; DRAIN; DITCH; PIT; POST HOLE
WSHER	MWS14712	LAND EAST OF BALCOMBE ROAD, CRAWLEY - ARCHAEOLOGICAL INVESTIGATIONS	MULTI-PERIOD. LBA, IA, MEDIEVAL, POST-MEDIEVAL	PIT; PIT; POST HOLE; BOUNDARY DITCH; DITCH; FIELD SYSTEM?; DITCH; ENCLOSURE?; BOUNDARY DITCH?; DITCH; FIELD SYSTEM; DITCH; FENCE?; PIT; POST HOLE; PIT; FIELD BOUNDARY; DOUBLE DITCH; DITCH; BOUNDARY DITCH; PIT; LIME KILN; PIT
WSHER	MWS7548	EARTHWORK	MEDIEVAL	MOUND
WSHER	MWS10211	SITE OF BOUNDARY OAK (?) HISTORIC FARMSTEAD, WORTH	POST-MEDIEVAL	FARMSTEAD
WSHER	MWS13803	TOOVIES FARM HISTORIC FARMSTEAD, CRAWLEY	POST-MEDIEVAL	FARMSTEAD
WSHER	MWS14386	COPTHORNE C OF E PRIMARY SCHOOL, WORTH	POST-MEDIEVAL	SCHOOL
WSHER	MWS4041	HAMMER? POND - POUND HILL	POST-MEDIEVAL	POND
WSHER	MWS5383	KILN	POST-MEDIEVAL	IRONSTONE WORKINGS
WSHER	MWS6915	HEATHGROUND FARM HISTORIC FARMSTEAD, CRAWLEY	POST-MEDIEVAL	FARMSTEAD; U SHAPE PLAN; BARN
WSHER	MWS7770	LIME KILN - COPTHORNE FARM	POST-MEDIEVAL	LIME KILN
WSHER	MWS9271	SITE OF AKEHURSTS FARM HISTORIC FARMSTEAD, WORTH	POST-MEDIEVAL	FARMSTEAD; L SHAPE PLAN; FARMSTEAD
WSHER	MWS991	THE CHURCH OF ST JOHN THE EVANGELIST	POST-MEDIEVAL	CHURCH; LANCET WINDOW; TRACERY; NAVE; CHANCEL; BROACH SPIRE; CHANCEL ARCH; ARCADE; WINDOW; REREDOS; WINDOW
SHER	11392	STONELANDS FARM HOUSE, COPTHORNE BANK, COPTHORNE	POST-MEDIEVAL	TIMBER FRAMED HOUSE; HOUSE
WSHER	MWS9914	COPTHORNE FARM HISTORIC FARMSTEAD, WORTH	POST-MEDIEVAL	FARMSTEAD; L SHAPE PLAN
WSHER	MWS6885	TOOVIES FARM, CRAWLEY	POST-MEDIEVAL - MODERN	FARM; AIRCRAFT CRASH SITE; SPITFIRE
WSHER	MWS7143	ANTI AIRCRAFT - THE KENTISH GUN BELT DIVER BATTERY B3, CRAWLEY	MODERN	ANTI AIRCRAFT BATTERY
WSHER	MWS9014	THE COTTAGE IN THE WOOD, BALCOMBE ROAD, CRAWLEY -	MODERN	HOUSE; JETTY; POST; INGLENOK; CHIMNEY



HER	PREFREF	NAME	PERIOD	TYPE
		HISTORIC BUILDING INFORMATION		STACK; BAY WINDOW; CASEMENT WINDOW; NOGGING





Appendix B Report on Archaeological Excavation – Strip, Map and Sample (PCA 2020)

Land Parcels off Worsell Drive, Copthorne

Archaeological Desk-Based Assessment

Miller Homes

SLR Project No.: 404.064550.00001

4 December 2025

**LAND WEST OF COPTHORNE,
COPTHORNE WAY, WEST SUSSEX**

**REPORT ON ARCHAEOLOGICAL
EXCAVATION – STRIP, MAP AND
SAMPLE**

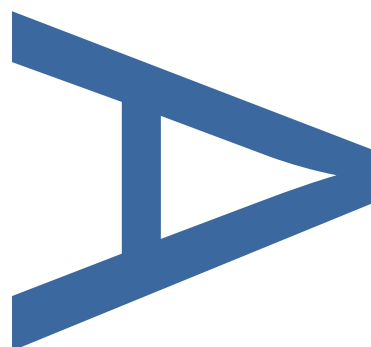
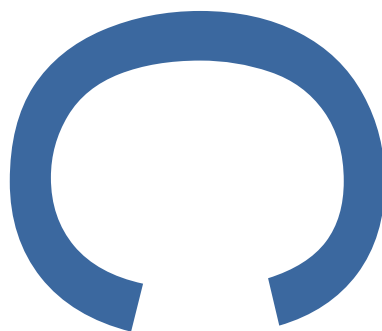
**LOCAL PLANNING AUTHORITY:
MID SUSSEX DISTRICT COUNCIL**

**PLANNING APPLICATION NUMBERS:
13/04127/OUTES**

PCA REPORT NO: 14003

SITE CODE: CWS19

MAY 2020 (REVISION 1)



PRE-CONSTRUCT ARCHAEOLOGY

LAND WEST OF COPTHORNE, COPTHORNE WAY, WEST SUSSEX: REPORT ON ARCHAEOLOGICAL EXCAVATION – STRIP, MAP AND SAMPLE

Site Code: CWWS19

Central NGR: 530621 139373

Local Planning Authority: Mid Sussex District Council

Planning Reference: 13/04127/OUTES

Commissioning Client: Natta on behalf of St Modwen Homes

Written/Researched by: Dominic McAtominey

Project Manager: Paul McCulloch BA MCIfA, PCA Ltd (Winchester)

Contractor: Pre-Construct Archaeology Ltd (Winchester)
5 Red Deer Court
Elm Road
Winchester
Hampshire SO22 5LX

Tel: 01962 49 549

Mobile: 07714 134 099

E-mail: pmcculloch@pre-construct.com

Web: www.pre-construct.com

© Pre-Construct Archaeology Limited

27th May 2020 (Revision 1)

© The material contained herein is and remains the sole property of Pre-Construct Archaeology Limited and is not for publication to third parties without prior consent. Whilst every effort has been made to provide detailed and accurate information, Pre-Construct Archaeology Limited cannot be held responsible for errors or inaccuracies herein contained.

DOCUMENT VERIFICATION

Site Name: Land West of Copthorne, Copthorne Way, West Sussex

Type of project: Strip, Map and Sample

Report: Post Excavation Assessment

Quality Control

Pre-Construct Archaeology Limited Project Code: K6182		
	Name & Title	Date
Text Prepared by:	D McAtominey	24/01/2020
Graphics Prepared by:	R Murphy	20/01/2020
Graphics Checked by:	M Roughley	20/01/2020
Project Manager Sign-off:	P McCulloch	27/01/2020

Revision No.	Date	Checked	Approved
1	27/05/2020	A Beeby	P McCulloch

CONTENTS

1	Non-Technical Summary	5
2	Introduction	6
3	Location, Topography and Geology.....	8
4	Geoarchaeological and Archaeological Background.....	9
5	Results	13
6	Statement of Potential.....	20
7	Original Aims and Objectives and Revised Research Questions.....	23
8	Proposal for Further Work.....	26
9	Archive Preparation and Deposition	28
10	Acknowledgements	30
11	References	31

APPENDICES

Appendix 1: Context Index

Appendix 2: Plates 1- 11

Appendix 3: OASIS Form

Appendix 4: Specialist Report – Flint

Appendix 5: Specialist Report – Pottery

Appendix 6: Specialist Report – Environmental Sampling

Appendix 7: Specialist Report – Monolith Sample

LIST OF PLATES

Plate 1. [1009] view facing north, scale 1m

Plate 2. [1013] view facing north, scale 2m

Plate 3. [1017] view facing south west, scale 1m

Plate 4. [1037] view facing south west, scale 2m

Plate 5. [1057]/[1059] view facing east, scale 1m

Plate 6. [1046] of Group 1064 view facing north west, scale 1m

Plate 7. [1006] of Group 1066 view facing south, scale 1m

Plate 8. [1004] of Group 1066 and [1044] of Group 1067 view facing south east, scale 2m

Plate 9. [1062] of Group 1065 view facing north east, scale 0.5m

Plate 10. Test pits in area 2, view east

Plate 11. Test pit 13 view east, scale 1m

LIST OF FIGURES

Figure 1. Site Location

Figure 2. Detailed Site Location

Figure 3. Plan of Area 1

Figure 4. Area 1 Sections

Figure 5. Plan and Section of Area 2

1 NON-TECHNICAL SUMMARY

1.1 Pre-Construct Archaeology Ltd (PCA) was appointed by Natta on behalf of St Modwen Homes, to carry out a programme of archaeological investigation on Land West of Copthorne, West Sussex. The archaeological investigation was intended to mitigate the impact of the development, on archaeological remains identified during two phases of archaeological evaluation work previously undertaken on the site. This earlier work was carried out by Archaeology South East (ASE) (ASE 2017 & 2018). The investigations were undertaken across two areas: Area 1 measuring 1,670sqm and Area 2 measuring 100sqm, with all on-site work carried out between the 12th of August 2019 and the 18th of September 2019.

1.2 The investigation revealed archaeological resources dating to the prehistoric (Phase 1), later prehistoric to Roman (Phase 2) and medieval (Phase 3) periods. Cut features were only recorded in Area 1. Within this area it is considered that the Phase 1 resources are potential evidence of the reuse of natural features, possibly in the Mesolithic period, whilst the Phase 2 and 3 resources represent elements of land management or land division features.

In Area 2, a sequence of deposits identified during the evaluation within Geotechnical Test Pit 2 (GTP2) were reinvestigated. During the preceding evaluation these deposits produced a notable quantity of prehistoric worked flint and were highlighted as containing a potential buried land surface and elements of a possible redeposited land surface. As part of this project GTP2 was reopened and four additional test pits were excavated to the immediate north, south, east and west of the earlier pit. A sample of the soil sequence within GTP2 was also removed for analysis. Whilst the same sequence of soils noted within GTP2 was observed within the four PCA test pits, specialist analysis undertaken as part of this latest project suggests differential soil colouration recorded during the evaluation and highlighted at that time as evidence of elements of a land surface or surfaces, was actually the result of natural chemical processes within the soil. Whilst no land surface was found, environmental sampling of the deposits within the test pits produced evidence for foraging of hazelnuts as well as the cultivation of cereal crops. A small quantity of struck flint was also recovered; the flints recovered here and during the evaluation are likely to have been scattered upon fresh alluvial surface deposits alongside the Copthorne Brook, by groups moving in and utilising the landscape along the edge of the watercourse.

2 INTRODUCTION

2.1 Project background

- 2.1.1 Pre-Construct Archaeology Ltd (PCA) was appointed by Natta, on behalf of St Modwen Homes, to carry out a programme of archaeological investigation on Land West of Copthorne, West Sussex, hereafter ‘the site’, centred at NGR 530621 139373 (Figure 1). The site is to be developed for housing and the archaeological investigation was intended to mitigate the impact of the development on archaeological remains previously identified during two phases of archaeological evaluation work (ASE 2017 & 2018).
- 2.1.2 Outline planning permission for the development was granted by the Local Planning Authority (LPA), Mid Sussex District Council, in May 2016 (Planning ref: 13/04127/OUTES); with development subject to Condition 12, which set out an archaeological requirement. The requirement was based on the advice of Mark Taylor, West Sussex County Archaeological Officer, as advisor to the LPA, a role which is now performed by Alex Eggington Archaeological Officer (AO), Heritage Conservation Team Surrey County Council.
- 2.1.3 The works were carried out on-site between the 12th of August and the 18th of September 2019
- 2.1.4 A Written Scheme of Investigation (McCulloch 2019) detailing the excavation and post-excavation methodology to be taken during the archaeological investigation and subsequently during post-excavation reporting, was prepared in June 2019 prior to the fieldwork. A revision to the Written Scheme of Investigation (Revision 1) was agreed in July 2019, allowing for an amended fieldwork methodology to be used in Area 2. This was required following the discovery of surface damage to the area caused by construction activity undertaken prior to the archaeological excavation. Both phases of work have been undertaken in accordance with the agreed methodologies.
- 2.1.5 This document has also been prepared in accordance with:
- (1) The Chartered Institute for Archaeologists standard and guidance for archaeological field evaluation (CIfA 2014);
 - (2) Recommended Standard Conditions for Archaeological Fieldwork, Recording, and Post-Excavation Work (Development Control) in East Sussex (ESCC 2008);
 - (3) Sussex Archaeological Standards 2019 (ESCC December 2019);
 - (4) Sussex Archaeological Standards: Written Scheme of Investigation Requirements

(2018);

(5) Management of Research Projects in the Historic Environment (Historic England, 2015).

3 LOCATION, TOPOGRAPHY AND GEOLOGY

- 3.1** The site (55ha) is currently given over to fields enclosed by areas of scrub and woodland (Figure 2). It is bounded by farmland to the north, the A264 to the south, residential development to the east and the M23 to the west. A large portion of the centre of the site is wooded. To the north is the site of a former sewage works, traces of which are still extant. The most southerly of the fields was formerly occupied by a large pond which has subsequently been landfilled.
- 3.2** According to the latest data available from the British Geological Survey (BGS 2018) the underlying bedrock geology is Upper Tunbridge Wells Sand (interbedded sandstone and siltstone). There are also alluvial soils running north – south through the site relating to the Burstow Stream and Copthorne Brook, a band of Upper Tunbridge Wells Sand (mudstone) running along the western boundary of the site and a swathe of superficial deposits of clay, silt, sand and gravel formed from material accumulated by down slope movements in the southern part of the site.
- 3.3** The site is spread across a large area, predominantly comprised of fields, with one small area located within an area of felled trees and scrubland. The site is divided by two, The Burstow Stream and Copthorne Brook, tributaries of the River Mole. The site is bounded by industrial units and housing to the north and east of site, and by the Copthorne Way to the south and the M23 to the west.

4 GEOARCHAEOLOGICAL AND ARCHAEOLOGICAL BACKGROUND

4.1 Source of the Data

- 4.1.1 The following background information has been paraphrased from the desk-based assessment (Terence O'Rourke 2013) supplemented with the results of recent work undertaken by Archaeology South East (ASE) to the immediate west of the site at Balcombe Road (ASE 2017) and the results of a recent Geo-environmental Interpretative Report (Atkins 2017).

4.2 Palaeolithic

- 4.2.1 Evidence for human activity during the Palaeolithic period within or in the vicinity of the site is minimal, with no archaeological sites or finds spots recorded nearby.

4.3 Mesolithic

- 4.3.1 The site has evidence for Mesolithic activity in the form of flint implements and debris found within the Heathy Ground Wood. The WSCC HER details that the finds derive from excavations carried out in 1938-9 by amateur archaeologist, Mr McKerrow. These excavations recorded a 'flint knapping floor' and 'Mesolithic occupation area'. The HER states that a selection of the finds from the excavations were sent to the British Museum and classified as being of Mesolithic date. In close proximity to the Mesolithic finds, the HER includes a finds spot for an Early Bronze Age flint scraper that was also found during Mr McKerrow's excavations. There are now no signs of his excavations in the wood.

4.4 Neolithic

- 4.4.1 Evidence for human activity during the Neolithic is absent from the vicinity of the site.

4.5 Bronze Age

- 4.5.1 Evidence for Bronze Age activity within the site is limited to the finds spot of an Early Bronze Age flint scraper associated with Mr McKerrow's excavations. Recent work to the west of the site has revealed evidence for a Bronze Age field system.

4.6 Iron Age to Roman

The evaluation of the Balcombe road site also revealed evidence for land division spanning the later Iron Age and early Roman period.

4.7 Medieval

- 4.7.1 There is no evidence for Anglo-Saxon activity in the vicinity of the site.
- 4.7.2 Deserted medieval villages as seen just to the west of the site at Tinsley Green, represent evidence of the predominant, dispersed form of medieval rural settlement in the area. The scheduled monument entry describes the continuity between medieval and post-medieval settlement in this area of Sussex and its relationship with the nearby iron working centre at Forge Farm.
- 4.7.3 The High Weald is an area of ancient countryside characterised by early enclosure and extensive woodland. The field pattern around Heathy Ground Wood and Wellfield Copse demonstrates the characteristic dispersed settlement and the pattern of enclosure created as a result of piecemeal asserting and the formation of farms within the woodland.
- 4.7.4 LiDAR survey of the site has revealed a series of probable historical field boundaries within Heathy Ground Wood that may date to the medieval or early post-medieval period.

4.8 Post-Medieval

- 4.8.1 Evidence for the Wealden iron industry is apparent in the vicinity of the site with neighbouring woodland names including Forge Wood and Furnace Wood. Evidence for other post-medieval industries in the area includes the remains of two lime kilns recorded to the west.
- 4.8.2 The 1st Edition Ordnance Survey map of 1875 names the site as Heathy Ground, shown as a mix of rough pasture and fir trees, with a denser area of predominantly conifer woodland in the south east. The 1897 edition shows Heathyground Pond in the south-west of the site, created by a dam to the north with a sluice. Later editions show little change until the 1932 edition, when there is a new house in the south east, named as Kirklington and a sewage works within the field parcel to the south of Copthorne Brook. This remained in place until at least 1987.
- 4.8.3 Since 1945 there has been extensive development within the broader area, as a result of the development of Crawley (one of the new towns under the New Towns Act 1946) and the growth of Gatwick Airport. The field systems to the west of the site were severed by the line of the M23 in the 1970s and the former heathland was crossed by a new road from the roundabout to Copthorne. At this time it appears the pond was drained.

4.9 Geoarchaeological Background

- 4.9.1 The site is situated on the bedrock of the Upper Tunbridge Wells Sand consisting of interbedded deposits of mudstones, siltstones, and sandstones. The Upper Tunbridge Wells Sand is fine grained and can become quite soft when exposed, making it vulnerable to erosion. This limits the possibility for surviving Pleistocene deposits in the area. No Pleistocene deposits have previously been recorded as being present on site, and no Palaeolithic artefacts are recorded as having been recovered from the area.
- 4.9.2 Holocene alluvial and colluvial deposits consisting of weathered and reworked Upper Tunbridge Wells Sand are present in the area. Alluvial deposits are mapped along the two streams that cross the site, The Burstow Stream and Copthorne Brook, both tributaries of the River Mole.
- 4.9.3 The Mesolithic is well represented in the wider area which has produced nationally important Mesolithic material including early records of microlithic industries (Honeywood 1877, Clark 1934, Woodcock 1981). Mesolithic material has previously been recovered both through field walking between Horsham and Crawley (Clark 1934) and excavations between Haywards Heath and Tunbridge Wells (e.g. Jacobi and Tebbutt 1981).
- 4.9.4 Any early Holocene deposits present on the Site have the potential for Mesolithic material. The WSCC HER details material recovered from the site during excavations by a Mr McKerrow, an amateur archaeologist, that took place from 1938-1939. These excavations recovered lithic artefacts from two areas of the site which were subsequently classed as Mesolithic by the British museum. The position of these areas was marked on the 1957 Ordnance Survey map. A previous phase of evaluation sought to ascertain the extent of the two locations where Mesolithic material had been recovered using hand dug test pits. However, it did not result in the recovery of any artefacts or encounter any clear buried land surfaces.

4.10 Preceding Archaeological Work

- 4.10.1 Two Stages of evaluation were undertaken by Archaeology South East in 2017 and 2018 (ASE 2017 & 2018). The results of the 2018 trial trench evaluation, incorporating the observations of the 2017 geoarchaeological test pit investigation, is summarised as follows.
- 4.10.2 A total of 67 trenches were excavated in 2018, 28 of which revealed archaeological finds and features. These appeared to be spread across the site and comprised mainly of ditches as well as a number of postholes and pits. Unfortunately, the majority of the features produced no finds and these therefore remain undated. Only four trenches

produced dating material.

- 4.10.3 Mesolithic or Neolithic worked flint was recovered from Geoarchaeological Test Pit 2 (GTP2). Subsequently, additional evidence of Mesolithic or Neolithic activity came from ditches found within evaluation Trenches 15, 21 and 43, all of which produced small assemblages of struck flint. The geoarchaeological test pits provided little evidence for alluvial sediments extending far from Copthorne Brook itself, and to the north of the stream, no deposits of any geoarchaeological potential were encountered. To the south of the stream however, in GTP2, a dark band within the alluvial deposits was noted; this was interpreted as a possible remnant of a buried land surface. Mesolithic or early Neolithic lithic artefacts were recovered from around this band. It was supposed that this artefact bearing horizon may extend further across the site to the east and west, although hand-dug test pits excavated previously had been too shallow to encounter it. It was suggested that the horizon may relate directly to the Mesolithic material recovered by McKerrow.
- 4.10.4 Trenches 40 and 43 produced a small amount of pottery which was dated to the Late Iron Age/Roman period. This would appear in keeping with the results from an evaluation of the Balcombe Road site revealing evidence for land division between the same period. Four sherds of 13th century medieval pottery were also recovered from a ditch in Trench 43 and a single fragment of glass recovered from an environmental sample from Trench 59 appears to be post-medieval.

5 RESULTS

5.1 Introduction

5.1.1 The following provides a summary of the investigation results based upon the site archive, which comprises a site diary, context sheets, drawings, digital photographs, electronic survey data and a finds assemblage. The Archive is held as PCA's Winchester office under the site code CWWS19 and will in due course be deposited with the appropriate museum.

5.2 Methodology – Area 1

5.2.1 The investigation comprised the mechanical stripping of an area measuring 1,670sqm and targeting features identified in evaluation Trenches 40 and 43 (**Figure 2**). The areas were set out using a GPS device to ensure the pre-determined location was achieved accurately.

5.2.2 The areas were mechanically excavated using a 360° tracked excavator fitted with a wide toothless blade bucket. All mechanical excavation was supervised by a suitably qualified archaeologist familiar with the ground conditions anticipated on the site. Up-cast was stored adjacent to the area.

5.2.3 The outline of evaluation Trenches 40 and 43 were revealed and in this way certainty of the depth at which features were recorded in those trenches was obtained. This provided certainty as to the necessary depth of mechanical excavation across the extent of Area 1 and the optimal definition of predominantly shallow archaeological features, all cut into the underlying natural. On this basis, the density and quantity of features revealed in Area 1 appears to have been reliably identified and is reasonably consistent with what was indicated by the evaluation.

5.3 Phased Archaeological Sequence – Area 1 (Figures 3 and 4)

5.3.1 The following describes the archaeological sequence based on the site archives and spot dating from finds material.

5.4 Natural deposits

5.4.1 The topsoil (1000) was found to be a mid greyish brown clayey silt with an average depth of 0.35m Below Ground Level (BGL). The natural geology (1001) was found to be a mottled mid orange brown and grey silty clay.

5.5 Phase 1: Prehistoric

- 5.5.1 A number of features of varied form and uncertain but possibly prehistoric date were identified, and these features were placed within Phase 1. The features included a cluster of, small and very shallow features, many of which produced lithic material of broadly Mesolithic to early Neolithic date. The features were located to the centre and south of Area 1. There is no obvious pattern to their distribution.
- 5.5.2 Feature [1009] (Plate 1) was a sub-circular shaped pit measuring 1.30m long, 0.7m wide and 0.13m deep with concave sloping sides and an uneven base. This feature was located close to the eastern boundary of the area, on the southern side of the site. The single fill, (1010), was a light greyish white clayey sand material; a single struck flint was recovered from this context, which has been identified as of Mesolithic to early Bronze Age.
- 5.5.3 A small cluster of features were located towards the centre of the stripped area. These were [1015], [1017], [1037] and [1039].
- 5.5.4 Feature [1017] (Plate 3) was a sub-circular feature measuring 1.45m long, 1.30m wide and 0.28m deep with steep, straight sides and a concave base. Single fill (1018) was a light brownish grey clayey sand with small ironstone inclusions. Close to the southern edge of [1017], a shallow posthole, [1015], was recorded. This feature, which had an irregular profile, had a compact, mid-brownish grey, clay sand fill. Assuming these two features are contemporary, it is possible that this posthole held a simple structural support over [1017], although this interpretation is very tentative. No matching postholes was recorded on the northern side of [1017]. Neither [1017] or [1015] produced finds.
- 5.5.5 Feature [1037] (Plate 4) was a subcircular shaped feature measuring 0.74m long, 0.70m wide and 0.06m in depth with concave sides and a flat base. This feature had a single fill (1038) of light orange grey clayey sand. No finds were recovered. Feature [1037] was truncated by a larger feature, [1039]; this was a subcircular to oval feature measuring 1.90m long, 0.94m wide and 0.35m deep with steep concave sides and a flat base. This feature contained two fills; lower fill (1040) was a light blue grey clayey sand 0.35m thick which produced a range of struck flints, including two pieces broadly dated to the Mesolithic to early Neolithic. Upper fill (1041) was a mid-greyish brown clayey silt measuring 0.10m thick with small iron stone inclusions. No finds were recovered from this context.
- 5.5.6 Group 1068, including [1012] and [1036], was recorded to the south of the cluster of features described above. Both of these pit-like features were irregularly shaped and

very shallow with sloped sides and irregular bases. Rather than true archaeological features these may have been patches of shallow disturbance or variation within the underlying natural deposit. The profiles of both features were similar as were their mottled grey-brown fills (1011) and (1035); because of this it seems likely they are contemporary. Although they appeared to inter-cut in plan, the true relationship was unclear and could not be satisfactorily defined or demonstrated because of their very shallow depth. Their shallowness also meant these features could not be easily represented in section. Struck flint of Mesolithic to early Neolithic date was recovered from each of the fills of the features. Fill (1035) also produced some small fragments of pottery which is probably of Romano-British date. As none of the other pit or posthole features in this part of Area 1 produced Romano-British finds, these small fragments are assumed to be intrusive.

5.5.7 Two very small, posthole type features, cut [1025] filled by (1024) and cut [1027] filled by (1026), were recorded north-east and south-west of the southern feature within Group 1068, [1012]. These were oval in plan and of similar dimensions, being 0.05m deep and measuring no more than 0.15m by 0.10m wide. The fill of each was firm brown clay; no finds were recovered from either fill. These two features have been very tentatively interpreted as the vestigial trace of two small post-holes. Given their proximity and positions relative to feature [1012], it is conceivable they were part of a simple structure associated with [1012], although this is entirely conjectural.

5.5.8 Feature [1013] (Plate 2), which located to the east of Group 1068 was irregularly shaped measuring 2.76m long, 1.15m wide and 0.09m deep; it had almost vertical sides and an uneven base. The single fill, (1014), was a light grey-orange clayey sand with small ironstone inclusions; a single piece of struck flint was recovered from this context with a Mesolithic to early Neolithic date suggested for this item.

5.6 Phase 2: Iron Age/ Romano British

5.6.1 Group 1064, comprising of slots [1019], [1059], [1028], [1046] and [1054] (Plate 6) was a linear feature which ran north west – south east from the northern extent of Area 1 to the eastern extent. Excavated sections demonstrated the maximum dimensions of this feature to be 1.2m wide and 0.47m deep. The profile had gradual, concave sides and a flat base. This feature was filled with greyish brown silty sand mottled with orange grey silty sand; it contained struck flint. Fill (1055) of section [1054] contained late Bronze Age/Iron Age pottery. Section [1019] demonstrated a very shallow terminus to this feature with a single fill of light yellow brown silty sand (1020), containing redeposited struck flint.

5.6.2 Group 1066 (Plate 7), which includes cuts [1049], [1006] and [1004] was a roughly north

– south aligned linear feature located in the south eastern corner of Area 1. Excavation demonstrated that this feature had maximum dimensions of 1.15m wide and 0.32m deep. The feature had sloping sides and a flat to concave base with a single fill of light brownish grey silty sand. Fill (1007) of slot [1006] and fill (1050) of slot [1049] contained struck flint. Whilst no additional dateable material was recovered from this feature during this phase of work, this feature is equivalent to feature [40/004], recorded during the trial trench evaluation; ditch [40/004] produced later Iron Age to Roman dated material (ASE 2018, 17).

5.7 Phase 3: Medieval

5.7.1 Group [1065], which includes excavated sections [1051], [1021], [1062] and [1030] (Plate 9) was a linear feature that ran north east – south west, truncating linear [1064]. Group [1065] had maximum dimensions of 1.43m wide and 0.31m deep with steady sloping sides and a concave base. This feature had two very similar, brown clayey silt fills for most of its course, although the depth of these fills varied across the feature. Only a single fill was recorded within slot [1062]. Upper fill (1023) of slot [1021] contained two small sherds of Roman pottery. This feature is most likely equivalent to trial trench evaluation feature [43/004], which yielded medieval pottery dated c. 1225-1300 AD (ASE 2018, 20). No evidence of a stratigraphically earlier ditch, on the same alignment, that was recorded in evaluation Trench 43 (feature 43/007), was found; the evidence for this earlier ditch was slight and the feature appears to have been represented, in section, by its base alone. It is conceivable the feature represents a mis-reading of the deposits within evaluation Trench 43 in which the definition of features may have proved difficult, given their extent, shallow depth and subtle variations in the archaeological and natural deposit sequence revealed.

5.8 Phase 4: Undated

5.8.1 Feature [1033]/[1057] was a short section of linear feature which ran for a distance of 7.0m on a north west – south easterly alignment from the northern boundary of Area 1. Excavated section [1057] (Plate 5) demonstrated maximum dimensions of 1.10m wide and 0.21m deep with fairly steep concave sides and a flat base. Both sections contained the same fill of mid greyish brown clayey silt material with ironstone inclusions. The fill of [1033], (1043), produced two pieces of residual prehistoric struck flint; feature [1033]/[1057] cut Group [1064], which contained later prehistoric pottery.

5.8.2 Group 1066 was truncated by Group 1067, a short section of a curvilinear feature located at the far south eastern end of Area 1. Slots [1002] and [1044], within this group (Plate 8) demonstrated a maximum width of 0.60m and maximum depth of 0.29m. Section [1002] had a steep 'V' shaped profile with a pointed base; the only fill, (1003), was a light

greyish brown silty sand with small ironstone inclusions. Section [1044] demonstrated steep concave sides and a concave base, with the fill, (1045), being a mid-brownish grey clayey sand with small ironstone inclusions. No finds were recovered from this feature.

5.9 Summary – Area 1

5.9.1 Area 1 demonstrated a low level of archaeological activity related to the prehistoric, Roman and medieval periods. Groups 1064 and 1066 have been interpreted as land division/field boundary ditches of later prehistoric or Roman date (Phase 2). Group 1065 has been interpreted as small boundary or drainage ditch, with the evidence of the preceding evaluation, (ASE 2018), suggesting this is of medieval date (Phase 3). Whilst Group 1067 and linear feature [1033/1057] cut Phase 2 Groups 1066 and 1064 respectively, they produced no finds and could be of any date from the later prehistoric onwards.

5.9.2 The cluster of pit-like features, located to the centre and south of Area 1 have been interpreted as small pits and/or tree throws owing to their irregular shapes and sizes. These features produced a fair quantity of prehistoric worked flint, including several blade fragments. The features could be examples of vegetation disturbances and/or tree throws reutilised during the Mesolithic period, or the struck flints may have been redeposited at a later date.

5.9.3 The excavation in Area 1 did not reveal evidence of some features identified during the evaluation, including pits [40/006] and [40/008] and linear feature [43/007]. This may have been due to the intrusive nature of the archaeological evaluation or differing weather conditions between the two phases of works.

5.10 Methodology – Area 2

5.10.1 Area 2 was intended to target a sequence of Holocene deposits previously identified by evaluation Trench 27 and excavated within Geoarchaeological Test Pit 2 (GTP2); the evaluation report (ASE, 2019) characterised the Holocene sequence as alluvial stream deposits.

5.10.2 Prior to starting work within Area 2 in August 2019 it was evident that it had been disturbed by construction activity associated with the permitted development, having been stripped of topsoil and tracked over by dumper trucks. This necessitated an amended methodology (McCulloch 2019, revision 1). Following an initial strip of remnant subsoil and the cleaning of the site surface, GTP2 was reopened. A grid of 1m x 1m test pits (Test Pits 11-14) were then arranged within the stripped area around GTP2. These were hand excavated for the initial purpose of characterising the deposit sequence and

identifying if the deposits contained stratified worked flint and if so whether this material was *in situ* or disturbed. If scatters of worked flint were identified, their extent was to be determined through the extension of the gridded test pit sampling strategy.

5.11 Results: Area 2 (Phase 1) (Figure 5)

- 5.11.1 Four test-pits were dug, to the north (Test Pit 11), south (Test Pit 12), east (Test Pit 13) and west (Test Pit 14) of GTP2 (Plate 10). These pits were hand excavated to a depth of 0.6m deep in 10 cm spits with each spit being 100% bulk sampled for the recovery of artefacts and ecofacts/biological remains.
- 5.11.2 The four test pits all demonstrated the same stratigraphic sequence as demonstrated in the evaluation test pit GTP2, although it was apparent that the topsoil (ASE soil unit 1 in GTP2), subsoil (unit 2) and a portion of the uppermost layer of blue grey and orange mottled silty sand, 'Upper Tunbridge Wells Sand', (unit 3), recorded by ASE had been removed across the area, prior to the arrival of PCA. Even so, after excavation, the bulk of ASE soil unit 3 and the lower grey silty sand deposit interpreted previously as a land surface (unit 4), was visible within both the reopened GTP2 and the PCA test pits (Plate 11).
- 5.11.3 A monolith sample was taken from the north facing section of GTP2 (Appendix 7), which confirmed the alluvial nature of the deposit. However, the sample was found to be highly bioturbated with evidence of the diagenic effects of a fluctuating water table observed. These factors mean that any evidence for fluvial deposition such as fine horizontal silt and clay laminae had been destroyed. There was no evidence for a land surface found within the monolith sample and it seems likely that any variation in soil colour, was in fact caused by redox of iron and manganese oxides, which took place after the alluvial deposit was laid down and was not evidence of a buried soil horizon as previously postulated (See Appendix 7).
- 5.11.4 Environmental sampling revealed strong evidence for substantial waterlogging of this part of the site. Test Pits 13 and 14 produced seeds of plants such as Crowsfoot and Duckweeds as well as water flea eggs. Shells of several species of mollusc were identified in all four test pits many of which are suggestive of a wet or moist environment. Test Pit 12 also contained mollusc shells native to dry, calcareous environments.
- 5.11.5 Test Pit 13 was found to contain burnt flint and a single carbonised grain of naked wheat, while Test Pits 11 and 14 both contained fragments of hazelnut shell. Environmental sampling also revealed that each test pit contained significant amounts of charcoal and varying amounts of struck flint (Appendix 4). All test pits demonstrated significant rooting and intrusive modern seeds suggesting each was significantly disturbed by bioturbation.

- 5.11.6 All of the alluvial deposits within Area 2 have been placed within Phase 1 (Prehistoric) on the basis of the flintwork recovered from these contexts during this phase of work and previously. Even so, activity here may not be contemporary with Phase 1 activity in Area 1.

6 STATEMENT OF POTENTIAL

6.1 Summary

6.1.1 The fieldwork was carried out broadly in keeping with the methodology outlined in the approved Written Scheme of Investigation, issued in June 2019 (McCulloch 2019). However, whilst Area 1 was completed as initially proposed, an amended approach was required for the work in Area 2 as, prior to excavation, this area was found to have been disturbed by construction activity in the period following the archaeological evaluation. This amended methodology was set out in a revised Written Scheme of Investigation (McCulloch 2019, revision 1), issued in July 2019.

6.1.2 The density of features in Area 1 was less than might perhaps have been expected on the basis of the results of the evaluation. However, despite the universally shallow nature of the features in Area 1 and variation in the underlying natural, it was possible to characterise and provisionally date most of the features that were exposed. Area 1 revealed irregularly shaped cut features dating to the prehistoric period (Phase 1) and linear features dated to the later prehistoric to Romano-British (Phase 2) and medieval (Phase 3) periods. Two undated linear features belonging to Phase 2 or later were also recorded; these have been placed within Phase 4 (undated).

6.1.3 The land surface postulated to exist within Area 2 was not found, although a sequence of alluvial deposits containing Mesolithic dated material was revealed. It seems likely this is direct evidence of activity alongside the Copthorne Brook during Later Mesolithic (Phase 1).

6.2 Prehistoric (Phase 1)

6.2.1 Whilst there are a number of important sites associated with Mesolithic activity located upon the Tunbridge Wells Sandstone of the Central Weald, the alluvial archaeologies of the area have not been so thoroughly researched (Pope *et al* 2011, revised 2019, 12-13). Although activity in the immediate area of the Site is not well understood, the remains uncovered here along with the evidence of Mesolithic flint knapping floors and occupation areas at nearby Heathy Ground Wood (ASE 2017, 2), confirm that the Site lies within an alluvial landscape utilised by groups in the Mesolithic.

6.2.2 A sizeable assemblage of worked flint was recovered. Whilst a single microlith from the test pitted alluvial deposit in Area 2 is typologically Later Mesolithic, the features within Phase 1 in Area 1, are only broadly dated, on the basis of worked flint, to the Mesolithic to early Neolithic period. Even so, the recovery of an assemblage of flintwork from both areas, including diagnostically Mesolithic material is of local importance, indicating flint

working and usage along the banks of the Copthorne Brook during the Later Mesolithic period, probably as part of broad-based intermittent occupation by small groups moving through the landscape (See Appendix 4, this report).

- 6.2.3 The nature of the features in Area 1 and the purpose of their excavation is uncertain but they may include examples of natural disturbances such as tree throws, repurposed in the Mesolithic period, perhaps for use as temporary shelters. Two possible postholes [1025] and [1027] recorded north-east and south-west of feature [1012], within Group 1068 and a third positioned to the south of pit [1017], may have held the supporting posts for temporary shelters. All of the Phase 1 features are however shallow and whilst they are potential evidence of Mesolithic or Early Neolithic activity, their interpretation as repurposed natural disturbances must be viewed with some caution, especially as one of the features, [1036], yielded fragments of pottery of probable Romano-British date, alongside Mesolithic to Early Neolithic dated flint.
- 6.2.4 Area 2 had been disturbed by construction activity, prior to the excavation of Test Pits 11, 12, 13 and 14. Even so, whilst the topsoil and subsoil identified by ASE within Geotechnical Test Pit 2 (GTP2) had been largely, if not entirely removed, the upper alluvial and lower silty sand layers (ASE soil units 3 and 4), which produced substantial quantities of worked flint during the evaluation, were still visible and were observed within all four of the PCA test pits.
- 6.2.5 Environmental monolith sampling and analysis of the soil sequence within GTP2, has found that ASE soil units 3 and 4 are unlikely to include remains of an intact or redeposited land surface, as had been previously postulated. Instead, the analysis suggests that areas of differential colouration within these units were most likely caused by natural chemical processes within the soil. Instead the flints recovered are likely to have been scattered upon fresh alluvial surface deposits alongside the Copthorne Brook by groups moving in, and utilising, the landscape along the edge of the watercourse.
- 6.2.6 The PCA test pits showed some evidence for the foraging of hazelnuts as well as the cultivation of cereal crops. Whilst the alluvial deposits within the test pits were thoroughly sampled, analysis showed evidence of significant rooting and the presence of intrusive modern seeds. A grain of wheat was also recovered, additionally confirming the high level of post-Mesolithic contamination of this deposit. Given the apparent contamination of the deposit and the poor survival of the archaeobotanical material within it, the potential for further analysis to provide useful data on the Mesolithic landscape in the area of the Copthorne Brook is very limited.
- 6.2.7 There is however a paucity of carbon dates from Mesolithic sites in Sussex, with significantly more dates required before a regional chronological framework can be

devised to allow an improved understanding of site distribution patterns and resource exploitation (Pope *et al* 2011, revised 2019, 23). There are a number of archaeobotanical fragments from the alluvial deposit, which would be suitable for carbon dating, although given the level of contamination apparent, multiple samples would need to be tested to provide a broad range of dates. Using this method, it is hoped any obvious contamination would be identifiable. These dates may allow a better understanding of the chronology of Mesolithic occupation on the site and would add to the dataset of carbon dates from the region.

6.3 Iron Age to Roman British (Phase 2) and Medieval (Phase 3)

- 6.3.1 It seems likely that the features placed within Phases 2 and 3 are demonstrative of land management activity of later prehistoric to Romano-British and medieval date. The features are of local importance, providing evidence of local activity on the site during that time. However, the remains are relatively scant and the finds assemblages small and fragmentary; because of this there is limited potential for further work.

6.4 Conclusion

- 6.4.1 The resources identified in Area 1 are of local significance. The assemblage of flint from the Phase 1 features are worthy of further examination alongside the material from the evaluation, as they may be indicative of activity here in the Mesolithic period. There is limited further potential for analytical work on the features dated to Phases 2 and 3
- 6.4.2 The silty sand deposits initially identified during the evaluation within Geotechnical Test Pit 2 (GTP2), which yielded an assemblage of Mesolithic to Early Neolithic flintwork, were also observed during the mitigation phase. No other archaeological resources were identified in Area 2. Although environmental sampling did yield evidence of anthropogenic activity, including cultivated plant remains, charcoal and struck flint the samples also contained significant evidence of disturbance by bioturbation.
- 6.4.3 It is suggested that at least three items of hazelnut shell or a suitable fragment of charcoal from Area 2 is radiocarbon dated in an attempt to provide more accurate dating of the alluvial deposit and the associated deposition of the prehistoric flintwork from within the deposit.
- 6.4.4 The results of the excavation are worthy of inclusion within an academic journal as an article. All the findings are of local significance and should be disseminated accordingly.

7 ORIGINAL AIMS AND OBJECTIVES AND REVISED RESEARCH QUESTIONS

7.1 Original Aims of the Excavation

7.1.1 The excavation was carried out with specific aims. These were outlined within the mitigation phase Written Scheme of Investigation (McCulloch 2019). The extent to whether these aims were achieved is set out below:

7.1.2 The overall aims of the excavation were to:

- “Determine the extent, character and date of archaeological resources within the defined areas, taking account of their potential to contain biological and palaeo-environmental remains and local, regional and national research aims.”

And:

- “Carry out a subsequent programme of post-excavation assessment, analysis, reporting, archiving and dissemination of the results obtained”.

7.1.3 These assessment task has been undertaken. The potential has been assessed and a suggested program of further works based on that assessment is outlined below.

7.1.4 Specific aims for Area 1 included:

- “Area 1: Provide evidence that will further characterise the Iron Age/Romano-British remains identified in evaluation Trenches 40 and 43 and consider to what extent this can indicate the date and nature of settlement or related activity that survives within the site.”

7.1.5 The excavation of Area 1 provided little further evidence to characterise the Iron Age/Roman remains identified during the evaluation. It is not possible to indicate further the date and nature of the settlement or any related activity within the site.

7.1.6 Specific Aims for Area 2 included:

- “Area 2: Determine a stratigraphic deposit sequence in order to establish a context for the known and suspected potential of the site, and specifically the environs of the Copthorne Brook stream bed, to contain Mesolithic and possibly early Neolithic worked flint assemblages.”

7.1.7 The PCA Test Pits showed there to be a high potential for Mesolithic flint working activity in the vicinity of the Copthorne Brook. However, the presence of an intact developed soil

horizon as suggested by the Evaluation has not been identified and the flintwork recovered during all three phases of work is likely to represent seasonal activity taking place during drier periods close to the periodically flooded Copthorne Brook.

7.2 Revised Research Aims following Assessment

7.2.1 The results of the archaeological excavation raised a number of new research questions relating to the archaeological remains uncovered. These are listed below:

- How do the prehistoric remains on the Site compare with those found at other contemporary sites in the region?
- Are the irregular features found in Area 1 tree-throw hollows or other natural features that had been utilized and are they contemporary with the prehistoric activity recorded in that area.
- Can the dating of activity on the site, be refined through Carbon dating (AMS) of the archaeobotanical remains from the Test Pits in Area 2?
- What can further study of the flint assemblage from both the preceding evaluation and the excavation stages of work, tell us about Mesolithic landscape use, settlement mobility, lithic technology and raw material acquisition at the site, as well as locally and within the wider region?

7.2.2 These aims inform a number of the research aims highlighted by the South East Research Framework Resource Assessment and Research Agenda for the Palaeolithic and Mesolithic Period (Pope *et al* 2011, revised 2019). Specifically, Research Aims:

D.8 - Should Mesolithic pit features (e.g. Abinger, Hassocks and Selmeston) be Interpreted as a signature of settlement?

D.10 How can lithic analysis reveal choices of local or distant sources, chronological patterning, potential travel distances, exchange mechanisms or preferential selection for specific tool types?

D.13 What approaches to Upper Palaeolithic and Mesolithic social archaeologies are appropriate for the region?

D.13.1 Determining whether the absence of clear settlement and burial is real, or is the result of preservation/prospection bias

D13.2 Interrogating lines of evidence (e.g. raw material transport, insularity of typological components of the lithic assemblages, deposition practices) which can deliver research direction for looking at links with other regions and the

Continent.

E.2 The identification of key points in the region's Mesolithic archaeological and palaeoenvironmental records and application of absolute dating, where possible (i.e. the Pinus rise; Corylus rise).

7.2.3 The aims also have the potential to inform a number of the primary research themes identified for England within the Mesolithic Research Conservation Framework document (Blinkhorn and Milner 2013). Relevant themes include Theme 2, Mesolithic Lifeways (T2) and Theme 3, Investigating Change and Diversity (T3). Specific question related to these themes include:

T2.1: What can Mesolithic technology (e.g. stone, antler, bone and wood working), its production, use and deposition, tell us about Mesolithic lifeways?

T2.2: To what extent can we understand the sourcing of raw materials and the movement of materials and people at different spatial scales?

T2.3: How can we better understand spatial and temporal variation in lithic technology, use and deposition?

T2.5: To what extent can the composition, size and geographical characteristics of lithic scatters be used to define different types of site in the Mesolithic?

T3.5: Can we refine further the chronology of Mesolithic lithic industries? For instance, is it possible to refine the spatial and temporal limits of distinctive lithic assemblage types (eg Star Carr, Deepcar, Horsham) and what may these distribution patterns imply? What do the changes in tool form, especially microliths, indicate?

T3.9: How variable was site use and landscape use through this period?

T3.13: Can we further refine the dating of final Mesolithic sites and how do these relate to the Early Neolithic?

8 PROPOSAL FOR FURTHER WORK

8.1 The assessment has demonstrated the need for a limited programme of further analysis. The specific specialist recommendations made as a result of the assessment work are outlined below:

8.1.1 Analysis of the flint assemblage has led to the following recommendation (Appendix 4):

‘This assemblage, by itself, is too small to warrant detailed technological, functional or metrical analyses. Nevertheless, it is worthy of further work and dissemination. It is therefore recommended that it is re-examined in conjunction with the assemblages recovered during the Evaluation and with full respect and regard to the material recovered from the site during the mid-20th century, and a report describing all of the material and its broader significance compiled for inclusion, alongside suitable illustrations, in any published accounts of the excavations.’

8.1.2 Analysis of the environmental samples has led to the following recommendation (Appendix 6):

‘This assessment has shown that, with the exception of wood-charcoal, preservation of archaeobotanical remains in the Copthorne samples was relatively poor. Due to the low quantity of sizeable charcoal, and the minimal quantity of nutshell and grains reported, additional work is not suggested on this material, however, the wheat grain recovered from Test Pit 13, and the hazelnut shell from Test Pits 11 and 14, along with any suitably sized pieces of charcoal, could be used for radiocarbon/AMS dating, if remains are determined to be undisturbed. A summary of this assessment should be included in any future publications.’

8.1.3 No further specialist recommendations have been made.

8.1.4 It is proposed that the results of the excavation and additional analysis should be published in the form of a short article within the local academic journal Sussex Archaeological Collections, which is an appropriate outlet for the dissemination of this work. The article should not exceed 4500 words in total.

8.1.5 The structure of the proposed report is as follows:

- **Introduction and summary** (150 words): including the site location and setting out the overall background to the work and the main methodologies employed.
- **Topography and geology** (150 words): section detailing the geology and topography of the site.

- **Archaeological Background** (200 words): section setting the results in the local and regional context, with particular focus on the Mesolithic period.
- **Archaeological description** (500 words): section outlining the project results, including a synthesized description of the recorded evidence
- **The finds and environmental evidence** (2250 words): core section of the paper discussing and outlining in detail the findings of the environmental and finds analysis and placing these within context.
- **The findings in a regional context** (750 words); discussion section further detailing the findings in its regional context and comparing and contrasting the site with others locally.
- **Discussion and conclusions** (500 words): concluding section summarising the findings of the work and addressing the importance of these findings in the wider context of our understanding of the Mesolithic in South east England.
- **Illustrations:** including site location plan, location plan of the excavated areas, plans of the excavated features and finds illustrations.

- 8.1.6 Whilst detailing the findings as a whole, the work should focus on the prehistoric flint assemblage allowing additional analysis of the flint from the mitigation phase of work alongside the material from previous stages of work and setting the site in the context of other sites of a similar date within the region.
- 8.1.7 It is proposed that three samples of charcoal or plant matter are selected for radiocarbon/AMS dating; this may allow a date for the archaeologically productive deposit in Area 2 to be divined.
- 8.1.8 The additional work will be completed and a draft copy of the short article will be ready for submission to the journal, within 18 months of the agreed start of the analysis
- 8.1.9 The exact format of the report and the strategy for selecting which samples would be selected for radiocarbon/AMS dating would be agreed with the Archaeological Officer within the Heritage Conservation Team at Surrey County Council, as the appropriate monitoring officer in this case.

9 ARCHIVE PREPARATION AND DEPOSITION

9.1 The Site Archive

- 9.1.1 The Site archive, to include all project records and cultural material produced by the project, will be prepared in accordance with ‘guidelines for the preparation of Excavation Archives for long-term Storage’ (UKIC 1990) and the institute for Archaeologists ‘Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives’ (ClfA 2014). On completion of the project PCA will arrange for the archive to be deposited with Crawley Museum.

9.2 Contents of the Archive

- 9.2.1 Paper Records
- | | |
|-----------------------------|-----------|
| Context Sheets | 96 Sheets |
| Site Drawings | 17 Sheets |
| Environmental Sample Sheets | 27 Sheets |
- 9.2.2 The Finds
- | | |
|-----------|-------|
| All Finds | 1 Box |
|-----------|-------|
- Including:
- | | |
|-----------|-----------|
| - Pottery | 12 Sherds |
| - Flint | 95 Pieces |
- 9.2.3 Digital archive
- | | |
|-------------|--------------------|
| Photographs | 164 Digital Images |
|-------------|--------------------|

9.3 Copyright

- 9.3.1 The full copyright of the written/illustrative archive relating to the site will be retained by Pre-Construct Archaeology Ltd under the Copyright, Designs and Patents Act 1988 with all rights reserved. Mid Sussex District Council, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profitmaking, and conforms to the Copyright and Related Rights regulations 2003. Further distribution and uses of the report either in its entirety or part thereof in paper or electronic form is prohibited without the prior consent of Pre-Construct Archaeology Ltd.
- 9.3.2 The licence extends to the use of all documents arising from this project in all matters relating directly to the project, as well as for bona fide research purposes (which includes

the West Sussex HER).

- 9.3.3 Pre-Construct Archaeology Ltd has made every effort to ensure the accuracy of the content of this report. However, Pre-Construct Archaeology Ltd cannot accept any liability in respect of, or resulting from, errors, inaccuracies or omissions this report contains.

10 ACKNOWLEDGEMENTS

- 10.1** Pre-Construct Archaeology is grateful to Natta, on behalf of St. Modwen Homes, for commissioning the investigation and Alex Eggington, Archaeological Officer at Surrey County Council for monitoring the investigation. The project was supervised by Bartłomiej Grden assisted by Dominic McAtominey, Tom Warburton, James Bannister, Oliver Farmer and Bruce Ferguson. This report was prepared by Dominic McAtominey with illustrations prepared by Ray Murphy. The project was managed for PCA by Paul McCulloch and the specialist work programme was managed by Alex Beeby. This report was edited by Paul McCulloch and Alex Beeby.

11 REFERENCES

Archaeology South East (ASE) (2017), 'Land west of Copthorne, West Sussex: Report on Targeted Geoarchaeological Survey'. Unpublished ASE Report No. 2017489

Archaeology South East (ASE) (2018), 'Archaeological Evaluation Report: Land West of Copthorne, West Sussex'. Unpublished ASE Report No. 2018371

Atkins (2017) Land West of Copthorne; Geo-environmental Interpretive Report and Remediation Strategy. Unpublished Report.

Blinkhorn, E. and Milner, N. (2013) Mesolithic Research and Conservation Framework. Council for British Archaeology.

British Geological Survey (1972) Horsham, Sheet no. 302, Solid and Drift. 1:50,000 <http://www.largeimages.bgs.ac.uk/iip/mapsportal.html?id=1001794> (Accessed 04/10/19).

British Geological Survey (2019) The BGS Lexicon of Named Rock Units. <http://www.bgs.ac.uk/lexicon/home.html> (Accessed 04/10/19).

Cappers, R. T. J., Bekker, R. M. and Jans, J. E. A. (2012) Digital Seed Atlas of The Netherlands. Barkhuis.

East Sussex County Council (2019), Sussex Archaeological Standards, East Sussex County Council

Hillman, G. (1981) 'Reconstructing Crop Husbandry Practices from Charred Remains of Crops', in Mercer, R. (ed.) Farming practice in British Prehistory. Edinburgh: Edinburgh University Press, pp. 123–162.

Jacomet, S. (2006) Identification of Cereal Remains from Archaeological Sites, Version 2. Unpublished report.

Jones, A.P., Tucker, M.E. and Hart, J.K. (1999) Guidelines and Recommendations. In: Jones, A.P., Tucker, M.E. and Hart, J.K. (Eds.) The Description and Analysis of Quaternary Stratigraphic Field Sections. Quaternary Research Association Technical Guide 7, London, pp. 27-76.

Jones, S., Taylor, J. and Ash, F. (2004) Seed Identification Handbook: Agriculture, Horticulture & Weeds. National Institute of Agricultural Botany.

Kerney, M. (1999) Atlas of The Land And Freshwater Molluscs of Britain and Ireland. Harley Books.

Lowe, J., and Walker, M. (2015) Reconstructing Quaternary Environments. 3rd Edition. Routledge,

McCulloch, P. (2019) Land West of Copthorne, Copthorne Way, West Sussex Written Scheme of Investigation for Archaeological Excavation – Strip, Map and Sample (Issues 1 and 2) (PCA Report)

Munsell Color (2000) Munsell soil Color charts. Munsell Color, New Windsor.

Neef, R., Cappers, R. T. J. and Bekker, R. M. (2012) Digital Atlas of Economic Plants In Archaeology. Barkhuis.

Pope, M., Wells, C., Scott, B., Maxted, A., Haycon, N., Farr, L., Branch, N and Blinkhorn, E. (2011, revised edition 2019), South East Research Framework Resource Assessment and Research Agenda for the Upper Palaeolithic and Mesolithic Periods. Available at: <https://www.kent.gov.uk/leisure-and-community/history-and-heritage/south-east-research-framework>

Terence O'Rourke. (2013), 'Land West of Copthorne, West Sussex: Desk-Based Assessment' Unpublished Report.

Stace, C. (1991) New Flora of the British Isles. Cambridge University Press.

Tucker, M.E. (2011) Sedimentary Rocks in the Field. Fourth Edition. Wiley-Blackwell

Van Zeist, W. (1984) 'List of Names of Wild and Cultivated Cereals', Bulletin on Sumerian Agriculture, 1, pp. 8–15.

APPENDIX 1: CONTEXT INDEX

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1000	-	Area 1	Loose, mid-greyish brown, clayey silt	Layer	Modern	-	-	Topsoil
1001	-	Area 1	Friable, mottled orange, brown and grey, silty sand	Layer	Natural	-	-	Natural
1002	1067	Area 1	Cut of curvilinear ditch with steep slope and v-shaped base. Feature curves from southern edge of site into north-eastern side. No dateable evidence recovered from its fill. Width: 0.60m, Length: >1m, Depth: 0.29m	Cut	Undated	4	-	V-shaped ditch, potentially used for drainage purposes.
1003	1067	Area 1	Fill of ditch [1002]. Compact, light brownish grey, silty sand with small ironstone inclusions. No dating evidence recovered.	Fill	Undated	4	-	Single fill of v-shaped ditch [1002].
1004	1066	Area 1	Cut of curvilinear ditch with shallow, steady slope and concave base. Feature curves from eastern to southern side of trench. No dateable evidence recovered from its fill. Truncated by V-shaped ditch [1002]. Width: 1.10m, Length: >1m, Depth: 0.25m	Cut	Late Iron Age/ Romano-British	2	-	One late Iron Age/Romano-British pottery sherd recovered from continuation of this feature during evaluation. Potentially used as site boundary.
1005	1066	Area 1	Fill of ditch [1004]. Compact, light grey, clay sand with small iron stone inclusions. No dateable evidence recovered from this context.	Fill	Late Iron Age/ Romano-British	2	-	Single fill of probable late Iron Age/Romano-British ditch [1004]. No dateable evidence recovered from this context.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1006	1066	Area 1	Cut of curvilinear ditch with moderately shallow, slowly sloping sides and concave base. No dating evidence recovered from fill of this slot. Continuation of ditch slot [1004]. Width: 1m, Length: >1m, Depth: 0.32m	Cut	Late Iron Age/ Romano-British	2	-	No dateable evidence recovered from fill of this slot but one late Iron Age/Romano-British pottery sherd recovered from continuation of this feature during evaluation. Potentially used as site boundary.
1007	1066	Area 1	Primary fill of ditch slot [1006]. Compact, light greyish white, sandy clay with small iron stone and flint inclusions. Finds recovered include two fragments of struck flint of probable Mesolithic origin that are very likely to be residual. No other dateable evidence recovered.	Fill	Late Iron Age/ Romano-British	2	-	Primary fill of probable late Iron Age/Romano-British ditch [1006]. The only finds recovered from this context are two fragments of struck flint of probable Mesolithic origin, most likely residual. No other dateable evidence recovered.
1008	1066	Area 1	Secondary fill of ditch slot [1006]. Compact, mid-greyish brown, silty sand. No finds or dateable evidence recovered from this context.	Fill	Late Iron Age/ Romano-British	2	-	Secondary fill of probable late Iron Age/Romano-British ditch [1006]. Possibly topsoil compacted into the ditch.
1009	-	Area 1	Cut of potential sub-circular pit with shallow, sloping sides and uneven base. No dateable evidence recovered from its fill except fragments of struck flint. Width: 0.7m, Length: 1.3m, Depth: 0.13m	Cut	Prehistoric?	1	-	Possible pit, but irregular shape and uneven sides might suggest a tree throw. Fragments of struck flint found within its fill.
1010	-	Area 1	Single fill of potential pit/tree throw [1009]. Compact, mottled light greyish white and dark brown, clay sand with small iron stone inclusions. No dateable evidence recovered except few struck flint fragments that are most likely residual.	Fill	Prehistoric?	1	-	Single fill of potential pit/tree throw [1009].

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1011	1068	Area 1	Single fill of sub-square feature [1012]. Moderately compact, mottled grey and brownish yellow, clay with occasional waste flint flakes. No dateable evidence recovered from this context except some flint debitage.	Fill	Prehistoric	1	-	Single fill of feature [1012]. Prehistoric waste flint flakes recovered could suggest that the area was disturbed or that the feature was deliberately backfilled. Potentially a mixture of disturbed/re-deposited soil and the weathering of the feature's edges and surrounding environment.
1012	1068	Area 1	Cut of sub-square feature with shallow to moderately shallow sides and irregular base. Single fill (1011) with no dateable evidence recovered from it. Truncated to the eastern corner by feature [1036]. Edges of the feature are not well defined which could be the result of erosion and weathering. Width: 1.4m, Length: 1.75m, Depth: 0.03-0.09m	Cut	Prehistoric	1	-	Cut of sub-square feature of potential prehistoric origin. The roughly square shape in plan and shallowness along with two postholes [1025] and [1027] immediately to the south-west and north-east might suggest that it could have been a structure such as temporary shelter. Flint waste flakes recovered from the fill could indicate prehistoric date, though it can not be ruled out that these are residual and the feature is of later date.
1013	-	Area 1	Cut of sub-circular pit/tree throw with uneven sides and slightly flat/uneven base. No dateable evidence recovered from its fill except few struck flint fragments of potential Mesolithic origin. Width: 1.15m, Length: 2.76m, Depth: 0.09m	Cut	Prehistoric	1	-	Cut of uneven pit/tree throw with occasional roots and no dating evidence except prehistoric struck flint fragments.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1014	-	Area 1	Single fill of pit/tree throw. Compact, mottled light grey and mid-orange, clay sand with small iron stone inclusions. No finds/dateable evidence recovered except few struck flint fragments of probable Mesolithic origin.	Fill	Prehistoric	1	-	Single fill of pit/tree throw [1013]. Some Mesolithic struck flint fragments recovered from this context but it cannot be ruled out that they are residual.
1015	-	Area 1	Cut of circular posthole with steep sides and concave base. Single fill with no dateable evidence present within. Posthole positioned south of pit [1017]. Length: 0.27m, Width: 0.26m, Depth: 0.1m	Cut	Prehistoric?	1	-	Cut of circular posthole.
1016	-	Area 1	Single fill of posthole [1015]. Compact, mid-brownish grey, clay sand. No finds/dateable evidence recovered from this context.	Fill	Prehistoric?	1	-	Single fill of posthole [1015]
1017	-	Area 1	Cut of sub-circular pit/tree throw with uneven sides and base. Single fill with no finds/dateable evidence present within. Length: 1.45m, Width: 1.30m, Depth: 0.28m	Cut	Prehistoric	1	-	Potential pit but irregular sides and base might point towards a tree throw. Due to few struck flint fragments found within its fill, it is possible that it is of prehistoric origin.
1018	-	Area 1	Fill of potential pit/tree throw [1017]. Compact, light brownish grey, clay sand with small iron stone inclusions. No dateable evidence recovered except few struck flint fragments.	Fill	Prehistoric	1	-	Single fill of potential pit/tree throw [1017]. No dateable evidence recovered except few fragments of struck flint of possible Mesolithic origin.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1019	1064	Area 1	Cut of linear feature/ditch terminus with shallow, concave sides and flat base. Running east - west. Truncated by ditch [1033]. Single fill (1020). Continuation of linear [1046], [1054] and [1028]. Length: >1m, Width: 0.56m, Depth: 0.14m	Cut	Late Iron Age/ Romano-British	2	-	Ditch terminus of potential prehistoric origin. No dateable evidence recovered from this ditch slot other than fragments of struck flint, likely Mesolithic. However pottery sherd found in potential continuation of the feature in evaluation trench suggest the ditch to be Roman. Some Romano-British pottery sherds recovered from fill of ditch slot [1054] which is continuation of the same feature.
1020	1064	Area 1	Fill of ditch terminus [1019]. Firm on top, more friable below, light yellowish brown, clay silt. No finds/dateable evidence recovered except few struck flint fragments. Likely natural silting/infill.	Fill	Late Iron Age/ Romano-British	2	1	Single fill of ditch terminus [1019]. The only finds recovered from this context are fragments of struck flint of potential Mesolithic origin, though they are very likely to be residual and the feature itself is probably of later date.
1021	1065	Area 1	Cut of linear feature running north-west - south-east with steady sloping sides and concave base. Two fills. Length: >1m, Width: 1.43m, Depth: 0.31m	Cut	Medieval	3	-	Potentially Medieval ditch with two fills. One pottery sherd of likely Medieval origin recovered from its fill. Likely used as field boundary.
1022	1065	Area 1	Primary fill of ditch slot [1021]. Compact, light orangish brown, clay silt. No finds/dateable evidence recovered from this context.	Fill	Medieval	3	-	Primary fill of potentially Medieval ditch. No dateable evidence recovered from this context but one pottery sherd of probable Medieval origin found in the top fill of feature.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1023	1065	Area 1	Secondary fill of ditch slot [1021]. Compact, mid-orangish brown, clay silt with small iron stone inclusions. Finds recovered include pottery sherd of potential Medieval origin, struck flint fragments and a non-local stone.	Fill	Medieval	3	-	Secondary fill of probable Medieval ditch. Dating evidence consists of only one pottery sherd of probable Medieval origin.
1024	-	Area 1	Single fill of small posthole [1025]. Firm, brown clay with no inclusions. No finds/dateable evidence recovered.	Fill	Prehistoric?	1	-	Single fill of small posthole. Infill.
1025	-	Area 1	Cut of oval posthole. Moderate straight sides, sharp top break of slope, sharp base break of slope with a flat, narrow base. Located approximately 0.2m north-east of context [1012] and 2.4m north-east of identical posthole [1027]. Single fill. Length: 0.14m, Width: 0.10m, Depth: 0.06m	Cut	Prehistoric?	1	-	Small posthole. Its location in relationship to contexts [1012] and [1027] could suggest they form a small, low structure such as a temporary shelter.
1026	-	Area 1	Single fill of small posthole [1027]. Firm, brown clay with no inclusions. No finds/dateable evidence recovered.	Fill	Prehistoric?	1	-	Single fill of small posthole. Infill.
1027	-	Area 1	Cut of oval posthole. Sharp top break of slope leading to straight, moderate sides with sharp base break of slope and narrow, flat base. Identical to posthole [1025] and potentially also related to feature [1012]. Length: 0.15m, Width: 0.10m, Depth: 0.05m	Cut	Prehistoric?	1	-	Small posthole. Its location in relationship to contexts [1012] and [1025] could suggest they form a small, low structure such as a temporary shelter.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1028	1064	Area 1	Cut of linear feature running east-west with steady sloping sides and slightly flat base. Truncated by later ditch [1030]. Probably a continuation of linear [1046], [1054] and [1019]. Single fill. Length: >1.75m, Width: 0.75m, Depth: 0.40m	Cut	Late Iron Age/ Romano-British	2	-	Cut of potentially prehistoric/Romano-British ditch. No dateable evidence recovered from fill of this ditch slot but some pottery sherds were found in continuation of the feature.
1029	1064	Area 1	Fill of linear feature [1028]. Compact, mottled light blue grey and mid-orangish brown, clay sand and clay silt with small sandstone inclusions.	Fill	Late Iron Age/ Romano-British	2	-	Single fill of potentially prehistoric/Romano-British ditch. No dateable evidence recovered from this context but some pottery sherds were found in continuation of the feature.
1030	1065	Area 1	Cut of linear feature running north-south with steady sloping sides and concave base. Truncates and earlier ditch running east-west [1028]. Two fills. Length: >1.55m, Width: >0.75m, Depth: 0.28m	Cut	Medieval	3	-	Cut of potentially Medieval ditch. No dateable evidence recovered from fill of this ditch slot but some pottery sherds were found in continuation of the feature. Continuation of ditch [1021].
1031	1065	Area 1	Primary fill of ditch slot [1030]. Compact, mid-orangish brown, clay silt with charcoal inclusions (one large charcoal fragment recovered) but no dateable evidence.	Fill	Medieval	3	-	Primary fill of potentially Medieval ditch. No dateable evidence recovered from this context but some pottery sherds found in continuation of the feature.
1032	1065	Area 1	Secondary fill of ditch slot [1030]. Compact, mid-greyish brown, clay silt with frequent small iron stone inclusions.	Fill	Medieval	3	-	Secondary fill of potentially Medieval ditch. No dateable evidence recovered from this context but some pottery sherds found in continuation of the feature. Potentially deliberate backfill.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1033	-	Area 1	Cut of linear feature running east-west with steep, concave sides and flat base. Truncates ditch [1019]. Single fill. Ephemeral and not very well traceable in plan. Length: >1m, Width: 1.05m, Depth: 0.19m	Cut	Undated	4	-	Running east - west and truncating ditch [1019]. Potentially boundary ditch.
1034	-	Area 1	Single fill of ditch [1033]. Baked hard on top and friable below, light greyish brown, clay silt with sparse iron stone inclusions. No dateable evidence recovered except 2 fragments of worked flint which is most likely residual.	Fill	Undated	4	2	Single fill of ditch [1033]. No dateable evidence recovered from this context except two Mesolithic worked flint fragments of probable residual origin. Infill/natural silting.
1035	1068	Area 1	Single fill of sub-rectangular feature [1036]. Firm, mottled brown, pale grey and brownish orange, clay with occasional waste flint flakes and small fragments of pottery (most likely residual). Removal of the deposit determined the feature to be a shallow depression.	Fill	Prehistoric?	1	-	Infill/disturbed ground or root hollow, possibly formed from the weathering, erosion and deliberate disturbance of localised activity.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1036	1068	Area 1	Sub-rectangular depression with a sharp top break of slope leading to straight, shallow sides. Irregular base and not perceptible basal break of slope. Truncated on the south-eastern side by modern field drain. Likely to have been formed by natural processes and/or grubbing/movement of animals. Length: 3m, Width: 1.84m, Depth: 0.08m	Cut	Prehistoric?	1	-	Depression. The 'feature' is unlikely to be the result of deliberate excavation. It may be the result of movement and of animals and weathering/erosion of the enclosed area (defined by a series of possible post/stakeholes) or be a reworked root hollow.
1037	-	Area 1	Cut of sub-circular pit with uneven sides and base. Truncated by pit [1039]. Single fill. No dateable evidence recovered from its fill. Length: 0.74m, Width: 0.70m, Depth: 0.06m	Cut	Prehistoric?	1	-	Small, uneven, sub-circular pit. Potentially a tree throw.
1038	-	Area 1	Single fill of pit/tree throw [1037]. Compact, light orangish grey, clay sand. No find/dateable evidence recovered.	Fill	Prehistoric?	1	-	Single fill of pit/tree throw.
1039	-	Area 1	Cut of sub-circular/oval pit with almost vertical sides and v-shaped base. Two fills. Length: 1.9m, Width: 0.94m, Depth: 0.35m	Cut	Prehistoric?	1	-	Cut of elongated, oval, pit.
1040	-	Area 1	Primary fill of oval pit [1039]. Compact, light blueish grey, clay sand with occasional struck flint inclusions. No finds/dateable evidence recovered except some prehistoric struck flint fragments.	Fill	Prehistoric?	1	-	Primary/base fill of pit. No dateable evidence recovered from this context except some potentially residual prehistoric struck flint fragments.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1041	-	Area 1	Secondary fill of oval pit [1039]. Compact, mid-greyish brown, clay silt with small iron stone inclusions. No finds/dateable evidence recovered. Most likely natural silting.	Fill	Prehistoric?	1	-	Secondary/top fill of elongated, pit. No finds/dateable evidence recovered from this context. Most likely natural silting/infill.
1042	1068	Area 1	Loose, brown clay excavated from a group of small, sub-circular hollows [1043].	Fill	Prehistoric?	1	-	Fill of a hollows within [1043]
1043	1068	Area 1	Cut assigned to a range of sub-circular hollows. Diameter ranging from 0.06m to 0.08m and depth ranging from 0.03m to 0.06m.	Cut	Prehistoric?	1	-	Cut number assigned to irregular hollows associated within [1035]; analysis suggests these have been formed through bioturbation
1044	1067	Area 1	Cut of curvilinear feature with near vertical sides and concave base. Truncates ditch [1004]. Continuation of [1002]. Single fill. Length: >1m, Width: 0.45m, Depth: 0.24m	Cut	Undated	4	-	Curvilinear ditch. Continuation of ditch [1002]. No dateable evidence recovered from its fill.
1045	1067	Area 1	Single fill of ditch slot [1044]. Compact, mid-brownish grey, clay sand with small iron stone inclusions. No finds/dateable evidence recovered.	Fill	Undated	4	-	Single fill of curvilinear ditch [1044] with no finds/dateable evidence.
1046	1064	Area 1	Cut of linear feature running north-west - south-east with moderately steep, gradual sides and concave base. Cut into natural sand/silty sand (1001) with single fill. No dateable evidence recovered from fill of this slot but some Iron Age/Romano-British pottery found in slot [1054] which is continuation of the same ditch.	Cut	Late Iron Age/ Romano-British	2	-	Cut of moderately sized ditch of probable late Iron Age/Romano-British origin. No dateable evidence recovered from this slot but some pottery found in a slot in continuation of the feature. Most likely used as field boundary. Continuation of ditch slots [1019], [1028] and [1054]

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1047	1064	Area 1	Single fill of ditch slot [1046]. Friable, mid-greyish brown, silty sand. No finds/dateable evidence recovered from this context.	Fill	Late Iron Age/ Romano-British	2	-	Single fill of ditch slot [1046]. No finds/dateable evidence recovered. Same as/similar to (1055).
1048	-	Area 1	Friable, light brownish grey with frequent small ironstone inclusions.	Layer	Undated	-	-	Subsoil across Area 1
1049	1066	Area 1	Cut of curvilinear feature running north-west - south-east. Gently sloped sides and mostly flat base sloping slightly towards south-west. Single fill. Continuation of ditch [1004] and [1006]. Length: >1m, Width: 1.15m, Depth: 0.17m	Cut	Late Iron Age/ Romano-British	2	-	Cut of probable late Iron Age/Romano-British drainage/boundary ditch. No dateable evidence recovered from its fill but one pottery sherd was found in continuation of the feature during evaluation.
1050	1066	Area 1	Loose, mottled light brownish grey, dark grey, dark brown, orange and yellow, silty clay fill of ditch slot [1049] with occasional iron stone and sparse charcoal inclusions. No finds/dateable evidence recovered except struck flint fragment.	Fill	Late Iron Age/ Romano-British	2	-	Single fill of probable late Iron Age/Romano-British ditch [1049]. No dateable evidence present except struck flint. Backfill.
1051	1065	Area 1	Cut of linear feature running north-east - south-west with gently sloped sides and flat base. Two fills. Continuation of linear [1021] and [1030]. Length: >1m, Width: 1.10m, Depth: 0.28m	Cut	Medieval	3	-	Cut of probable Medieval drainage/boundary ditch. No finds/dateable evidence were present in its fill but some pottery sherds of probable Medieval origin were found in slots in continuation of this feature.
1052	1065	Area 1	Secondary fill of ditch slot [1051]. Friable, mid-greyish brown, sandy clay with occasional iron stone inclusions. No dateable evidence recovered.	Fill	Medieval	3	-	Top/secondary fill of probable Medieval drainage/boundary ditch [1051]. No finds/dateable evidence present. Backfill/capping layer.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1053	1065	Area 1	Primary fill of ditch slot [1051]. Friable, mottled light brownish grey with dark grey and yellowish orange, sandy clay with sparse ironstone inclusions. No dateable evidence recovered.	Fill	Medieval	3	-	Bottom/primary fill of probable Medieval drainage/boundary ditch [1051]. No finds/dateable evidence present in fill but some pottery sherds found in continuation of feature.
1054	1064	Area 1	Cut of linear feature running east - west with steep to moderately steep, gradual sides and flat base. Cut into natural sand/silty sand. Two fills. Continuation of [1019], [1028] and [1046]. Length: >1m, Width: 1m, Depth: 0.47m	Cut	Late Iron Age/ Romano-British	2	-	Probable late Iron Age/Romano-British ditch most likely used as field boundary.
1055	1064	Area 1	Primary fill of ditch slot [1054]. Friable, mid-brownish grey, silty sand with common charcoal, occasional pottery and small flint inclusions. Finds recovered consist of few pottery sherds of probable late Iron Age/Romano-British origin. No other finds recovered. Charcoal lens present in the upper part of the context.	Fill	Late Iron Age/ Romano-British	2	-	Primary/base fill of probable late Iron Age/Romano-British boundary ditch. Backfill.
1056	1064	Area 1	Secondary fill of ditch slot [1054]. Friable, mid-orangish brown, silty sand with occasional small flint inclusions. No finds/dateable evidence recovered from this context.	Fill	Late Iron Age/ Romano-British	2	-	Secondary/top fill of probable late Iron Age/Romano-British boundary ditch. Infill/natural silting rather than backfill.
1057	-	Area 1	Cut of linear feature running east - west with shallow sides and almost flat base. Single fill. Continuation of ditch [1033]. Truncates ditch [1059]. Length: >1m, Width: 1.10m, Depth: 0.21m	Cut	Undated	4	-	Cut of shallow, ditch running east - west and truncating ditch [1059]. No dateable evidence found within its fill.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1058	-	Area 1	Single fill of ditch slot [1057]. Very compact, mid-greyish brown, clay silt with frequent limestone and ironstone inclusions. No finds/dateable evidence present within this context.	Fill	Undated	4	-	Single fill of shallow, ditch. Very silty backfill with a lot of ironstone present which can indicate severe weathering and erosion.
1059	1064	Area 1	Cut of linear feature running east - west with almost vertical sides, almost flat base and sharp break of slope. Truncated by ditch [1057]. Two fills. Continuation of ditch slots [1019], [1028], [1046] and [1054]. Length: >1m, Width: 0.70m, Depth: 0.45m	Cut	Late Iron Age/ Romano-British	2	-	Cut of very steep linear feature of probable late Iron Age/Romano-British origin. No finds/dateable evidence recovered from fill of this ditch slot but some pottery sherds found in evaluation and other slots in continuation of the feature. Most likely a boundary ditch.
1060	1064	Area 1	Primary/base fill of ditch slot [1059]. Compact, light orangish grey, sandy silt. No finds/dateable evidence recovered from this context.	Fill	Late Iron Age/ Romano-British	2	-	Primary/base fill of ditch slot [1059]. No dateable evidence present within this context. Most likely silting/infill rather than deliberate backfill.
1061	1064	Area 1	Secondary/top fill of ditch slot [1059]. Compact, mid-greyish brown. Clay silt with occasional struck flint and ironstone inclusions. No dateable evidence present within the context.	Fill	Late Iron Age/ Romano-British	2	-	Secondary/top fill of ditch slot [1059]. No finds/dateable evidence recovered.
1062	1065	Area 1	Cut of linear feature running north-east - south-west with moderately sloped sides, sharp break of slope and concave base. Single fill. Continuation of ditch slots [1021], [1030] and [1051].	Cut	Medieval	3	-	Cut of probable Medieval drainage/boundary ditch. No finds/dateable evidence were recovered from this ditch slot but some pottery sherds were found in continuation of the feature and during evaluation.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
1063	1065	Area 1	Single fill of ditch slot [1062]. Friable, mottled light brownish grey with dark brown and orange, sandy clay with frequent small ironstone and occasional medium sized ironstone inclusions. No finds/dateable evidence recovered except small amount of flint debitage.	Fill	Medieval	3	-	Single fill of probable Medieval drainage/boundary ditch. Finds recovered include small amount of flint debitage, most likely residual. Same as
1064	-	Area 1	Group number for north west - south east linear. Cut no's [1019], [1028], [1046], [1054], [1059]	Group	Late Iron Age/ Romano-British	2	-	Boundary Ditch
1065	-	Area 1	Group number for north/north east - south/south west linear. Cut no's [1021], [1030], [1051], [1062]	Group	Medieval	3	-	Boundary Ditch
1066	-	Area 1	Group number for larger curvilinear feature. Cut no's [1004], [1006], [1049]	Group	Late Iron Age/ Romano-British	2	-	Boundary/enclosure ditch
1067	-	Area 1	Group number for smaller curvilinear feature. Cut no's [1002], [1044]	Group	Undated	4	-	Possible boundary/enclosure ditch
1068	-	Area 1	Group number for 1012, 1036	Group	Prehistoric	1	-	Shallow pits/ depressions
2000	-	Area 2	Compact, mottled mid-orangish brown, silty clay with a lot of tree/plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	3	Layer within Test Pit 11. Spit 1 (10cm)
2001	-	Area 2	Compact/friable, mottled grey and mid-orangish brown, clay/silty clay with occasional plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	4	Layer of clay/silty clay within Test Pit 12. Spit 1 (10cm). No finds/lithics recovered.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
2002	-	Area 2	Compact, mottled mid-orangish brown clay with tree/plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	5	Layer of clay within Test Pit 11. Spit 2 (10 cm). No noticeable change between layer (2000), spit 1 and (2002), spit 2.
2003	-	Area 2	Friable, mottled grey and orangish brown, silty clay with occasional ironstone fragments. No finds/lithics recovered. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	6	Layer of silty clay within Test Pit 12. Spit 2 (10cm). The only difference between spit 1 (2001) and spit 2 (2003) is presence of ironstone.
2004	-	Area 2	Compact, mottled mid-orangish brown, silty clay with tree/plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	7	Layer of clay within Test Pit 11. Spit 3 (10cm). No noticeable change between layer (2002), spit 2 and (2004) spit 3.
2005	-	Area 2	Friable, mottled grey and orangish brown, silty clay with occasional ironstone fragments. No finds/lithics recovered. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	8	Layer of silty clay within Test Pit 12. Spit 3 (10cm). No noticeable change between spit 2 (2003) and spit 3 (2005).
2006	-	Area 2	Friable, mottled grey and orangish brown, clayey silt with occasional iron stone fragments and roots. No finds/lithics recovered. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	9	Layer of clayey silt within Test Pit 12. Spit 4 (10cm). Deposit slightly more silty than spit 3 (2005).
2007	-	Area 2	Compact, mottled mid-orangish brown clay with a lot of tree/plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	10	Layer of clay within Test Pit 11. Spit 4 (10cm). No noticeable change between layer (2004), spit 3 and (2007) spit 4
2008	-	Area 2	Hard/compact, mottled grey and mid-orangish brown, sandy silt with frequent ironstone fragments. No finds/lithics recovered. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	11	Layer of sandy silt within Test Pit 12. Spit 5 (10cm). Deposit much more compact/hard with a lot more ironstone and no clay than spit 4 (2006).

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
2009	-	Area 2	Compact, mottled mid-orangish brown clay with a lot of tree/plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	12	Layer of clay within Test Pit 11. Spit 5 (10cm). No noticeable change between layer (2007) spit 4 and (2009) spit 5.
2010	-	Area 2	Hard/compact, mottled grey and mid-orangish brown, sandy silt with frequent ironstone fragments. No finds/lithics recovered. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	13	Layer of sandy silt within Test Pit 12. Spit 6 (10cm). No noticeable change between layer (2008) spit 5 and (2010) spit 6.
2011	-	Area 2	Compact, mottled mid-orangish brown with light grey, clay with a lot of tree/plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	14	Layer of clay within Test Pit 11. Spit 6 (10cm). Deposit slightly more grey than layer (2009) spit 5.
2012	-	Area 2	Compact, mottled mid-orange and blue grey, silty clay with occasional organic matter - plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	15	Layer of silty clay within Test Pit 13. Spit 1 (10cm). No discernible differences between spits in this test pit.
2013	-	Area 2	Friable, mid-orangish brown clay with occasional small to medium flint fragments. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	16	Layer of clay within Test Pit 14. Spit 1 (10cm). Few fragments of lithics recovered.
2014	-	Area 2	Compact, mottled mid-orange and blue grey, silty clay with occasional organic matter - plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	17	Layer of clay within Test Pit 13. Spit 2 (10cm). No discernible differences between spits in this test pit.
2015	-	Area 2	Friable, mottled mid-orangish brown and grey, clay/silty clay with occasional charcoal inclusions. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	18	Layer of clay/silty clay within Test Pit 14. Spit 2 (10cm). Slightly more silty than (2013) spit 1.

Context	Group	Area	Description	Type	Date	Phase	Sample	Interpretation
2016	-	Area 2	Compact, mottled mid-orange and blue grey, silty clay with occasional organic matter - plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	19	Layer of silty clay within Test Pit 13. Spit 3 (10cm). No discernible differences between spits in this test pit.
2017	-	Area 2	Friable, mottled mid-orangish brown and grey, silty clay. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	20	Layer of silty clay within Test Pit 14. Spit 3 (10cm). No discernible differences between spit 2 (2015) and spit 3 (2017).
2018	-	Area 2	Firm, mottled mid-orange and blue grey, silty clay with occasional plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	21	Layer of silty clay within Test Pit 13. Spit 4 (10cm). No discernible differences between spits in this test pit.
2019	-	Area 2	Friable, mottled mid-orangish brown and grey, silty clay. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	22	Layer of silty clay within Test Pit 14. Spit 4 (10cm). No discernible differences between spit 3 (2017) and spit 4 (2019).
2020	-	Area 2	Firm, mottled mid-orange and blue grey, silty clay with occasional plant roots. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	23	Layer of silty clay within Test Pit 13. Spit 5 (10cm). No discernible differences between spits in this test pit.
2021	-	Area 2	Firm, mottled mid-orangish brown and grey, silty clay with occasional charcoal inclusions. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	24	Layer of silty clay within Test Pit 14. Spit 5 (10cm). No discernible differences between spit 4 (2019) and spit 5 (2021).
2022	-	Area 2	Firm, mottled mid-orange and blue grey, silty clay with occasional iron staining. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	25	Layer of silty clay within Test Pit 13. Spit 6 (10cm). No discernible differences between spits in this test pit.
2023	-	Area 2	Friable, mottled mid-orangish brown and grey, silty clay. Length: 1m, Width: 1m, Depth: 0.1m	Spit	-	1	26	Layer of silty clay within Test Pit 14. Spit 6 (10cm). Slightly more silty and friable than (2021) spit 5.

APPENDIX 2: PLATES



Plate 1. [1009] view facing north, scale 1m



Plate 2. [1013] view facing north, scale 2m



Plate 3. [1017] view facing south west, scale 1m



Plate 4. [1037] view facing south west, scale 2m



Plate 5. [1057]/[1059] view facing east, scale 1m



Plate 6. [1046] of Group 1064 view facing north west, scale 1m



Plate 7. [1006] of Group 1066 view facing south, scale 1m



Plate 8. [1004] of Group 1066 and [1044] of Group 1067 view facing south east, scale 2m

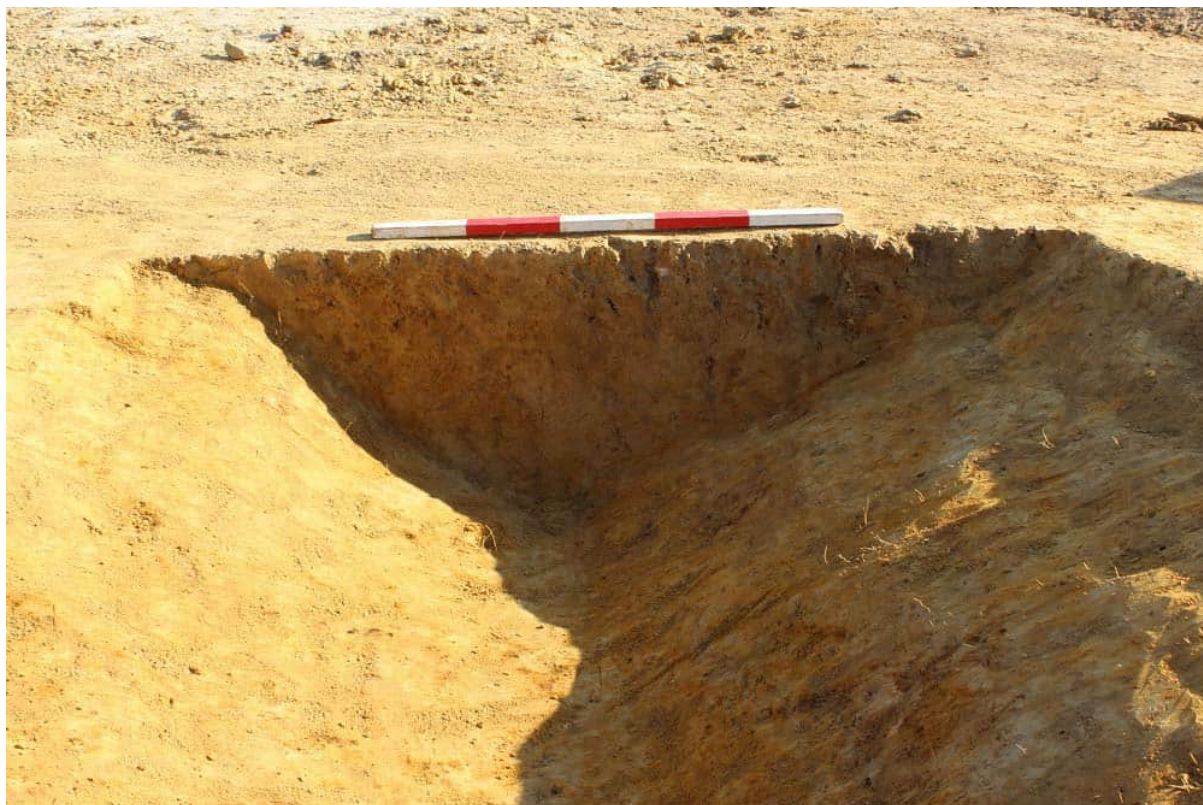


Plate 9. [1062] of Group 1065 view facing north east, scale 0.5m



Plate 10. Test pits in area 2, view east

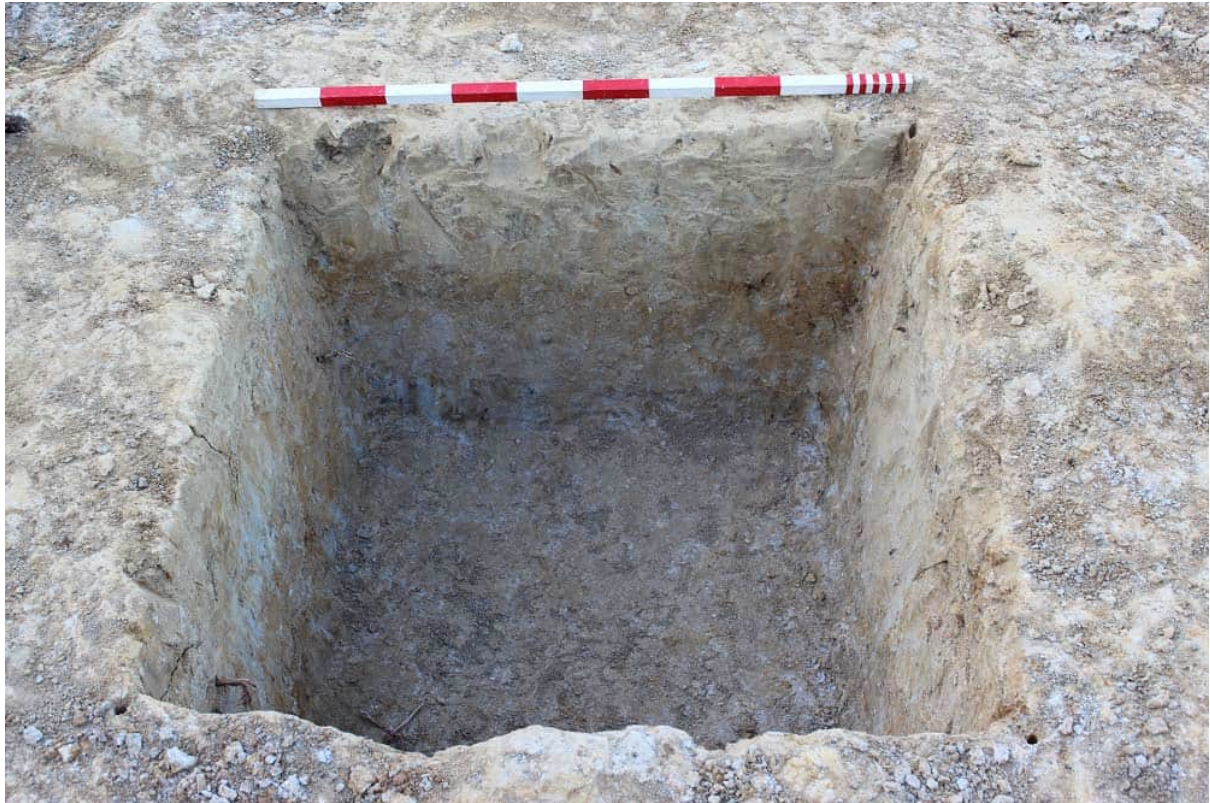


Plate 11. Test Pit 13 view east, scale 1m

APPENDIX 3: OASIS FORM

12 OASIS ID: preconst1-382252

Project details

Project name	Land West of Copthorne, Copthorne Way, West Sussex: Report on Archaeological Excavation
Short description of the project	Pre-Construct Archaeology Ltd (PCA) was appointed by Natta on behalf of St Modwen Homes, to carry out a programme of archaeological investigation on Land West of Copthorne, West Sussex. The archaeological investigation was intended to mitigate the impact of the development on archaeological remains identified in an archaeological evaluation (ASE 2017 and 2018) and comprised of two areas: Area 1 measuring 1,670sqm and Area 2 measuring 100sqm. The works were carried out between 12th of August - 18th of September 2019. The investigation at Land West of Copthorne revealed archaeological resources dating to the prehistoric, later prehistoric, Roman and medieval periods. It is considered that the resources demonstrate a low level of land management or land division of later prehistoric to Roman date as well as possible reuse of natural features such as tree throws. In Area 2, a postulated land surface identified during evaluation was not found, although the same soil sequence was observed within four further test pits. Environmental sampling showed some evidence for foraging of hazelnuts as well as the cultivation of cereal crops, struck flint was also recovered which is further evidence for prehistoric activity on the site.
Project dates	Start: 12-08-2019 End: 18-09-2019
Previous/future work	Yes / No
Any associated project reference codes	CWWS19 - Sitecode
Type of project	Recording project
Site status	None
Monument type	DITCH Uncertain
Monument type	PIT Uncertain
Investigation type	"Open-area excavation"
Prompt	National Planning Policy Framework - NPPF

Project location

Country	England
Site location	WEST SUSSEX CRAWLEY CRAWLEY Land west of Copthorne, Copthorne Way, West Sussex
Postcode	RH10 3GG
Study area	55 Hectares
Site coordinates	TQ 530621 139373 50.904013140494 0.177145651954 50 54 14 N 000 10 37 E Point

Project creators

Name of Organisation	Pre-Construct Archaeology Ltd.
Project brief originator	NATTA
Project design originator	Pre-Construct Archaeology Limited
Project director/manager	Paul McCulloch
Project supervisor	Bartolomiej Grden

Project archives

Physical Archive recipient	Crawley Museum
Physical Contents	"Ceramics", "Environmental", "Worked stone/lithics"
Digital Archive recipient	Crawley Museum
Digital Media available	"Database", "Images raster / digital photography", "Spreadsheets", "Survey", "Text"
Paper Archive recipient	Crawley Museum
Paper Media available	"Context sheet", "Drawing", "Plan", "Report", "Section"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Land West of Copthorne, Copthorne Way, West Sussex: Report on Archaeological Excavation - Strip, Map and Sample
Author(s)/Editor(s)	Pre-Construct Archaeology
Date	2020
Issuer or publisher	Pre-Construct Archaeology Ltd
Place of issue or publication	Winchester
Description	A4 Grey Literature Client Report
Entered by	Dominic McAtominey (dmcatominey@pre-construct.com)
Entered on	24 January 2020

APPENDIX 4: SPECIALIST REPORT – FLINT

By Barry Bishop

Introduction

The archaeological investigations resulted in the recovery of a moderately sized assemblage of struck flint and a small quantity of burnt flint. The assemblage has been comprehensively catalogued and this includes further descriptive details of each piece (Catalogue L01). This report summarises the data in the catalogue; it quantifies and describes the material and presents a preliminary assessment and outline of its significance. The assemblage was recorded following standard technological and typological classifications and largely follows the methodology of Inizan et al (1999) with modifications and additions as indicated in the text by the author. Retouched tools were classified following standard British works such as Healy (1988) and Bamford (1985). Measurements were taken following the methodology of Saville (1980).

Quantification and Distribution

Area	Test-pit	Decortication flake	Crested blade	Core rejuvenation flake	Flake	Chip <15mm	Blade-like flake	Blade: prismatic	Blade: non-prismatic	Flake fragment >15mm	Flake fragment <15mm	Core: blade	Conchoidal shatter	Retouched	Burnt stone (no.)	Burnt stone (wt.g)
1		5	1	2	9	1	2	8	4	5		2	1	7	2	7
2	11				1	4				1						
2	13				1	1		3		2					1	1
2	14	1		1	1	14		1		1	10		1	3		
2	+											2				

Table L01: Quantification of Lithic Material from Copthorne Way

A total of 95 pieces of struck flint and three small fragments of unworked burnt stone were recovered during the investigations at the site (Table L01; Appendix L01). Just under half of the struck flint came from Area 1 where it was recovered in mostly small quantities from a variety of features. These mostly comprise ditches that have been dated to the between the Iron Age and Medieval periods, and their contained flintwork can be considered as residually deposited. Small quantities were also found in a small number of otherwise undated hollows and tree-throws; it is possible that these are at least broadly contemporary with the flintwork but no evidence for in-situ working or deliberate deposition could be identified and it is entirely possible that this material was also residually deposited.

The material from Area 2 was mostly recovered from an alluvial sequence identified during the Evaluation. Four further Test-pits were excavated through the sequence, focussing around the

original Evaluation Trench (see Fig. 5). The material from the Test-pits was in a good, sharp condition and although refitting was not attempted, it is evident that it had been probably generated from only three different cores. Additionally, one of the retouched implements had broken in antiquity with both pieces found close together, demonstrating the minimally disturbed nature of the assemblage from this area. All but the northern Test-pit (TP12) produced struck flint, the majority, comprising 30 pieces, coming from TP 14, suggesting that the Test-pits probably lie on the eastern edge of the main scatter.

Burnt stone

The unworked burnt stone all comprise heated flints that have changed colour, become ‘fire-crazed’ and have fragmented. They most likely heated during the use of ground-set hearths but burnt flint is difficult to date and could represent activity from the prehistoric period onwards. Given the lack of natural flint clasts at the site, it is likely that the burnt pieces are fragments of worked flint which are too fragmented to be identifiable as such.

Description

The struck assemblage has been made from good knapping-quality flint and cherty flint that ranges considerable in colour, translucency and inclusions. Cortex, where present, is rough and often thick but has experienced varying degrees of abrasion with thermal (frost) fracture surfaces and internal flaws common. No natural flint resources are available in the vicinity and the flint must have been brought to the site, the condition of the cortex indicating it was probably gathered from mass weathered deposits as found on and around its parent chalk. The nearest potential sources are the North Downs located c. 15km to the north which would have been accessible by following the adjacent Copthorne Brook which is a tributary of the River Mole, or the South Downs, c. 25 km to the south.

Technology, Typology and Dating

The assemblage is technologically homogeneous and represents a very well executed blade-based reduction strategy that can be dated to the Mesolithic or Early Neolithic. A microlith from Area 2 can be dated to the Later Mesolithic, and the evident skill and systematic approach taken to reduction would also support a Mesolithic rather than Early Neolithic date. A few rather thicker and less skilfully detached flakes could represent later flintworking at the site, but this is not certain and all of the pieces could be accommodated within a Mesolithic industry. The assemblage includes pieces representing the entire reduction sequence, including relatively high proportions of decortication and core modification / maintenance flakes and blades, suggesting that primary core working was being undertaken at the site. The intended products include blades, blade-like flakes and a number of thin and often narrow flakes. Retouched implements contribute a high 10.5% of the overall assemblage and include a wide range of types, suggestive of broad-based ‘domestic’ type activities. The microlith from Area 2 is heavily burnt but represents a narrow blade rod type (Jacobi 1978 type 6). Other retouched pieces from Area 2 include a small fragment with abrupt retouch which could be the

remains of a further microlith, and a piercer made by accentuating the sharply convergent distal end of a blade. Retouched pieces from Area 1 include two similar piercers as well as a fragment from a heavier-duty piercer or boring tool that displays heavy use-wear. Other pieces include a blunted-backed knife, an atypical heavy-duty cutting implement, a ‘wedge’ type implement and a sharpening flake or fragment from a scraper. Several other flakes and blades also show edge damage consistent with having been lightly retouched or utilized, but this is uncertain due to the possibility of post-depositional attrition. Four cores were recovered, two from each area. All are extensively reduced and had produced blades, the two from Area 1 being ‘front’ type opposed platformed cores and those from Area 2 both being multiplatformed cores.

Significance and Recommendations

The struck assemblage indicates relatively extensive if not particularly intense flint-using activity along both banks of the Copthorne Brook during the Later Mesolithic. It demonstrates that primary flint working was being undertaken alongside a range of other tool using activities, and suggests fairly broad based occupation, most likely by relatively small groups moving through the landscape. The recovery of relatively undisturbed Mesolithic flintwork within the alluvial sequence in Area 2 confirms the findings made during the Evaluation and, although no stabilized soil horizons were identified, indicates a brief period of occupation on the margins of the seasonally flooding stream. The material from Area 1 indicates similar but more dispersed activity continuing along the northern side of the stream.

Mesolithic activity in the immediate area is generally not well represented or understood (e.g. Wessex Archaeology and Jacobi 2014), although the evidence recorded here accords well with the finding during the mid-20th century of Mesolithic flint knapping floors and occupation areas within Heathy Ground Wood as recorded in the HER. Together, the evidence suggests this was a favourable and repeatedly visited location with numerous small campsites established along the margins of the stream.

The assemblage from Copthorne Way therefore has the potential to contribute to better understandings of Mesolithic landscape use, settlement mobility, lithic technology and raw material acquisition, both locally and within the wider region, as well as addressing specific questions concerning the nature of the occupation at the site.

This assemblage, by itself, is too small to warrant detailed technological, functional or metrical analyses. Nevertheless, it is worthy of further work and dissemination. It is therefore recommended that it is re-examined in conjunction with the assemblages recovered during the Evaluation and with full respect and regard to the material recovered from the site during the mid-20th century, and a report describing all of the material and its broader significance compiled for inclusion, alongside suitable illustrations, in any published accounts of the excavations.

APPENDIX 5: SPECIALIST REPORT – POTTERY

By Barbara McNee

Introduction

A total of twelve fragments of pottery were submitted for assessment, all of which are body sherds. The material is in a highly fragmentary state and given this fact, prior to this assessment, the material was also examined by Chris Jarrett, post-Roman pottery specialist at Pre-Construct Archaeology, to discount a post Roman date for any of the material.

The Pottery

Two small sherds from context (1023) and seven sherds from context (1035) are quartz tempered and probably Roman, but otherwise totally undiagnostic. Three sherds from (context 1055) have been made with a fabric which has resulted in large voids, caused by the leaching out of possible organic matter or shell. The pottery is prehistoric, possibly late Bronze Age or Iron Age, but beyond this nothing else can be said.

Recommendations

The sherds are abraded and fairly undiagnostic; no further work is recommended. The items should be retained for the site archive.

APPENDIX 6: SPECIALIST REPORT – ENVIRONMENTAL SAMPLING

By Kate Turner

Introduction

This report summarises the findings of the assessment of twenty-six environmental bulk samples taken during an archaeological excavation on land west of Copthorne (CCWS19). These samples were taken from the fill of a ditch terminus, [1019] and a ditch, [1033], in Area 1, and from four test pits (11, 12, 13 & 14) cut through a sequence of alluvium in Area 2; the latter deposit was 100% sampled in spits, in order to determine the location and distribution of a suspected lithic scatter.

The aim of this assessment is to:

1. Give an overview of the contents of the assessed samples;
2. Determine the environmental potential of these samples;
3. Establish whether any further analysis is necessary.

Methodology

Twenty-six environmental bulk samples, of between forty and one-hundred-and-forty-six litres in volume, were processed using the flotation method; material was collected using a 300 µm mesh for the light fraction and a 1 mm mesh for the heavy residue. The heavy residue was then dried, sieved at 1, 2 and 4 mm and sorted to extract artefacts and ecofacts. The abundance of each category of material was recorded using a non-linear scale where '1' indicates occasional occurrence (1-10 items), '2' indicates occurrence is fairly frequent (11-30 items), '3' indicates presence is frequent (31-100 items) and '4' indicates an abundance of material (>100 items).

The flot (>300 µm), once dried, was scanned under a low-power binocular microscope at 10x magnification, to quantify the level of environmental material, such as seeds, chaff, charred grains, molluscs and charcoal. Abundance was recorded as above. A note was also made of any other significant inclusions, for example roots and modern plant material. Macro-botanical identifications were carried out using standard reference catalogues (Jones, Taylor and Ash, 2004; Jacomet, 2006; Cappers, Bekker and Jans, 2012; Neef, Cappers and Bekker, 2012). Nomenclature for economic plants follows Van Zeist (1984) and for other plant taxa follows Stace (1991). Molluscs were identified with reference to Kerney (1999).

Material collected from the heavy residues was catalogued and passed on to the relevant specialists for further assessment. A full account of the sample contents is provided in table 1.

Results

Preservation

Archaeobotanical material was preserved in these samples by carbonisation, with fragmented wood charcoal recovered in moderate to high concentrations throughout the sample-set, and small amounts of grain and charred nutshell also reported in several of the sampled spits from Test Pits 11, 13 and 14. Molluscs were additionally preserved in several samples, as were seeds and eggs of water-flea,

however it was difficult, due to the potential for rooting within these deposits, to determine whether any of these remains were in situ.

AREA 1

Sample <1>, context (1020) – cut of Ditch terminus [1019]

Sample <1>, comprising twenty litres of sediment, was taken from the cut of late Iron Age/Romano British ditch terminus, [1019], located in Area 1. Preservation of environmental remains was generally poor in this context; whilst over one-hundred pieces of wood charcoal were reported in the flot, the bulk of this assemblage was significantly fragmented, with specimens concentrated in the smallest sieved fraction, <2mm, and less than ten larger examples (>4mm) being recognised. Unburnt seeds of birch (*Betula* spp.), the condition of which would suggest are intrusive, and roots were common, which suggests the possibility for bioturbation in the sampled deposit. A small amount of stuck flint was recovered from the retent; no other finds were observed.

Sample <2>, context (1034) – cut of Ditch [1033]

Sample <2>, consisting of fourteen litres of sediment, was collected from the cut of an east-west aligned ditch, [1033], encountered in Area 1. A fragmentary assemblage of charcoal was extracted from this context, comprised largely of smaller specimens, <2mm, with only a minimal concentration of sizeable pieces, of a sufficient magnitude for species to be identified, reported. Carbonised seeds and cereals were absent, and no artefacts were recovered. Roots and intrusive seeds were relatively common, indicating the likelihood of post-depositional disturbance in this context.

AREA 2

Test Pit 11: Samples <3, 5, 7, 10, 12 & 14>, Spits 1-6

Six bulk environmental samples, ranging from one-hundred-and-ten to one-hundred-and-thirty-eight litres in volume, were collected in spits from Test Pit 11. Wood charcoal was frequently recognised in these samples, being present in all of the sampled spits; average fragment size was small, <2mm, with only Spits 1, 2 and 3 producing any specimens of identifiable size, the largest concentrating being extracted from Spit 1, which contained between thirty and one-hundred sizeable examples. Spit <1> also contained a low frequency of carbonised hazelnut shell (*Corylus avellana*), and Spit 4, terrestrial snail shell, of the non-native subterranean species *Cecilioides acicula*. Struck flint was recovered from Spit 1 and Spit 2, with all of the sampled spits yielding moderate to high quantities of roots and/or non-contemporary seeds.

Test Pit 12: Samples <4, 6, 8, 9, 11 & 13>, Spits 1-6

A total of six bulk environmental samples, ranging in volume from ninety-six to one-hundred-and-thirty litres, were collected in spits from Test Pit 12. Charcoal was, again, relatively common in these samples, found in all of the assessed deposits in moderate to large concentrations; the bulk of these fragments were too small to be identified to species, with only Spit 1 and Spit 2 producing any viable specimens, between two and thirty such fragments each. Shells of terrestrial molluscs were observed

in the samples from Spit 4 and Spit 6, with the former yielding specimens of *Cecilioides acicula*, *Pupilla muscorum* and *Vallonia* spp., and the latter, a small concentration of *Pupilla muscorum*, a snail native to dry, calcareous environments. Finds were limited to less than ten fragments of struck flint, all extracted from Spit 6, with these samples containing substantial evidence for bioturbation, in the form of roots and modern plant material.

Test Pit 13: Samples <15, 17, 19, 21, 23 & 25>, Spits 1-6

Six bulk soil samples, of seventy-nine to one-hundred-and-forty-six litres in volume, were collected from spits in Test Pit 13. Large quantities of charcoal was present in all of the sampled spits, with Spits 2, 3 and 4 each producing a small number of specimens of identifiable size, less than ten in total from each sample. Spit 3 contained a single carbonised grain of naked wheat (*Triticum aestivum/durum*), Spits 1 and 2 burnt flint, and Spits 1-4 struck flint; snails were absent in these samples. Spit 1 also yielded a large quantity of seeds, of crowfoots (*Ranunculus* subsp. *batrachium*) and duckweeds (*Lemna* spp.), along with eggs of water flea (*Daphnia*), both of which are indicative of a wet, or significantly waterlogged environment, likely to be reflective of environment in the immediate area of the pit. Roots and intrusive seeds were, again, seen throughout, which suggests the potential for post-depositional disturbance of smaller remains.

Test Pit 14: Samples <16, 18, 20, 22, 24 & 26>, Spits 1-6

Six environmental samples, of one-hundred-and-ten to one-hundred-and-forty litres in volume, were collected from spits in Test Pit 14. Wood charcoal was identified throughout; over one-hundred specimens were extracted from each of the assessed samples, with sizeable fragments being reported in all apart from <24>, taken from Spit 5. Spit 3 yielded the highest concentration of identifiable pieces, between thirty and one-hundred, with the other charcoal-producing spits producing less than thirty examples each. A low frequency of fragmented hazelnut shell was noted in Spit 4, which also contained a moderate quantity of mollusc shell; shells of *Carychium minimum/tridentatum* were the most commonly recognised, with the overall species profile being suggestive of a wet, or moist environment. Snails were additionally recovered from Spit 2 and Spit 6, with no more than thirty being present in each. Eggs of *Daphnia*, and seeds of rushes (*Juncus* spp.), water crowfoot and duckweed, were found in Spit <2>, suggesting substantial waterlogging of this part of the deposit. Seeds of crowfoot were also present in Spit 5. Small to moderate concentrations of struck flint were identified in Spit 1 and Spit 4; intrusive seeds and roots were observed throughout.

Interpretation

Charcoal was relatively common in both of the sampled ditch cuts, and throughout the alluvial layer. These remains may constitute scattered deposits of fire refuse, from either accidental combustion, or intentional burning related to anthropogenic activity. This assemblage was seen to be substantially fragmented, dominated by smaller pieces, <4mm in length/width; when wood is burnt, rates of fragmentation are known to be effected by changes in temperature and intensity (Chrzaszvez et al.,

2014), with greater temperatures producing a more fragmentary assemblage, suggesting that this material may have been burnt in a high-temperature environment. The degree of fragmentation in this assemblage could also indicate the possibility that this material may be the waste from larger fires that has been deposited over a wide area by wind-scatter.

The single grain of bread wheat, recovered from Spit 3, TP 13, could be an indication that cereal crops were being grown or consumed in the wider area to some degree; naked wheats are known to have been cultivated in Britain since the Neolithic period (Hillman 1981, 124), with the charred hazelnut shell from Test Pits 11 and 14 perhaps also be evidence that foraging for, and consumption of nuts was being practiced at this site. The overall density of remains is, however, in both instances, too low to suggest that such activities were being undertaken to a significant degree.

The mollusc assemblage was generally suggestive of a moist environment; however, it is unclear the extent to which these remains are in-situ, and thus the interpretive value of the assemblage may be limited.

Taphonomic Considerations

Roots and apparently intrusive seeds were observed throughout the Copthorne samples, indicating the possibility for post depositional disturbance in these deposits, and reworking of smaller ecofacts through root channels and other soil features. The likelihood of bioturbation should be taken into consideration when using environmental remains to date deposits where cultural material is scarce.

Recommendations for Further Work

This assessment has shown that, with the exception of wood-charcoal, preservation of archaeobotanical remains in the Copthorne samples was relatively poor. Due to the low quantity of sizeable charcoal, and the minimal quantity of nutshell and grains reported, additional work is not suggested on this material, however, the wheat grain recovered from Test Pit 13, and the hazelnut shell from Test Pits 11 and 14, along with any suitably sized pieces of charcoal, could be used for radiocarbon dating, if remains are determined to be undisturbed. A summary of this assessment should be included in any future publications.

Table 1: Assessment of environmental samples, Land West of Copthorne, Copthorne Way (CWWS19)

Sample Number	1	2	3	4	5	6	7	8	9	10	11	12	13
Context Number	1020	1034	2000	2001	2002	2003	2004	2005	2006	2007	2008	2109	2010
Cut Number	1019	1033	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Feature Type	Ditch	Ditch	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer
Area	1	1	2	2	2	2	2	2	2	2	2	2	2
Test Pit			11	12	11	12	11	12	12	11	12	11	12
Spit	N/A	N/A	1	1	2	2	3	3	4	4	5	5	6
Phase	3	1											
Volume of bulk (litres)	20	14	110	110	138	130	130	130	120	120	108	131	96
Volume of flot (millilitres)	38	48	170	120	105	160	52	60	63	65	67	330	114
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F	F
Charcoal													
Charcoal >4 mm	1	1	3	2	2	1	1						
Charcoal 2 - 4 mm	2	2	4	2	1	1	1		1	1			
Charcoal <2 mm	4	4	4	2	4	4	3	4	4	4	4	4	2
Burnt Seeds and Cereals													
<i>Corylus avellana</i> - nutshell	Hazel		1										
<i>Triticum aestivum/durum</i> - grain	Bread wheat												
Intrusive Seeds													
	Common name												
<i>Atriplex</i> spp.	Oraches					1							
<i>Betula</i> spp.	Birch	1	1	1			1		1	1			
<i>Chenopodium</i> spp.	Goosefoots												1
<i>Ficus carica</i>	Fig			2									
<i>Juncus</i> spp.	Rushes												
<i>Lemna</i> spp.	Duckweed												
<i>Ranunculus</i> subsp. <i>batrachium</i>	Crowfoots												
<i>Rubus</i> spp.	Brambles		1	2									
<i>Sambucus</i> spp.	Elder												
<i>Stellaria</i> spp.	Stitchworts												
<i>Urtica</i> spp.	Nettles			2		2			1				
Indet. seed case													
Other Plant Macrofossils													
Roots/tubers		2	3	4	4	3	4	3	3	3	3	4	2
Molluscs													
	Habitat												

Sample Number	1	2	3	4	5	6	7	8	9	10	11	12	13
Context Number	1020	1034	2000	2001	2002	2003	2004	2005	2006	2007	2008	2109	2010
Cut Number	1019	1033	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Feature Type	Ditch	Ditch	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer
<i>Aegopinella/Oxychilus</i> spp.	Moist places												
<i>Carychium minimum/tridentatum</i>	Wet/moist places												
<i>Ceciloides acicula</i>	Subterranean								1	1			
<i>Cochlicopa lubrica/lubricella</i>	Catholic												
<i>Discus rotundatus</i>	Moist, sheltered places												
<i>Pupilla muscorum</i>	Dry, exposed, calcareous								1				1
<i>Vallonia</i> spp.	Various								3				
<i>Vertigo</i> spp.	Various												
Snail eggs													
Juveniles - terrestrial									2	1			1
Biological Remains													
<i>Daphne</i> ephippia													
Insect remains/puparia		1		1									
Insect eggs/worm cases													
Flint													
Burnt flint													
Struck flint	1		1		1								1

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abunda

Sample Number	14	15	16	17	18	19	20	21	22	23	24	25	26
Context Number	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Cut Number	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Feature Type	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer
Area	2	2	2	2	2	2	2	2	2	2	2	2	2
Test Pit	11	13	14	13	14	13	14	13	14	13	14	13	14
Spit	6	1	1	2	2	3	3	4	4	5	5	6	6
Phase													
Volume of bulk (litres)	129	123	130	119	134	146	140	79	129	102	117	92	110
Volume of flot (millilitres)	200	69	75	74	106	75	115	58	74	66	125	105	42
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F	F
Charcoal													
Charcoal >4 mm			2	1	2	1	3	1	1				1
Charcoal 2 - 4 mm	1	1	1	1	2	2	3	1	2				1

Sample Number		14	15	16	17	18	19	20	21	22	23	24	25	26
Context Number		2010	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Cut Number		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Feature Type		Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer
Charcoal <2 mm		4	4	3	4	4	4	4	4	4	4	4	4	4
Burnt Seeds and Cereals														
<i>Corylus avellana</i> - nutshell	Hazel									1				
<i>Triticum aestivum/durum</i> - grain	Bread wheat						1							
Intrusive Seeds														
	Common name													
<i>Atriplex</i> spp.	Oraches													
<i>Betula</i> spp.	Birch		2	2		1								1
<i>Chenopodium</i> spp.	Goosefoots													
<i>Ficus carica</i>	Fig													
<i>Juncus</i> spp.	Rushes					3								
<i>Lemna</i> spp.	Duckweed		3			3								
<i>Ranunculus</i> subsp. <i>batrachium</i>	Crowfoots		4		2	4					1	3		
<i>Rubus</i> spp.	Brambles	1		1										
<i>Sambucus</i> spp.	Elder				1									
<i>Stellaria</i> spp.	Stitchworts											1		
<i>Urtica</i> spp.	Nettles		1							1	1			
Indet. seed case						1								
Other Plant Macrofossils														
Roots/tubers		3	3	2	3	2	2	3	2	2	3	2	2	2
Molluscs														
	Habitat													
<i>Aegopinella/Oxychilus</i> spp.	Moist places									1				
<i>Carychium minimum/tridentatum</i>	Wet/moist places									3				1
<i>Cecilioides acicula</i>	Subterranean					1				1				1
<i>Cochlicopa lubrica/lubricella</i>	Catholic									1				
<i>Discus rotundatus</i>	Moist, sheltered places					1				1				
<i>Pupilla muscorum</i>	Dry, exposed, calcareous									1				
<i>Vallonia</i> spp.	Various					1				1				
<i>Vertigo</i> spp.	Various									1				
Snail eggs														
Juveniles - terrestrial						2				3				1
Biological Remains														
<i>Daphne ephippia</i>			4			3								
Insect remains/puparia						1			1	1		1	1	

Sample Number	14	15	16	17	18	19	20	21	22	23	24	25	26
Context Number	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Cut Number	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Feature Type	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer	Layer
Insect eggs/worm cases													
Flint													
Burnt flint		1		1									
Struck flint		1	3	1		1		1	1				

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant

APPENDIX 7: THE MONOLITH SAMPLE FROM AREA 2

By Nick Watson (ARCA)

Introduction

This report discusses the results of a geoarchaeological investigation of one monolith sample taken from excavations on Land west of Copthorne, West Sussex (henceforth 'the site'). The work was carried out by ARCA at the University of Winchester in October 2019 on behalf of Pre-Construct Archaeology Ltd.

The site is centred on National Grid Reference (NGR) 530621 139373 and occupies c. 55ha of fields, scrub and woodland at an elevation of c. 70 to 75m OD on the floodplain of Burstow Stream and the confluence of Copthorne Brook (McCulloch 2019; Ordnance Survey 2015).

The British Geological Survey (BGS 1972, 1:50,000, sheet 302) map the site as lying on the Upper Tunbridge Wells Sand (UTWS) that dates to the Early Cretaceous Epoch (c. 140Ma). This unit is composed of silty mudstones, siltstones, silty sandstones and fine-grained sandstones that are generally finely bedded and locally ferruginous (BGS 2019). Laterally thin Holocene alluvium is mapped on the banks of the Burstow Stream.

Early excavations in 2017 by ASE have been re-examined. Two areas were opened (Areas 1 and 2) to re-investigate Romano British strata (Area 1) and determine the stratigraphy of the deposits in the Copthorne Brook and the potential for prehistoric flint assemblages (Area 2). In Area 2 a potential buried land surface was recorded in Geoarchaeological Test Pit 2, in Trench 27 in the 2017 work.

BGS borehole data on the A264 trunk road, which bounds the south of the site, record 400mm of topsoil lying over weathered UTWS at TQ33NW36 and a similar record is found at TQ33NW41 beside Copthorne Brook in the southeast corner of the site. These two boreholes are c. 700m south and south east of the trenches. Approximately 350m west of the trenches on the route of the M23 motorway boreholes reveal a similar stratigraphy with even less topsoil (c. 250mm).

Methodology

The sample was delivered to the University of Winchester in a 500x100x100mm Kubiena monolith tin. It is labelled Monolith <27> and was recovered from Area 2 – Geology Test pit 2, South Wall. The site code is CWWS19.

The sample was cleaned with a scalpel, photographed and described according to standard geological criteria (Jones et al 1999, Munsell 2000 and Tucker 2011). The results are presented below.

<27>	Depth m	Unit	Description
	0-0.12	1	Loose material.
	0.12-0.50	2	2.5Y 6/2 light greyish brown with 50% 10YR 5/6 yellowish brown mottles of iron oxide, stiff, dryish (damper at the base) silt/clay. Frequent brownish black manganese stains. Blocky fracture. Rare fine pebble-sized roots.

Table 1, Sample <27> lithology

The material archive comprises one monolith sample which will remain in storage at the University of Winchester pending decisions on further work until 4th August 2020 whereupon they will be discarded with no further notification.

The digital archive consists of photographs in JPG format and this report in PDF format. These digital archives are stored both on the University of Winchester server and on an external hard drive stored outside the University of Winchester. Copies of these data can be supplied on request. OASIS records will be completed on approval of this report.

Results and Discussion

The sample is essentially a homogenous unit of silt/clay that displays evidence of bioturbation by roots and the diagenetic effects of a fluctuating water table. These two factors will have destroyed any evidence for fluvial deposition such as fine horizontal silt and clay laminae. The mottling is derived from iron and manganese oxides as the result of redox reactions taking place within the unit after it was laid down. The fine grained sediment is derived from the local geology: the Upper Tunbridge Wells Sand.

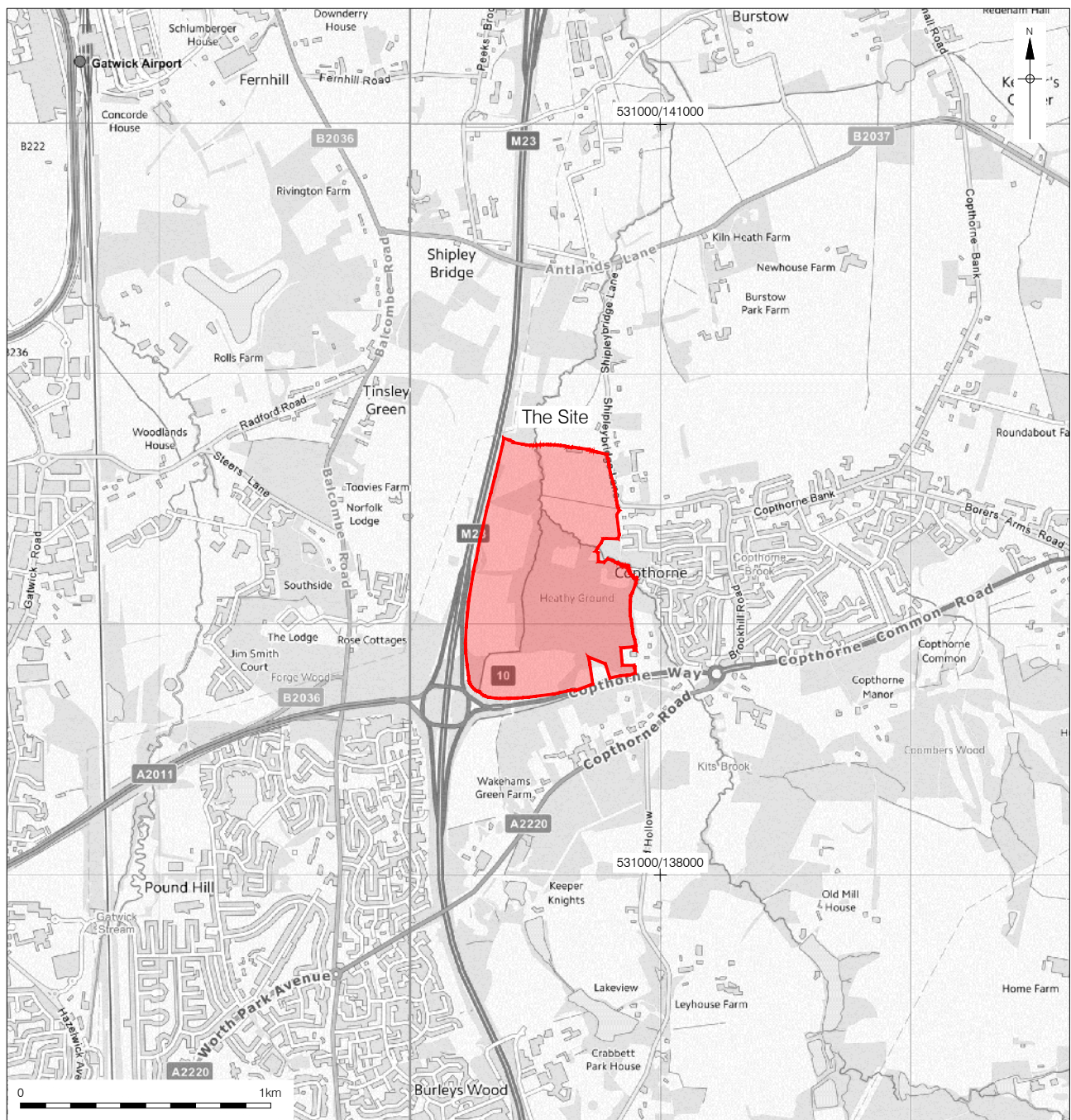
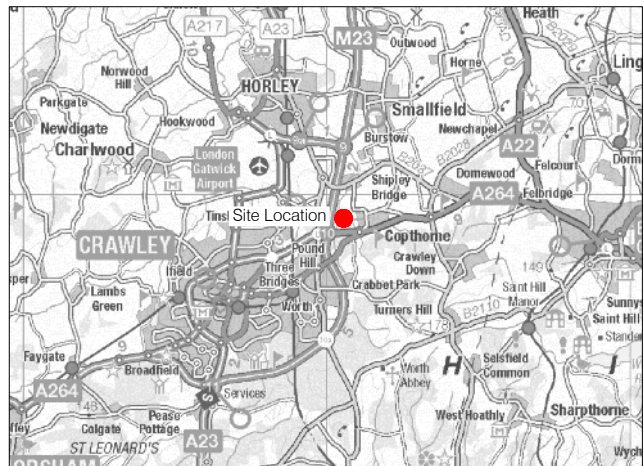
The location of the site on the floodplain presupposes that the sample is the result of alluviation: Quaternary fluvial reworking of the bedrock and local (unmapped) solifluction and colluvial deposits. The distinction between *in situ* geology and alluvium derived from that geology can be problematic where no bedding, clasts or sorting are evident. However a section of the Geoarchaeological Test Pit 2, in Trench 27 describes 1m of silt/clay overlying recognisable and bedded alluvial deposits associated with the Copthorne Brook (McCulloch 2019, 7):

'The extant parts of the silt-clay were cleaned, revealing an homogeneous deposit that macroscopically appears poorly bedded /massive but is mottled with iron staining and with a notable but irregular darker band of iron staining, c. 0.10m to 0.30m thick, present towards the base of the sequence. Cleaning also resulted in the recovery of a thermally (frost fractured) disintegrated blade core fragment.'

The monolith <27> would therefore appear to come from this unit, and as such the sample represents bioturbated and diagenetically altered overbank alluvium. Where bedded alluvial deposits are not recognised the depth of potential alluvium may be estimated. The lithology and texture of the weathered bedrock will be similar if not identical to alluvial deposits on the site and their distinction may be made on hardness although the boundary from soft to hard is likely to be gradual. BGS borehole data are logged as topsoil (up to 400mm thick) overlying UTWS. No alluvium is logged even in TQ33NW41 which is located on the bank of Copthorne Brook. This borehole records 'very stiff/hard grey shaley clayey silt (UTWS)' sub-cropping at 2.3m below ground level and may be taken to represent the top of the bedrock. The overlying deposits vary only in hardness (they are softer) and diagenesis (they are mottled); and are also recoded as UTWS. The implication here is that fluvial reworking in the Quaternary may have taken place above this elevation and perhaps only in the uppermost metre.

Conclusions and Recommendations

Monolith <27> has samples the overbank alluvium of the Copthorne Brook. It is bioturbated and diagenetically altered (oxidised) as a result of a fluctuating water table. Palaeoenvironmental evidence (pollen) is unlikely to have survived oxidation. No further work is recommended on this sample.



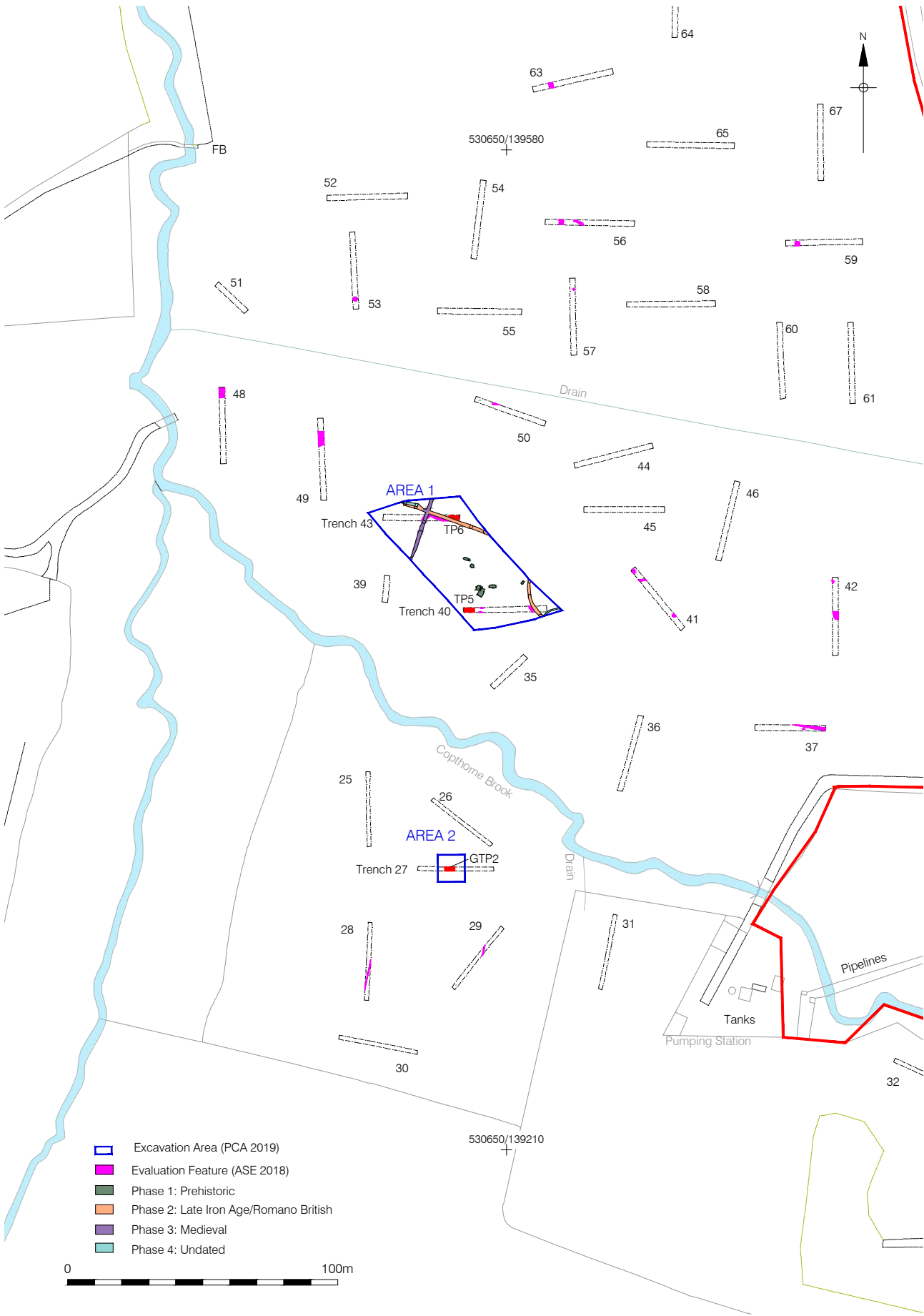
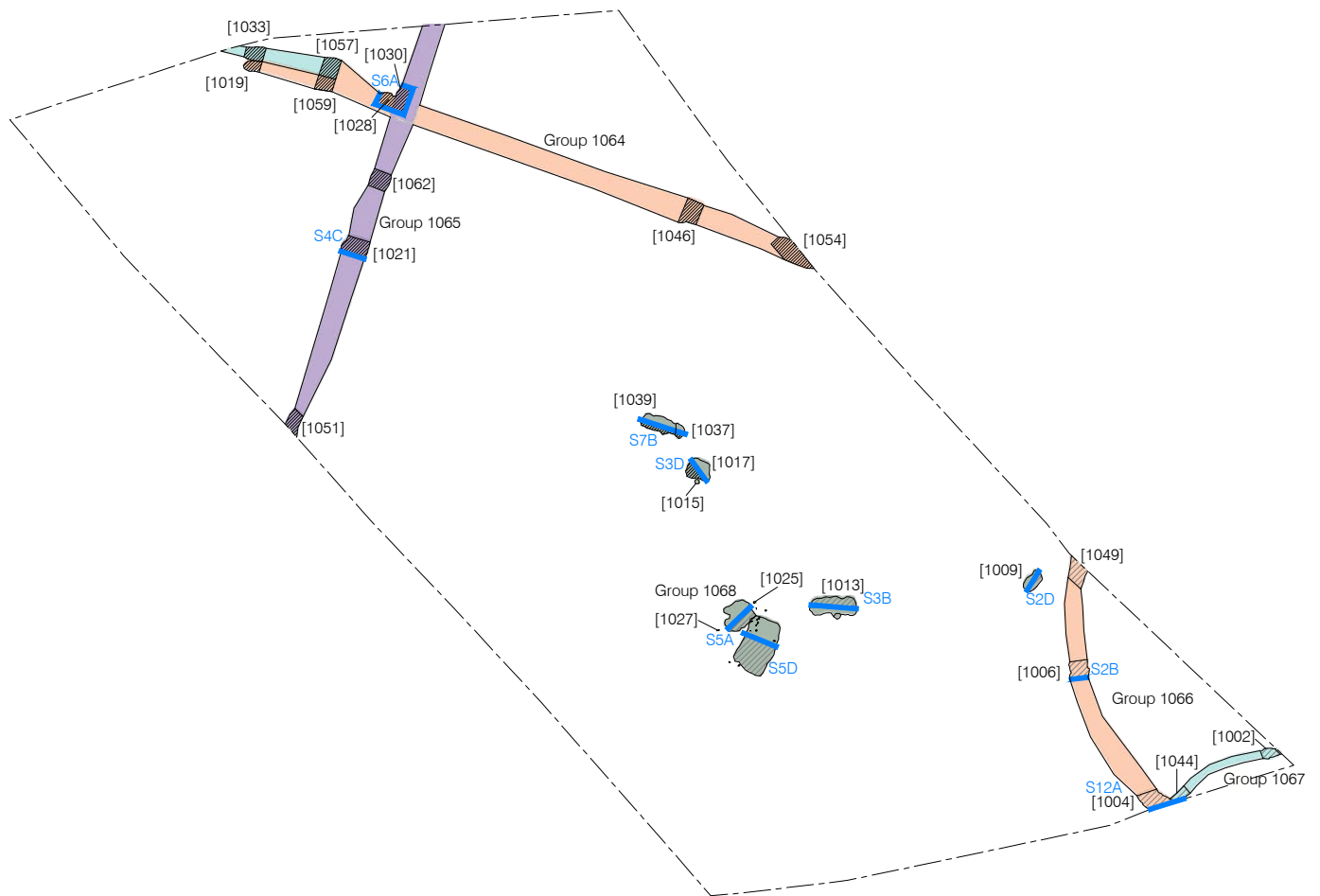


Figure 2
Detailed Site Location
1:2,000 at A4



- Phase 1: Prehistoric
- Phase 2: Late Iron Age/Romano British
- Phase 3: Medieval
- Phase 4: Undated

0 20m

Figure 3
Plan of Area 1
1:400 at A4

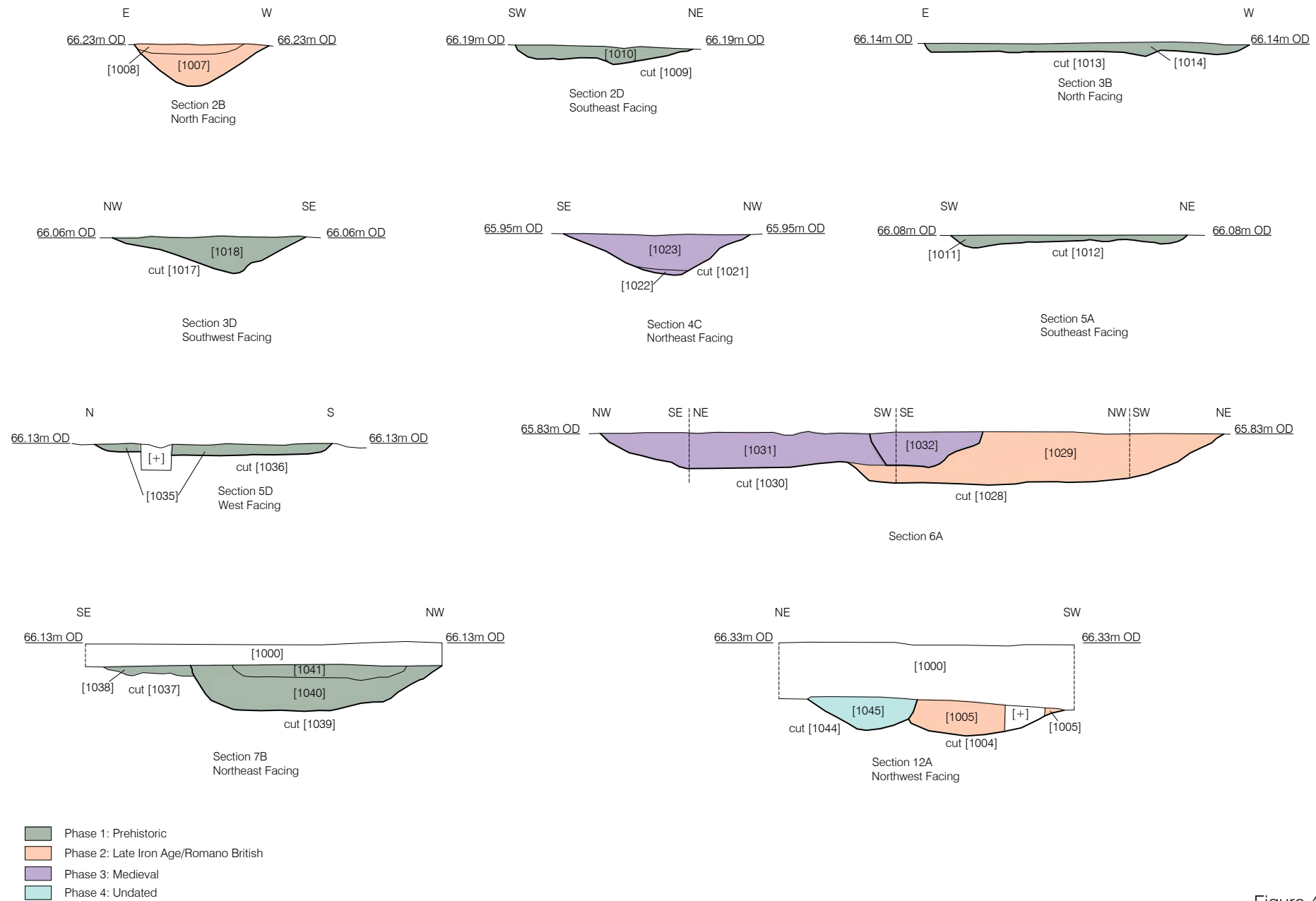
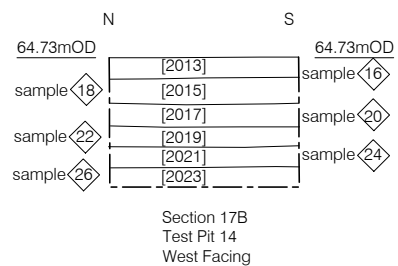
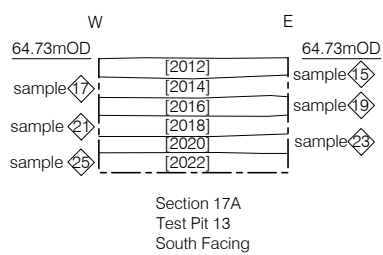
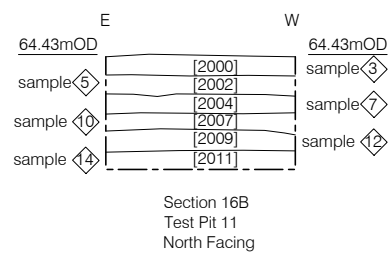
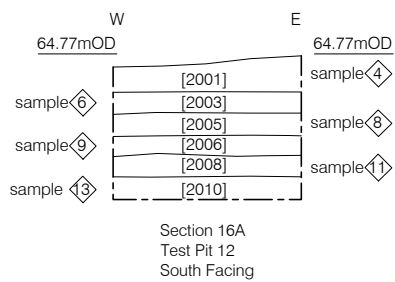
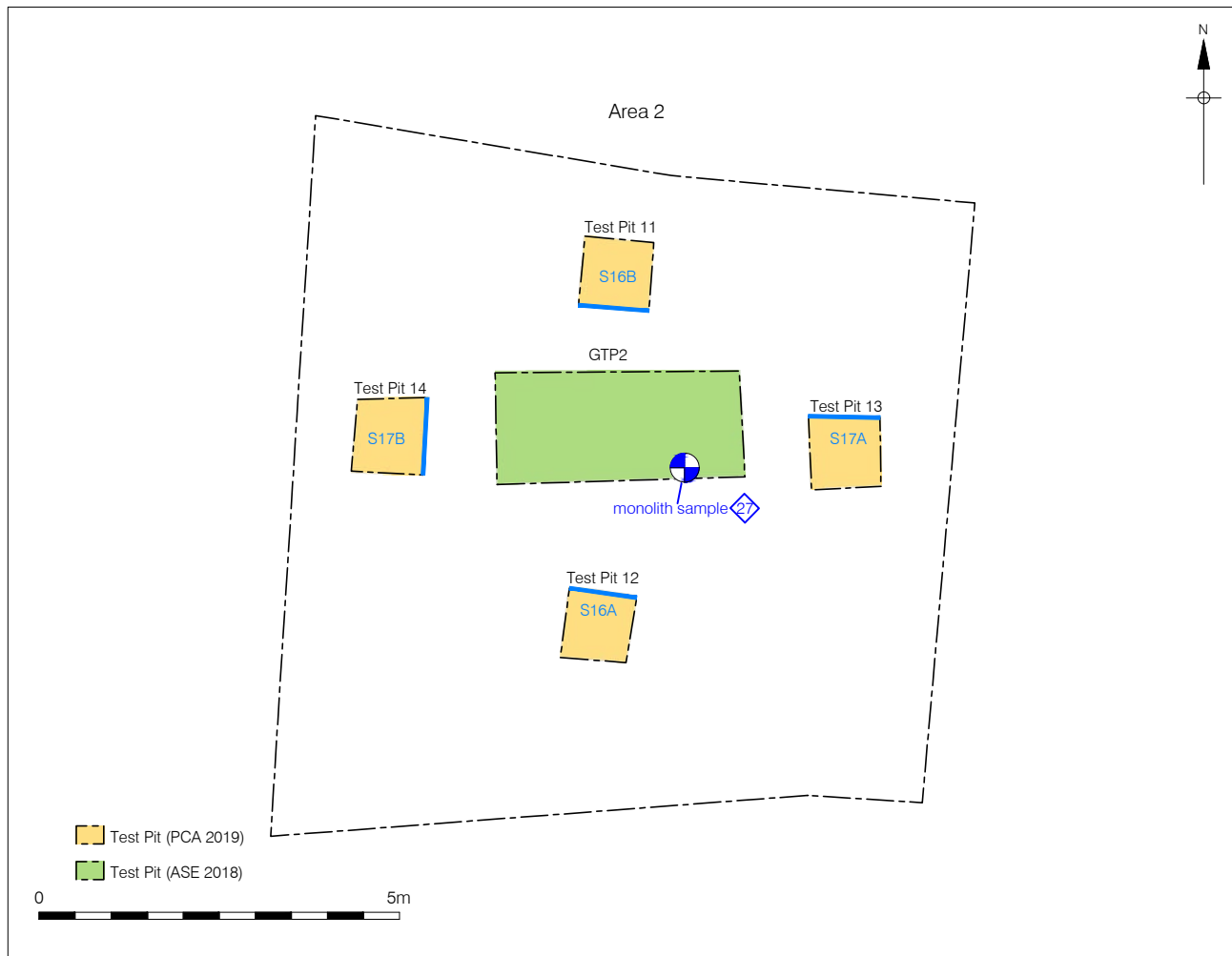


Figure 4
Area 1 Sections
1:40 at A4



PCA

PCA CAMBRIDGE

THE GRANARY, RECTORY FARM
BREWERY ROAD, PAMPISFORD
CAMBRIDGESHIRE CB22 3EN
t: 01223 845 522
e: cambridge@pre-construct.com

PCA DURHAM

THE ROPE WORKS, BROADWOOD VIEW
CHESTER-LE-STREET
DURHAM DH3 3AF
t: 0191 377 1111
e: durham@pre-construct.com

PCA LONDON

UNIT 54, BROCKLEY CROSS BUSINESS CENTRE
96 ENDWELL ROAD, BROCKLEY
LONDON SE4 2PD
t: 020 7732 3925
e: london@pre-construct.com

PCA NEWARK

OFFICE 8, ROEWOOD COURTYARD
WINKBURN, NEWARK
NOTTINGHAMSHIRE NG22 8PG
t: 01636 370 410
e: newark@pre-construct.com

PCA NORWICH

QUARRY WORKS, DEREHAM ROAD
HONINGHAM
NORWICH NR9 5AP
T: 01603 863 108
e: norwich@pre-construct.com

PCA WARWICK

UNIT 9, THE MILL, MILL LANE
LITTLE SHREWLEY, WARWICK
WARWICKSHIRE CV35 7HN
t: 01926 485 490
e: warwick@pre-construct.com

PCA WINCHESTER

5 RED DEER COURT, ELM ROAD
WINCHESTER
HAMPSHIRE SO22 5LX
t: 01962 857 330
e: winchester@pre-construct.com





Making Sustainability Happen