Kent Science Park
Sittingbourne, Kent

Post-excavation Assessment and Updated Project Design

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Contents

Summary ..... *iii*
Acknowledgements ..... *iii*

1 INTRODUCTION 1
1.1 Project and planning background 1
1.2 Scope of the report 1
1.3 Location, topography and geology 1

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND 2
2.1 Previous investigations in the local area 2
2.2 Archaeological and historical context 2

3 AIMS AND OBJECTIVES 3
3.1 Aims 3
3.2 Research objectives 3

4 METHODS 4
4.1 Introduction 4
4.2 Fieldwork methods 4
4.3 Finds and environmental strategies 4
4.4 Monitoring 5

5 STRATIGRAPHIC EVIDENCE 5
5.1 Introduction 5
5.2 Soil sequence and natural deposits 5
5.3 Late Bronze Age/Early Iron Age 5
5.4 Uncertain date 6
5.5 Post-medieval 7

6 FINDS EVIDENCE 7
6.1 Introduction 7

7 ENVIRONMENTAL EVIDENCE 9
7.1 Introduction 9
7.2 Aims and methods 9
7.3 Results 10
7.4 Discussion 10

8 STATEMENT OF POTENTIAL 11
8.1 Stratigraphic potential 11
8.2 Finds potential 12
8.3 Environmental potential 12

9 UPDATED PROJECT DESIGN 13
9.1 Updated project aims 13
9.2 Stratigraphic evidence – recommendations for analysis 13
9.3 Finds evidence – recommendations for analysis 13
9.4 Environmental evidence – recommendations for analysis 13
9.5 Radiocarbon dating recommendations 13
9.6 Proposals for dissemination 13
9.7 Programme 14
9.8 Personnel and resources 14

10 STORAGE AND CURATION 14
10.1 Museum 14
10.2 Preparation of the archive 14
10.3 Selection strategy 15

10.4 Security copy 16
10.5 OASIS 16

11 COPYRIGHT 16
11.1 Archive and report copyright 16
11.2 Third party data copyright 17

REFERENCES 18

APPENDICES 21
Appendix 1 Environmental Data 21
Appendix 2 Selection Strategy 22
Appendix 3 Kent Historic Environment Record Form 23
Appendix 4 OASIS summary 24

List of Figures

Figure 1 Site location, previous evaluation trenches and excavation area
Figure 2 Archaeological results
Figure 3 Pit 4408, viewed from the south-east
Figure 4 Pit 4460, viewed from the north-west
Figure 5 Pit 4406, viewed from the north-west
Figure 6 Machine slot through quarry pit 4480, viewed from the west
Figure 7 Ditch 4489, longitudinal profile through truncated terminal, viewed from the north-east
Figure 8 Ditches 4487 and 4488, viewed from the south-east
Figure 9 Ditch 4492, viewed from the north
Figure 10 Ditch 4491, viewed from the north-west

List of Tables

Table 1 Summary of finds by material type, number and weight (g).
Table 2 Pottery totals by chronological period and ware type
Table 3 Task list

Summary

Wessex Archaeology was commissioned by GW Pharmaceuticals to undertake archaeological mitigation works, comprising the excavation of a 4.5 hectare parcel of land centred on NGR 589935 160250, at Kent Science Park, Shimmin Road, Sittingbourne, Kent, ME9 8BZ.

The work was carried out as a condition of outline planning permission, granted by Swale Borough Council on 23 Dec 2021 (ref: 20/503707/HYBRID; Condition 26), for the extension of Kent Science Park.

The excavation was undertaken between 21 March and 11 April 2022.

Eight ditches, four pits and two quarry pits were recorded during the excavation, with a further six pits and a posthole identified during a trial trench evaluation in 2021. Four of the pits, all of which were small and shallow, are attributable to the later Bronze Age/Early Iron Age. Two pairs of shallow, truncated ditches probably formed the remains of trackways, at least one of which was potentially broadly contemporary with the Late Bronze Age/Early Iron Age pits. Other ditches can be correlated with agricultural land divisions marked on late 19th- and 20th-century OS maps, whilst the remainder of the features are of uncertain date and function.

A small, limited assemblage of finds was recovered, the most notable elements of which are a small collection of Late Bronze/Early Iron Age pottery, retrieved mainly from pits, and a backed flint blade of probable Late Glacial/Early Mesolithic date that was found residually during the trial trenching. Environmental sampling of selected contexts was generally unproductive, although a relatively rich deposit of emmer wheat chaff, together with some spelt wheat and wild taxa, was identified in one of the probable later Bronze Age pits during the evaluation.

The evidence provides a minor contribution to the record of Late Bronze Age/Early Iron Age activity in the local area. The information could aid contextualisation of the results from future investigations in the local area and contribute to synthetic studies, but there is little potential to gain further insight through subsequent analysis of the stratigraphic or finds evidence. Limited analysis (including radiocarbon dating) of the environmental evidence, however, has the potential to inform on areas of interest noted in the South East Research Framework – specifically the timing and spread of spelt wheat in this region during Bronze Age.

In view of the very limited results, formal publication is not recommended. However, it is proposed that this document is revised to form a definitive archive report. This will combine the stratigraphic, finds and environmental evidence from the evaluation and excavation phases, and incorporate the results of the proposed environmental analysis and radiocarbon dating. The archive report would be made accessible through the Archaeology Data Service (ADS) and Kent HER, and the project archive will be prepared for deposition.

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Kent Science Park
Sittingbourne, Kent

Post-excavation Assessment and Updated Project Design

1 INTRODUCTION

1.1 Project and planning background

1.1.1 Wessex Archaeology was commissioned by GW Pharmaceuticals to undertake archaeological mitigation works comprising a strip, map and sample excavation covering 4.5 ha, centred on NGR 589935 160250, at Kent Science Park, Shimmin Road, Sittingbourne, Kent, ME9 8BZ (Fig. 1).

1.1.2 The work was carried out as a condition of outline planning permission, granted by Swale Borough Council on 23 Dec 2021 (ref: 20/503707/HYBRID; Condition 26), for the extension of Kent Science Park.

1.1.3 The excavation was preceded by a trial trench evaluation, which was undertaken between 22 June and 2 July 2021 (Wessex Archaeology 2021).

1.1.4 The excavation was undertaken in accordance with a written scheme of investigation (WSI), which detailed the aims, methodologies and standards to be employed for the fieldwork and post-excavation work (Wessex Archaeology 2022a). The County Archaeologist for Kent County Council (KCC) approved the WSI, on behalf of the Local Planning Authority (LPA), prior to the fieldwork. The excavation was undertaken between 21 March and 11 April 2022.

1.2 Scope of the report

1.2.1 The purpose of this report is to provide the provisional results of the excavation, and to assess the potential of the results to address the research aims outlined in the WSI. Where appropriate, it includes recommendations for a programme of further analysis, outlining the resources needed to achieve the aims (including the revised research aims arising from this assessment), leading to dissemination of the archaeological results via publication and the curation of the archive.

1.3 Location, topography and geology

1.3.1 The development site comprises a single rectangular parcel of approximately 5 ha, adjoining the southern boundary of the commercial hub of Kent Science Park. The previously undeveloped site lay within agricultural land, which extends towards the M2 motorway 500 m to the south.

1.3.2 The site is situated in a flattish area of land at an average of approximately 75 m OD. The bedrock geology is Upper Chalk (Seaford Formation), capped with Clay-with-Flints (BGS 2022).

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Previous investigations in the local area

Watching brief 2013

2.1.1 A watching brief was maintained during topsoil stripping and excavations for the placement of foundations and services on a site immediately north of the development area in 2013. No archaeologically significant remains were encountered.

Geophysical survey 2020

2.1.2 The land surrounding the excavation area was encompassed by a detailed gradiometer survey of approximately 380 ha, which was carried out in 2020 in support of the Environmental Impact Assessment process for a large-scale mixed-use development (Wessex Archaeology 2022b). The survey produced little indication that archaeologically significant remains were present in the area immediately surrounding the site. However, two dense concentrations of anomalies detected 140 m and 330 m to the south appear to signal the presence of settlement enclosure complexes associated with numerous features, such as pits, structural remains and hearths, kilns or furnaces. Further enclosures were identified 560 m to the west and 680 m NNW of the excavation area.

Trial trench evaluation 2021

2.1.3 The evaluation of the development area in 2021 comprised the excavation and recording of 43 (30 m x 2 m) trial trenches. Twenty-one anthropogenic features, mainly pits and ditches, were recorded in 15 of the trenches. A single pit (104; Trench 1) in the northern part of the site was broadly attributable to the late prehistoric (possibly later Bronze Age) period. This was 1.2 m in diameter, 0.35 m deep and contained three fills, which incorporated abundant charred cereal grain and chaff, six sherds (28 g) of later prehistoric pottery, seven pieces of worked flint and a few small pieces of fired clay and burnt flint. Three possible medieval/post-medieval quarry pits were also identified, although the remainder of the features yielded sparse or residual finds and were of uncertain date and function. A backed flint blade of probable Late Glacial/Early Mesolithic date was recovered. The remainder of the small flintwork assemblage was largely residual and undiagnostic/not closely datable but may have been Neolithic or Bronze Age.

2.2 Archaeological and historical context

2.2.1 Large numbers of Palaeolithic artefacts and a few scattered pieces of Mesolithic flintwork have been recovered from several locations in the local area, mainly quarries to the north and north-east of the site (Wessex Archaeology and Jacobi 2014).

2.2.2 Evidence of Neolithic and early Bronze Age activity in the vicinity (as documented in the Kent HER) is mostly limited to occasional pieces or residual scatters of chronologically diagnostic worked flint and a few pits. There is, however, mention of a ‘tumulus’ having been investigated in Cromer’s Wood, to the east of the site, in the late 19th century (MKE3617); its location is unknown.

2.2.3 Sporadic, and occasionally substantial traces of later prehistoric (i.e., Middle–Late Bronze Age and Iron Age) activity have also been documented nearby. These include the remains of a Middle Bronze Age farmstead at Bapchild (MKE98831; SWAT 2011), a Middle–Late Bronze Age settlement and organised landscape at Kemsley (Diack 2006), Late Bronze Age/Early Iron Age land divisions at Fulston Manor/Swanstree Avenue (MKE80500–1; MKE21109; Wessex Archaeology 2005a–b; 2008) and occasional pits, ditches and

findspots at sites elsewhere (e.g., MKE3629; MKE80671; MKE89704; MKE21109; MKE89703; MKE90435–6).

2.2.4 Substantial evidence of Late Iron Age and Romano-British activity has been recorded in the surrounding area, including burial sites, parts of field systems and settlement remains, as documented in the HER and Rural Settlement of Roman Britain database (Allen *et al* 2015), Although there are outliers (e.g., Boden 2006), the bulk of these sites lay beside the route of Watling Street, which corresponds approximately with the modern A2 over 3 km to the north of the site,

2.2.5 The site lies within the former estate of Woodstock (or Pistock) Manor, which passed through a succession of owners and was gradually broken up and sold off in the 19th and 20th centuries. Part of the estate was acquired by Shell Research and Kent County Council in the mid-20th century, leading to the development of Woodstock Agricultural Research Centre In the 1980s, the name was changed to the Sittingbourne Research Centre. It became the Kent Science Park in 1996.

3 AIMS AND OBJECTIVES

3.1 Aims

3.1.1 The general aims of the excavation, as stated in the WSI (Wessex Archaeology 2022a) and in compliance with the Chartered Institute for Archaeologists' *Standard and guidance for archaeological excavation* (CIfA 2014a), were to:

- examine the archaeological resource within a given area or site within a framework of defined research objectives;
- seek a better understanding of the resource;
- compile a lasting record of the resource; and
- analyse and interpret the results of the excavation and disseminate them.

3.2 Research objectives

3.2.1 Following consideration of the archaeological potential of the site, the research objectives of the excavation defined in the WSI (Wessex Archaeology 2022a) were to:

- Determine if any additional Early Mesolithic flint is present at the site and can any areas of activity be identified;
- Determine the date of the undated features found in the evaluation;
- Determine if the site does contain prehistoric activity and examine the date and nature of this activity;
- Determine the date and form of the potential medieval quarry pits found in the evaluation;
- Assess how the activity found correlates with surrounding known activity.

4 METHODS

4.1 Introduction

4.1.1 All works were undertaken in accordance with the detailed methods set out within the WSI (Wessex Archaeology 2022a) and in general compliance with the standards outlined in CIfA guidance (CIfA 2014a). The post-excavation assessment and reporting followed advice issued by the Association of Local Government Archaeological Officers (ALGAO 2015). The methods employed are summarised below.

4.2 Fieldwork methods

General

4.2.1 The excavation area was set out using a Global Navigation Satellite System (GNSS), in the same position as that proposed in the WSI (Fig. 1). The topsoil/overburden was removed in level spits using a 360º excavator equipped with a toothless bucket, under the constant supervision and instruction of the monitoring archaeologist. Machine excavation proceeded in level spits until the archaeological horizon or the natural geology was exposed.

4.2.2 Where necessary, the surfaces of archaeological deposits were cleaned by hand. A sample of archaeological features and deposits was hand-excavated, sufficient to address the aims of the excavation. A sample of natural features, such as tree-throw holes, was also investigated.

4.2.3 Spoil derived from machine stripping and hand-excavated archaeological features was visually scanned for the purposes of finds retrieval. A metal detector was also used. Artefacts were collected and bagged by context. All artefacts from excavated contexts were retained, although those from features of modern date (19th-century or later) were recorded on site and not retained.

Recording

4.2.4 All archaeological features and deposits were recorded using Wessex Archaeology's pro forma recording system. A complete record of excavated features and deposits was made, including plans and sections drawn to appropriate scales (generally 1:20 or 1:50 for plans and 1:10 for sections) and tied to the Ordnance Survey (OS) National Grid.

4.2.5 A Leica GNSS connected to Leica's SmartNet service surveyed the location of archaeological features. All survey data is recorded in OS National Grid coordinates and heights above OD (Newlyn), as defined by OSTN15 and OSGM15, with a three-dimensional accuracy of at least 50 mm.

4.2.6 A full photographic record was made using digital cameras equipped with an image sensor of not less than 16 megapixels. Digital images have been subject to managed quality control and curation processes, which has embedded appropriate metadata within the image and will ensure long term accessibility of the image set.

4.3 Finds and environmental strategies

4.3.1 Strategies for the recovery, processing and assessment of finds and environmental samples were in line with those detailed in the WSI (Wessex Archaeology 2022a). The treatment of artefacts and environmental remains was in general accordance with: *Guidance for the collection, documentation, conservation and research of archaeological materials* (CIfA 2014b), *Environmental Archaeology. A Guide to the Theory and Practice of Methods, from*

Sampling and Recovery to Post-excavation (English Heritage 2011) and CIfA's *Toolkit for Specialist Reporting* (Type 2: Appraisal).

4.4 Monitoring

4.4.1 The County Archaeologist for KCC monitored the works on behalf of the LPA. Any variations to the WSI, if required to better address the project aims, were agreed in advance with the client and the County Archaeologist for KCC.

5 STRATIGRAPHIC EVIDENCE

5.1 Introduction

Summary of archaeological features and deposits

5.1.1 Eight ditches, four pits and two quarry pits were recorded during the excavation, with a further six pits and a posthole identified in the previous evaluation (Wessex Archaeology 2021) (Figure 2). Four small, shallow pits are attributable to the Late Bronze Age/Early Iron Age. Two pairs of shallow, truncated ditches probably formed the remains of trackways, at least one of which was potentially broadly contemporary with the Late Bronze Age/Early Iron Age pits. Other ditches can be correlated with agricultural land divisions marked on late 19th- and 20th-century OS maps. The remainder of the features are of uncertain date.

Methods of stratigraphic assessment and quantity of data

5.1.2 All handwritten and drawn records from the excavation have been collated, checked for consistency and stratigraphic relationships. Key data has been transcribed into a database, which can be updated during any further analysis. Preliminary phasing of archaeological features and deposits was principally undertaken using stratigraphic relationships and the dating from artefacts, particularly pottery.

5.2 Soil sequence and natural deposits

5.2.1 The 0.2–0.3 m thick mid-greyish brown silty clay topsoil overlaid a thin and intermittent mid-reddish brown silty clay subsoil. The upper surface of the natural substrate – a light yellow brown clay with abundant, poorly sorted flint inclusions – was encountered between 0.3 and 0.45 m below ground level.

5.3 Late Bronze Age/Early Iron Age

Pits

5.3.1 A single sherd (22 g) of Late Bronze Age/Early Iron Age pottery and 31 pieces of burnt flint (191 g) came from pit 4408, in the western corner of the excavated area. The pit measured 1.2 m by 1 m, was 0.17 m deep and had shallow sloping concave sides and a flat base (Fig. 3). Samples of its mid-greyish brown silty clay fill contained sparse charred cereal grain and chaff and abundant charcoal

5.3.2 Pit 4442 was located in the northern corner of the site, 130 m north of pit 4408 and 5 m south of late prehistoric pit 104 (recorded in Trench 1 of the evaluation). It measured 0.9 m in diameter, was 0.05 m deep and contained a single deposit of dark grey silty clay. Twenty-seven sherds (104 g) of Late Bronze Age or Early Iron Age pottery and an undiagnostic worked flint flake came from the feature.

5.3.3 Pit 4460, 60 m south of pit 4442, yielded 47 sherds (145 g) of Late Bronze Age/Early Iron Age pottery. The pit measured 1.64 m in diameter and was 0.2 m deep, with shallow concave sides and a slightly concave base (Fig. 4). It contained a single fill of mid-greyish brown silty clay with abundant large flints.

5.4 Uncertain date

Pits

5.4.1 Pit 4406, in the southern part of the site, measured 0.7 m by 0.6 m, was 0.13 m deep and contained a slightly mixed, dark greyish brown silty clay fill with abundant charcoal inclusions (Fig. 5). No finds came from the pit. Two very similar, undated pits were found (4204 and 4207 in Trench 42) 30 m to the south during the evaluation; the only finds from them were a few small pieces of burnt flint and an undiagnostic flint flake.

Quarry pits

5.4.2 A large, irregular pit (4478), approximately 5 m by 4 m across, was exposed near the western limit of the excavation in the northern part of the site. Due to its size, the feature was examined by means of a machine-excavated section, which demonstrated that it attained a depth in excess of 0.9 m and had irregular, moderately steeply sloping sides. It contained at least three undistinctive, mid-greyish/reddish brown silty clay fills with common flint and chalk inclusions, probably formed through gradual, natural silting processes. Another, larger pit (4480), 45 m to the south-west, had initially been identified (and recorded as pit 403) in Trench 4 of the evaluation. This feature was fully exposed during the excavation, revealing that it measured 11.75 m by 10 m. Again, the feature was excavated mechanically due to its size (Fig. 6). It was at least 1.2 m deep, had moderately steeply sloping, concave sides and contained several fills that were very similar to those within pit 4478. No finds were retrieved from either of these features. Although their date and function are uncertain, perhaps the most plausible interpretation is that these were extraction/quarry pits. Ostensibly similar features were partially exposed and investigated to the east and south-east in Trenches 14, 16 and 18 of the evaluation; these were subsequently identified during the excavation as potentially being geological variations rather than anthropogenic features.

Trackway ditches 4489/4490 and(?) 4488

5.4.3 A pair of shallow, parallel ditches (4489 and 4490; previously recorded as ditches 2304 and 2306 in Trench 23), set approximately 2 m apart, extended north-west to south-east across the northern, central part of the excavation area. The ditches had shallow, concave profiles and contained mid-yellow brown silty clay fills with frequent flint inclusions. The larger of the ditches (4490) was 21.5 m long, 1.30 m wide and up to 0.27 m deep, whilst its counterpart (4489) measured 14.5 m by 0.65 m and was a maximum of 0.15 m deep. The ditches probably formed the poorly preserved and fragmentary remains of a trackway that had otherwise been lost to truncation (Fig. 7). The only associated finds are a few tiny, abraded sherds (7 g) of Late Bronze Age/Early Iron Age and undiagnostic but nevertheless late prehistoric pottery, and a single undiagnostic flint flake. Although all could be residual, the Late Bronze Age/Early Iron Age pottery potentially reflects the date of the trackway. This is tentatively corroborated by a few small sherds (15 g) of Late Bronze Age/Early Iron Age pottery from ditch 4488 (recorded as ditch 1804 in Trench 18), 65 m to the north-west, which was potentially the continuation of one of the trackway ditches. Ditch 4488 was 71.5 m long, up to 0.7 m wide and 0.15 m deep, had a shallow, concave profile and contained a mid-greyish/yellow brown silty clay fill with flint inclusions (Fig. 8). The only other find from ditch 4488, recovered during the evaluation, was a small, amorphous piece of fired clay (9 g).

Trackway ditches 4492/4493

5.4.4 A second pair of parallel ditches (4492 and 4493; the latter recorded as ditches 2504 and 2604 during the evaluation) was exposed approximately 70 m south of ditches 4489 and 4490. Again, these appear to have been the remains of a trackway. The ditches, which were 3.2 m apart, charted a slightly sinuous course approximately 64 m north-west from the southern limit of the site, and had probably been lost to truncation within the excavation

area. The ditches were 0.8 m wide and up to 0.3–0.4 m deep, had moderately steeply sloping–shallow concave sides and flattish bases, and contained unremarkable mid-greyish/yellow brown silty clay fills with common flint inclusions (Fig. 9). The only associated find is a tiny sherd (1 g) of possibly Late Bronze Age/Early Iron Age pottery (from ditch 4492).

Other ditches

5.4.5 Ditch 4486 (recorded as ditch 108 in Trench 1) extended at least 36.5 m NNE–SSW through the northern corner of the excavated area. It was up to 0.85 m wide and 0.25 m deep, and had shallow, concave sides and a concave base. A small, possibly residual and abraded sherd of late prehistoric pottery came from its mid-greyish brown silty clay fill. Although following a similar alignment to the existing field system, the ditch does not correspond with any features marked on late 19th- or 20th-century OS maps.

5.4.6 Ditch 4491 extended 14.7 m north-west from the southern limit of the excavation before terminating. It was up to 0.6 m wide, 0.22 m deep, and contained an undistinctive mid-greyish brown silty clay fill (Fig. 10). No finds came from the ditch. Although its date and function are unclear, the ditch did not conform to the layout of the extant field system (or any features shown on early OS maps) suggesting that it was probably of earlier origin.

5.5 Post-medieval

Ditches

5.5.1 Ditch 4494 (up to 1.5 m wide and 0.4 m deep; recorded as ditch 1703 in Trench 17) extended NNE–SSW across the full width of the excavation area. It was perpendicular to ditch 4487 (0.8 m wide and 0.15 m deep; recorded as ditches 203 and 304 in Trenches 2 and 3), which was cut through ditches 4486 and 4488 (see above) in the northern part of the excavation area (Fig. 8). The only associated finds from ditches 4494 and 4487 are three pieces of diagnostic worked flint and tiny crumbs of prehistoric pottery (1 g) and fired clay/ceramic building material (1 g) – all found in ditch 4494. Both ditches can be correlated, approximately, with agricultural land divisions marked on late 19th- and 20th-century OS maps. Another post-medieval field boundary ditch was identified parallel to and 90 m east of ditch 4494 during the evaluation (ditch 2204 in Trench 22); the shallow ditch was not encountered during the excavation and had probably been lost to truncation beyond the footprint of the trench.

6 FINDS EVIDENCE

6.1 Introduction

6.1.1 A small, limited assemblage of finds (113 objects, 484 g) dating to the later prehistoric period was recovered during the excavation. The finds have been cleaned and quantified by material type in each context and scanned to assess their nature, condition, and potential date range. Totals by material type are presented in Table 1, along with a summary of the quantities recovered during the 2021 evaluation which form the subject of a separate report (Wessex Archaeology 2021). The following discussion refers to the material recovered during the excavation works only, although the combined assemblages from both evaluation and excavation stages of fieldwork are considered in sections 8 and 9.

Table 1 Summary of finds by material type, number and weight (g).

Material type	Evaluation		Excavation		Total	
	No.	Wt.	No.	Wt.	No.	Wt.
Burnt flint	20	32	31	191	51	223
Fired clay	10	39	-	-	10	39
Flint	17	136	1	2	18	138
Pottery	14	63	81	291	95	354
Shell	1	27	-	-	1	27
Total	**62**	**297**	**82**	**293**	**144**	**590**

6.2 Pottery

6.2.1 A total of 81 sherds (291 g) was recovered from six features (pits 4408, 4442 and 4460, ditches 4488, 4489 and 4492). The assemblage dates from the Late Bronze Age into the late prehistoric period. Sherds from each context have been sub-divided into broad ware groups based largely on the predominant inclusion types (e.g., flint and grog-tempered) and quantified by number and weight of pieces. Where possible, detail of vessel form and other diagnostic features have been noted and a spot date for each context has been assigned. A breakdown of the sherds by chronological period and ware type is presented in Table 2. This level of recording is consistent with the 'basic record' advocated for the rapid characterisation of pottery assemblages (Barclay *et al* 2016, Section 2.4.5), although in the absence of any measurable rims, Estimated Vessel Equivalents (EVEs) have not been used.

6.2.2 The assemblage is in moderate to poor condition with many sherds, particularly the lightly fired pieces, displaying surface abrasion and considerable edge damage. This is reflected in an overall mean sherd weight of just 3.6 g.

Table 2 Pottery totals by chronological period and ware type

Period	Ware	No.	Wt (g)
Late Bronze/Early Iron Age	Flint-tempered ware	78	273
	Sand and flint-tempered ware	3	15
Late prehistoric	Grog-tempered ware	2	3
Total		**83**	**291**

6.2.3 The majority of datable sherds are of Late Bronze Age or Early Iron Age date and occur in fabrics tempered with frequent fine flint inclusions (Table 2). Most were found in pits 4442 and 4460, with a single plain body sherd (1 g) from ditch 4492 (cut 4414). Those from pit 4442 (27 sherds, 104 g) derive from at least one, possibly two, vessels with short, out-turned, internally bevelled rims (McNee 2012, 303–304, type J10c), with diagonal, incised slashes decorating the shoulder. One group of four, small con-joining sherds shows that there is a second row, cut in the opposite direction, forming a herring-bone motif. Forty-one of the sherds (129 g) from pit 4460 are also from the base and walls of a single, highly fragmented, unoxidised flint-tempered vessel, probably a small to medium-sized jar. The three base sherds indicate some slumping of the vessel walls during firing, giving an irregular, slightly footed appearance to the exterior base angle. A single oxidised body sherd (3 g) from this context derives from a second flint-tempered vessel, the other five sherds all being significantly abraded body sherds in a flint with carbonaceous flecks tempered fabric, broadly paralleled amongst the post Deverel-Rimbury and Early Iron Age wares from Iwade (Hamilton and Seager Thomas 2005, 22, fabrics 5, 8, 19, 12, 14 and 15). The remaining

sherd belonging within this period, a plain body in a sand and fine flint tempered fabric, came from pit 4408.

6.2.4 Five other sherds, all undiagnostic scraps, could only be broadly dated as 'later prehistoric'. Two from ditch 4489 (cut 4450) occur in a fine flint and grog-tempered ware, while the other three, including two conjoining pieces from a flat, jar-type base (ditch 4488), are made in a fine sandy fabric with sparse flint inclusions.

6.3 Flint

6.3.1 A single broken waste flake of prehistoric date was found within pit 4442.

6.3.2 A small quantity of burnt flint (31 fragments, 191 g) was recovered from pit 4408. This material type is intrinsically undatable but frequently associated with prehistoric activity. A single sherd of Late Bronze Age or Early Iron Age pottery recovered from the same context may therefore suggest a date for the burnt flint from this feature.

6.4 Conservation

6.4.1 No immediate conservation requirements were noted in the field or during the assessment of this material.

7 ENVIRONMENTAL EVIDENCE

7.1 Introduction

7.1.1 Six bulk samples were taken from pits and processed for the recovery and assessment of environmental evidence.

7.2 Aims and methods

7.2.1 The aim of this assessment is to determine the nature and significance of the environmental remains preserved at the site, and their potential to address project aims. This assessment has been undertaken in accordance with Historic England guidelines (English Heritage 2011).

7.2.2 The size of the bulk sediment samples varied between 1.5 and 29 litres, with an average volume of around 12 litres. The samples were processed using a Siraf-type flotation tank; the flot retained on a 0.25 mm mesh, residues fractionated into 4 mm and 1 mm fractions. The coarse residue fractions (>4 mm) were sorted by eye and discarded. The fine residue fractions and the flots were examined using a stereomicroscope at up to x40 magnification.

7.2.3 Plant remains were identified through comparison with modern reference material held by Wessex Archaeology and relevant literature (Cappers *et al.* 2006). Selected charcoal fragments were identified through examination of the transverse, tangential longitudinal, and radial longitudinal sections at up to x400 magnification. Charcoal identifications were assisted by the descriptions of Gale and Cutler (2000), Hather (2000), and Schweingruber (1990), together with modern reference material held by Wessex Archaeology. Nomenclature follows Stace (1997) for wild taxa and Zohary *et al.* (2012) for cereals and other cultivated crops (using traditional names).

7.2.4 Different potential indicators of bioturbation were noted, including the percentage of modern roots, together with the presence of modern seeds, burrowing blind snails (*Cecilioides acicula*), earthworm eggs, and modern insects.

7.2.5 Remains were recorded semi-quantitatively on an abundance scale: C = <5 ('Trace'), B = 5–10 ('Rare'), A =10–30 ('Occasional'), A* = 30–100 ('Common'), A** = 100–500 ('Abundant'), A*** =>500 ('Very abundant/Exceptional').

7.3 Results

7.3.1 The results are presented in Appendix 1. Environmental evidence preserved at the site comprises charred plant remains and wood charcoal, together with very low numbers of terrestrial molluscs. The flots contain small quantities of modern roots and shells of the burrowing blind snail (*Ceciloides acicula*) which reflect low levels of bioturbation. Trace quantities of highly fragmented coal and clinker/cinder in pit 104 and pit 1104 (recorded in Trenches 1 and 11) are probably later contaminants.

7.3.2 The sample from pit 104 differs significantly from other features investigated. It produced a small flot containing highly fragmented (<2 mm) charcoal, together with abundant emmer wheat (*Triticum dicoccum*) glume bases and spikelet forks. There are relatively few spelt wheat (*T. spelta*) glume bases and poorly preserved cereal grains, including emmer/spelt (*T. dicoccum/spelta*) and barley (*Hordeum* sp.). Remains of wild taxa are rare, with evidence for goosefoots (*Chenopodium* sp.), knotweeds (*Persicaria* sp.), and a sedge family species (Cyperaceae).

7.3.3 Other features sampled produced flots which are primarily composed of wood charcoal. In particular, the samples from pits 4207 (Trench 42) and 4406 are very similar in composition, and they both contain relatively large quantities of oak (*Quercus*) stemwood charcoal. One sample from pit 4204 (Trench 42) produced a smaller quantity of oak charcoal, whilst pit 4408 differs slightly since it contains a mixture of oak and apple sub-family (Maloideae) charcoal. Very low numbers of cereal remains are recorded in these features, with emmer wheat glume bases noted in pit 4204, whereas pit 4408 contains an indeterminate wheat (*Triticum* sp.) grain and an indeterminate wheat glume base.

7.3.4 One sample from pit 1104 produced a very small flot containing a trace of oak charcoal and a single emmer wheat glume base.

7.4 Discussion

7.4.1 The assemblage of wood charcoal and charred plant remains probably reflects material associated with a nearby prehistoric settlement.

7.4.2 A relatively rich deposit of emmer wheat chaff was recovered from pit 104, together with some spelt wheat and wild taxa (probably arable weeds). The combination of these two crops suggests a date between the Early Bronze Age to the end of the Romano-British period (Campbell 2017). Whilst the cultivation of emmer wheat had largely been replaced by spelt wheat from the Middle to Late Bronze Age onwards, several sites in Kent suggest that emmer continued to remain an important crop throughout the Iron Age and into the early Romano-British period (Champion 2019). The relatively high ratio of emmer wheat relative to spelt wheat could indicate a Bronze Age date.

7.4.3 Other features sampled contain few remains which can be considered to be diagnostic of a particular period, although the presence of emmer wheat in pits 1104 and 4204 similarly suggests a prehistoric/Romano-British date. An indeterminate wheat glume base from pit 4408 probably derives from either emmer wheat or spelt wheat, and this feature is also likely to be prehistoric/Romano-British in date.

7.4.4 The wood charcoal assemblage appears to reflect redeposited fuel debris discarded into the pits. Whilst the origin of this material is unclear, the predominance of oak could be associated with industrial/craft-activity (*cf*. Gale and Cutler 2000).

8 STATEMENT OF POTENTIAL

8.1 Stratigraphic potential

8.1.1 The sparse scatter of small, shallow Late Bronze Age/Early Iron Age pits (104, 4408, 4442 and 4460) identified in the western part of the site is the most significant element of the stratigraphic evidence. Whilst insubstantial, the pits and their contents (e.g., small amounts of pottery, charcoal, charred cereals) appear broadly consistent with the remains of domestic and agricultural activity. The relatively sparse nature of the evidence is potentially reflective of low levels of activity, although truncation caused by ploughing in modern and historical periods could be responsible for the loss of contemporary remains within the excavated area. Equally, the shallow pits may have been scattered on the periphery of a more intensively used/inhabited area located beyond the excavation area. Geophysical surveys (Wessex Archaeology 2022b) offered no indication that substantial contemporary remains (e.g., enclosed settlements or extensive enclosure/field systems) are present immediately to the south, east or west. However, any associated remains of unenclosed settlement or very shallow, truncated remains of land divisions may have escaped detection by the survey.

8.1.2 The shallow remnants of two ditched trackways within the centre of the excavation area are inconclusively dated, yet were potentially contemporary with the pits. These may be all that remains of an enclosed/organised landscape akin to those that proliferated across large parts of southern Britain in the mid-2nd–early 1st millennia BC but had largely fallen out of use in the Early Iron Age (Yates 2007). It is also possible that one or both of the trackways was associated with the probable settlement enclosures detected by geophysical surveys 140 m and 330 m to the south (see section 2.1; Wessex Archaeology 2022b). The enclosures have yet to be investigated by intrusive means and are currently undated, but their appearance/morphology suggests they belong to later prehistory and/or the Romano-British period.

8.1.3 The distribution of evidence for settlement and land division in Kent during the late 2nd–early 1st millennium BC is highly variable, being predominantly restricted to the north of the county along parts of the North Downs and coastal plain, as well as on parts of the Greensand (Champion 2019, 9; Yates 2007, figs 3.3 and 12.2). To some extent, the pattern can be expected to reflect sampling biases imposed, for example, by spatial differentials in the level of development-led investigation and the influence of geology on detection rates associated with prospection/remote sensing techniques. The excavation area falls a little outside the main concentrations of recorded later Bronze Age–Early Iron Age sites, which lay to the east on Thanet and north of Canterbury, and to the west on the Hoo Peninsula and margins of the Thames Estuary. Nonetheless, significant sites are known to the north, including the ringworks on the Isle of Sheppey at Minster Abbey (Philp and Chenery 1998) and Kingsborough Farm (Allen *et al.* 2007). Evidence of broadly contemporary and more conventional settlement and land division has also been uncovered nearer the site, as at Kemsley (Diack 2006), Bapchild (SWAT 2011), Fulston Manor/Swanstree Avenue (Wessex Archaeology 2008) and Meadowfield School (CAT 2010), to the north and north-east.

8.1.4 Consequently, the evidence from the Kent Science Park provides a minor contribution to the record of Late Bronze Age/Early Iron Age activity in the local area. The South East Research Framework also highlights the significance of relatively slight traces of Middle Bronze Age–Iron Age occupation:

We also need to pay particular attention to the diversity of evidence for settlement activity, especially in the recognition of small-scale and low-density activity, and to document the full range of settlement forms in the various periods (Champion 2019, 45)

8.1.5 Accordingly, the information from the investigations could aid contextualisation of the results from future investigations in the local area and contribute to synthetic studies. However, there is little potential to gain further insight, in isolation, through subsequent analysis of the stratigraphic records. The insubstantial nature of the evidence and the paucity of certainly contemporary remains means that there is negligible opportunity to illuminate the scale, location, character or environmental context of settlement, land use patterns or to examine aspects of social, economic or depositional practise.

8.1.6 The indication of a Late Glacial/Early Mesolithic presence, provided by a single, residual piece of diagnostic flintwork, is also of minor note, whilst the remainder of the stratigraphic evidence – relating to a few features of uncertain date and function, and later post-medieval field boundaries – is of negligible significance and/or has no further research potential.

8.2 Finds potential

8.2.1 Preservation of artefacts across the site varies from moderate to poor. Chronological evidence indicates background activity dating back as far as the end of the last glaciation, 10,000 years ago, or the early part of the Mesolithic period (a single flint from the evaluation), extending through to the post-medieval period (two sherds of pottery also from the evaluation). However, the range of material culture recovered during both phases of fieldwork is limited with all categories occurring only in small quantities.

8.2.2 The pottery and flint have provided a chronological framework for the site. In addition to the single piece demonstrating a background Late Glacial/Early Mesolithic presence, the flint can be placed within the broad period spanning the Neolithic into the Bronze Age. The pottery provides further evidence of significant human activity on the site during the Late Bronze Age or Early Iron Age (pits 104, 4408, 4442 and 4460). Evidence for later activity is limited to single sherds of Romano-British (pit 306) and medieval (quarry pit 1807) date and two pieces of post-medieval glazed redware from ditch 2204. Given the low numbers of diagnostic sherds present, full fabric and form analysis will be of no further help in refining this sequence or contributing to any enhanced understanding of pottery production, trade, exchange or consumption in the area.

8.2.3 The flint and burnt flint from both phases of fieldwork have no further potential to provide information beyond that already recorded. Similarly, the amorphous fragments of fired clay (pits 104 and 306, and ditches 2204, 4488 and 4494) and the single oyster shell (quarry pit 1807) have provided all the information that they can.

8.3 Environmental potential

8.3.1 There is potential to undertake radiocarbon dating and further analysis of the charred plant remains from pit 104. The relatively rich assemblage of cereal remains is locally significant, although it has potential to contribute to the regional research agenda for Kent. In particular, the South East Research Framework (SERF) indicates that further research is required to understand the timing and spread of spelt wheat during the Bronze Age (Champion 2019).

8.3.2 A relatively large charcoal assemblage has been recovered from the site, although further analysis would not significantly add to the information outlined in this assessment report.

8.3.3 There is no potential to undertake further work on the terrestrial molluscs from pit 4408 due to the low numbers of remains present.

9 UPDATED PROJECT DESIGN

9.1 Updated project aims

9.1.1 Where possible, the original aims of the project (section 3) have been achieved. In view of the limited potential for further research, the revised aims are to:

- conduct limited analysis (including scientific dating) of the environmental evidence to explore the timing and spread of spelt wheat during Bronze Age; and
- disseminate the results of the project.

9.2 Stratigraphic evidence – recommendations for analysis

9.2.1 No further analysis of the stratigraphic evidence is recommended.

9.3 Finds evidence – recommendations for analysis

9.3.1 The pottery has already been recorded in accordance with the 'Basic Record' level of analysis recommended in national guidelines (Barclay *et al.* 2016, 16–17). No further analysis of the pottery and other finds is recommended. A summary report, integrating the results of the evaluation and with reference to other contemporary assemblages from the area should be compiled for the pottery and the flint.

9.4 Environmental evidence – recommendations for analysis

9.4.1 Analysis of the charred plant remains from pit 104 is recommended, together with radiocarbon dating. Charred plant remains will be extracted from the flot, using a riffle box to obtain sub-samples where appropriate. Identifications will be undertaken using a stereomicroscope at up to 40x magnification through comparison with Wessex Archaeology's reference collection and relevant literature (e.g., Cappers *et al.* 2006). Plant remains are fully quantified where appropriate by counting the 'Minimum Number of Individuals' (MNI) through the use of diagnostic anatomical regions (e.g., cereal grains apical/embryo ends, cereal chaff glume bases). Nomenclature will follow Stace (1997) for wild taxa and Zohary *et al.* (2012) for cereals and other cultivated crops (using traditional names).

9.5 Radiocarbon dating recommendations

9.5.1 It is recommended that a single radiocarbon date is obtained on a sample of charred plant remains from pit 104. A suitable candidate for radiocarbon dating should identified through further analysis of the charred plant remains. It would be preferable to obtain a radiocarbon date on spelt wheat chaff.

9.6 Proposals for dissemination

9.6.1 In view of the limited results, formal publication is not recommended. However, it is proposed that this document is revised to form a definitive archive report. This will combine the stratigraphic, finds and environmental evidence from the evaluation and excavation phases, and incorporate the results of the proposed environmental analysis and radiocarbon dating. The resultant archive report would be made accessible through the Archaeology Data Service (ADS) and Kent HER, and the project archive will be prepared for deposition.

10.2.2 All archive elements will be marked with the site/accession code and a full index will be prepared. The physical archive currently comprises the following:

- two cardboard boxes or airtight plastic boxes of artefacts and ecofacts, ordered by material type
- two files/document cases of paper records and A3/A4 graphics

Digital archive

10.2.3 The digital archive generated by the project, which comprises born-digital data (e.g., site records, survey data, databases and spreadsheets, photographs and reports), will be deposited with a Trusted Digital Repository, in this instance the Archaeology Data Service (ADS), to ensure its long-term curation. Digital data will be prepared following ADS guidelines (ADS 2013 and online guidance) and accompanied by metadata. Full details of the collection, processing and documentation of digital data are given in the project Digital Management Plan (available on request).

10.3 Selection strategy

10.3.1 It is widely accepted that not all the records and materials (artefacts and ecofacts) collected or created during the course of an archaeological project require preservation in perpetuity. These records and materials will be subject to selection in order to establish what will be retained for long-term curation, with the aim of ensuring that all elements selected to be retained are appropriate to establish the significance of the project and support future research, outreach, engagement, display and learning activities, ie the retained archive should fulfil the requirements of both future researchers and the receiving Museum.

10.3.2 The selection strategy, which details the project-specific selection process, is underpinned by national guidelines on selection and retention (Brown 2011, section 4) and generic selection policies (SMA 1993; Wessex Archaeology's internal selection policy: available on request) and follows CIfA's *Toolkit for Selecting Archaeological Archives*. It should be agreed by all stakeholders (Wessex Archaeology's internal specialists, external specialists, local authority, museum) and fully documented in the project archive.

10.3.3 Detailed selection proposals for the complete project archive (combining evaluation and excavation), comprising finds, environmental material and site records (analogue and digital), are made in the site-specific Selection Strategy (Appendix 2). The proposals are summarised below.

Finds

- Flint (18 pieces): Includes one piece dating from the end of the Last Glaciation or Early Mesolithic, and pieces of probable Neolithic to Bronze Age date. Some stratified within features of prehistoric date; limited potential for further research. Retain.
- Pottery (95 sherds): 91 sherds of later prehistoric date, mostly from stratified deposits (pits 104, 4408, 4442 and 4460); of limited local significance. Retain all. Later material (single sherds of Roman and medieval date, two of post-medieval) has no further research potential. Do not retain
- Fired clay (10 fragments): small amorphous fragments. No potential for further analysis. Do not retain.

- Burnt flint (51 pieces): No potential for further analysis. Do not retain.
- Shell (1 piece): No potential for further analysis. Do not retain.

Palaeoenvironmental material

10.3.4 The selection strategy is summarised in Appendix 2. The flots and extracted remains have potential beyond the current project and they should be retained within the site archive. The residues were discarded after sorting.

Documentary records

10.3.5 Paper records comprise site registers (other pro-forma site records are digital), drawings and reports (written scheme of investigation, client report). All will be retained and deposited with the project archive.

Digital data

10.3.6 The digital data comprise site records (tablet-recorded on site) in spreadsheet format; finds records in spreadsheet format; survey data; photographs; reports. All will be deposited, although site photographs will be subject to selection to eliminate poor quality and duplicated images, and any others not considered directly relevant to the archaeology of the site.

10.4 Security copy

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

10.5 OASIS

10.5.1 An OASIS (online access to the index of archaeological investigations) record (http://oasis.ac.uk) has been initiated, with key fields completed (Appendix 4). A .pdf version of the final report will be submitted following approval by the County Archaeologist for KCC on behalf of the LPA. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service (ADS) ArchSearch catalogue.

11 COPYRIGHT

11.1 Archive and report copyright

11.1.1 The full copyright of the written/illustrative/digital archive relating to the project will be retained by Wessex Archaeology under the *Copyright, Designs and Patents Act 1988* with all rights reserved. The client will be licenced to use each report for the purposes that it was produced in relation to the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the *Copyright and Related Rights Regulations 2003*.

11.1.2 Information relating to the project will be deposited with the Historic Environment Record (HER) where it can be freely copied without reference to Wessex Archaeology for the purposes of archaeological research or development control within the planning process.

11.2 Third party data copyright

11.2.1 This document and the project archive may contain material that is non-Wessex Archaeology copyright (e.g., Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the *Copyright, Designs and Patents Act 1988* with regard to multiple copying and electronic dissemination of such material

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APPENDICES

Appendix 1 Environmental Data

Feature Type	Feature	Context	Sample Code	Sample vol. (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal Notes	Charred Other	Charred Other Notes	Charcoal >2mm (ml)	Charcoal	Other	Preservation
Pit	104	106	249300_1	9	10	<1%, E, *Cecilioides acicula* B	A	A**	*Triticum dicoccum* glume bases + spikelet forks (A**), T. *spelta* glume bases (B), *T. dicoccum/spelta* grain (A), *Hordeum* sp. grain (C)	A	*Chenopodium* sp, *Persicaria* sp., Cyperaceae	<1	Highly frag.	Clinker/cinder (C)	Grain in poor condition, chaff good to excellent condition
Pit	1104	1105	249300_2	9	15	<1%, C, E	-	C	*Triticum dicoccum* glume base	-	-	<1	*Quercus* sp.	Coal, clinker/cinder (C)	Charcoal in good condition
Pit	4204	4205	249300_3	17	80	<1%, C, E, *Cecilioides acicula*	-	C	*Triticum dicoccum* glume base	-	-	60	*Quercus* sp.	-	Charcoal in good condition
Pit	4207	4208	249300_4	6	200	<1%, E, *Cecilioides acicula* C	-	-	-	-	-	150	*Quercus* sp. stemwood, radial cracking and vitrification	-	Charcoal in good condition
Pit	4406	4407	249301_1	1.5	250	<1%	-	-	-	-	-	100	*Quercus* sp. stemwood, radial cracking and vitrification	-	Charcoal in good condition
Pit	4408	4409	249301_2	29	150	1%, C, E, *Cecilioides acicula* A	C	C	*Triticum* sp. grain and glume base	-	-	50	*Quercus* sp., Maloideae, indet fine twigs	Moll-t C	Charcoal in good condition

Key: Scale of abundance: A*** = exceptional, A** = 100+, A* = 30–99, A = 30–10, B = 9–5, C = <5; Bioturbation proxies: Roots (%), Uncharred seeds (abundance), E = earthworm eggs, *Cecilioides acicula* (abundance)

Appendix 2 Selection Strategy

249301
Kent Science Park, Sittingbourne, Kent
version 1, 30/09/2022

Selection Strategy

Project Information

Project Management		
Project Manager	Rob De'Athe	
Archaeological Archive Manager	Lorraine Mepham	
Organisation	Wessex Archaeology (WA)	
Stakeholders		**Date Contacted**
Collecting Institution(s)	Archaeology Data Service	N/A
Project Lead / Project Assurance	Lead: Finlay Wood Assurance: Rob De'Athe	N/A
Landowner / Developer	GW Pharmaceuticals	N/A
Other (external)	County Archaeologist for Kent County Council	N/A
Other (internal)	WA Finds Manager (Rachael Seager Smith) WA Environmental Manager (Sander Aerts) WA Geomatics & BIM Manager (Tori Wilkinson) WA internal finds & environmental specialists (see WSI)	N/A; briefed as part of standard project process

Resources	
Resources required	WA Finds and Environmental specialists; WA archives team

Context

This overarching selection strategy document is based on the CIfA Archives Selection Toolkit (2019) and relates to archaeological project work being undertaken by Wessex Archaeology as defined in the WSIs.

Relevant standards, policies and guidelines consulted include:
General

- *Selection, Retention and Dispersal of Archaeological Collections* (Society of Museum Archaeologists, 1993)
- *Archaeological archives: a guide to best practice in creation, compilation, transfer and curation* (AAF, revised edition 2011, section 4)

Finds

- *Standard Guidance for the collection, documentation, conservation & research of archaeological materials* (CIFA, 2014)
- *A Standard for Pottery Studies in Archaeology* (Prehistoric Ceramics Research Group, Study Group for Roman Pottery, Medieval Pottery Research Group 2016)

Environmental

- *Environmental Archaeology: A Guide to the Theory, Practice of Methods, from Sampling and Recovery to Post-excavation* (English Heritage 2011)
- *Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record* (Historic England 2015)
- *Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains* (English Heritage 2008)
- *Waterlogged Wood: Guidelines on the Recording, Sampling, Conservation and Curation of Waterlogged Wood* (English Heritage 2010)
- *Waterlogged Organic Artefacts: Guidelines on their Recovery, Analysis and Conservation* (Historic England 2018)

Research objectives of the project

Following consideration of the archaeological potential of the site and the South East Research Framework, the research objectives of the excavation are to:

- conduct limited analysis (including scientific dating) of the environmental evidence to explore the timing and spread of spelt wheat during Bronze Age; and
- disseminate the results of the project.

REVIEW POINTS

Consultation with all Stakeholders regarding project-specific selection decisions will be undertaken at a maximum of three project review points:

1. End of data gathering (assessment stage)
2. Archive compilation

1 – Digital Data

Stakeholders

WA Project Manager; WA Archives Manager; WA Geomatics & BIM Manager; County Archaeologist for Kent County Council; ADS

Selection

Location of Data Management Plan (DMP)

This document is designed to link to the project Data Management Plan (DMP), which can be supplied on request.

To promote long-term future reuse deposition file formats will be of archival standard, open source and accessible in nature following national guidance from ADS 2013, CIfA 2014c and the requirements of the digital repository.

Any sensitive data to be handled according to Wessex Archaeology data policy to ensure it is stored and transferred securely. The identity of individuals will be protected in line with GDPR. If required, data will be anonymised and redacted. Selection and retention of sensitive data for archival purposes will occur in consultation with the client and relevant stakeholders. Confidential data will not be selected for archiving and will be handled as per contractual obligation.

Document type	Selection Strategy	Review Points
Site records	Most records will be completed digitally on site (with the exception of registers). All will be selected for deposition.	2
Reports	To include WSIs, Interim reports, post-excavation assessment reports, publication reports. Final versions only will be selected for deposition.	1, 2,
Specialist reports	Specialist reports will generally be incorporated in other documents with only minimal editing (reformatting, etc), and will be selected only if the original differs significantly from the incorporated version.	1, 2
Photographic media (site recording)	Substandard and duplicate images will be eliminated; pre-excavation images may not be selected where duplicated by post-excavation shots; working shots will be very rigorously selected to include only good quality images with potential for reuse and those integral to understanding features, their inter-relationships and location on site; site condition and reinstatement photos will not be selected.	2
Survey data	Site survey data will be used to generate CAD/GIS files for use in post-excavation activities. Shapefiles of both the original tidied survey data, and the final phased drawings will be selected.	1, 2
Databases and spreadsheets	Context, finds and environmental data in linked databases. Final versions will be selected. Any specialist data submitted separately will also be selected.	1, 2
Administrative records	Includes invoices, receipts, timesheets, financial information, email correspondence. None will be selected, with the exception of any correspondence relating directly to the archaeology.	2

De-Selected Digital Data

De-selected data will be stored on WA secured servers on offsite storage locations. The WA IT department has a backup strategy and policies that involves daily, weekly and monthly and annual backups of data as stated in the DMP. This strategy is non-migratory, and original files will be held

at WA under their unique project identifier, as long as they remain useful and usable in their final version format. This data may also be used for teaching or reference collections by the museum, or by WA unless otherwise required by contractual or copyright obligations.

Amendments

Date	Amendment	Rationale	Stakeholders

2 – Documents

Stakeholders

WA Project Manager; WA Archives Manager; County Archaeologist for Kent County Council

Selection

A security copy of all paper/drawn records is a requirement of CIfA guidelines. This will be prepared on completion of the project, in the form of a digital PDF/A file. If the security copy is not required for deposition by Stakeholders, it will be retained on backed-up servers belonging to Wessex Archaeology.

Note that some information may be redacted to comply with GDPR legislation (personal data).

Document type	Selection Strategy	Review Points
Site records	Selected records only will be completed in hard copy on site (registers, some graphics). All will be selected for deposition.	2
Reports	Hard copies of all reports (SSWSIs, Interim reports, post-excavation assessment reports, publication reports). All will be selected for deposition, with the exception of earlier versions of reports which have been clearly superseded.	1, 2
Specialist reports & data	Specialist reports will generally be incorporated in other documents with no significant editing. Supporting data is more likely to be included in the digital archive, but if supplied in hard copy and not incorporated elsewhere, this will be selected.	1, 2
Photographic media	X-radiographic plates: all will be selected.	2
Secondary sources	Hard copies of secondary sources will not be selected.	2
Working notes	Rough working notes, annotated plans, preliminary versions of matrices etc, will not be selected.	2

Administrative records	Invoices, receipts, timesheets, financial information, hard copy correspondence. None will be selected, with the exception of any hard copy correspondence relating directly to the archaeology.	2

De-Selected Documents

De-selected sensitive analogue data will be destroyed (shredded) subject to final checking by the WA Archives team with the remainder recycled. Possible exceptions include records retained for business purposes, including promotional material, teaching and internal WA library copies of reports.

Amendments

Date	Amendment	Rationale	Stakeholders

3 – Materials

Material type	Artefacts (bulk and registered finds)	**Section 3.**	3.1

Stakeholders

WA Archives Manager; WA Finds Manager; WA internal specialists; County Archaeologist for Kent County Council; landowner

Selection

Note that human remains are not included in this selection strategy; their recovery and subsequent treatment and curation will be governed by a Ministry of Justice licence(s).

The following selection proposals have been formulated by WA internal specialists at Review Point 1 (assessment stage). They may be modified (though probably not to any significant extent) following stakeholder consultation at or before Review Point 2.

Find Type	Selection Strategy	Review Points
Flint (18 pieces)	Includes one piece dating from the end of the Last Glaciation or Early Mesolithic, and pieces of probable Neolithic to Bronze Age date. Some stratified within features of prehistoric date; limited potential for further research. Retain.	1, 2
Pottery (95 sherds)	91 sherds of later prehistoric date, mostly from stratified deposits (pits 104, 4408, 4442 and 4460); of limited local significance. Retain all. Later material (single sherds of Roman and medieval date, two of post-medieval) has no further	1, 2

	research potential. Do not retain	
Fired clay (10 fragments)	small amorphous fragments. No potential for further analysis. Do not retain.	1, 2
Burnt flint (51 pieces)	No potential for further analysis. Do not retain.	1, 2
Shell (1 piece)	No potential for further analysis. Do not retain.	1, 2

De-Selected Material

Consideration will be given to the suitability for use for handling or teaching collections by the museum or Wessex Archaeology, or whether they are of particular interest to the local community. De-selected material will either be returned to the landowner or disposed of. All will be adequately recorded to the appropriate level before de-selection.

Amendments

Date	Amendment	Rationale	Stakeholders

3 – Materials

Material type	Palaeoenvironmental material	Section 3.	3.2

Stakeholders

WA Archives Manager; WA Environmental Officer; WA internal specialists; County Archaeologist for Kent County Council

Selection

All environmental sampling has been undertaken following Wessex Archaeology's in-house guidance, which adheres to the principles outlined in Historic England's guidance (English Heritage 2011 and Historic England 2015a) and as stated in the relevant WSIs. All environmental samples collected and suitable to address project aims and research objectives, as deemed by Wessex Archaeology's Environmental team, have been processed and assessed

Env Material Type	Selection Strategy	Review Points
Unprocessed samples	In the event of any samples being eliminated from processing due to lack of archaeological significance, these will not be retained.	1, 2

Unsorted residues	Residues from samples not proposed for further analysis will be de-selected, with the possible exception of any taken for the recovery of human remains.	1, 2
Assessed flots with no extracted materials	Assessed flots with no extracted materials are considered to be devoid of any significant environmental evidence and will be de-selected.	1, 2
Assessed or analysed flots with extracted materials	All analysed samples will be selected; assessed flots with extracted materials with no further research potential (to be established on a sample by sample case) may be de-selected.	1, 2
Charred & waterlogged plant remains	All extracted plant remains will be selected	2
Mollusca	All extracted mollusca will be selected	2
All other analysed material (eg insects, pollen)	All material will be selected	2

Uncollected Material

Any uncollected material will be left *in situ* or re-incorporated into the site.

De-Selected Material

De-selected material from samples will be disposed of after processing and post-excavation recording. All processed material will be adequately recorded to the appropriate level before de-selection.

Amendments

Date	Amendment	Rationale	Stakeholders

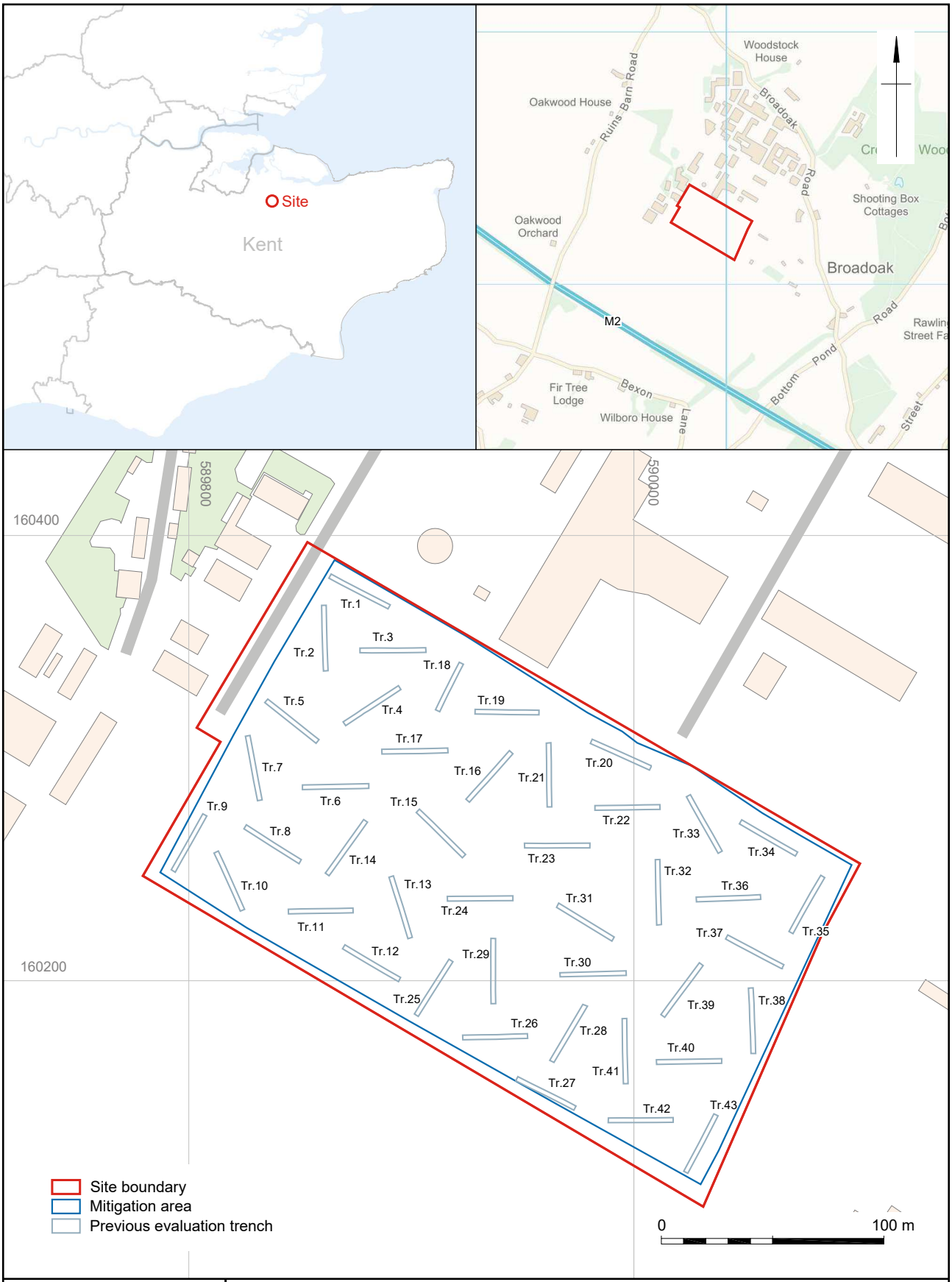
Appendix 3 Kent Historic Environment Record Form

Site Name: Kent Science Park, Sittingbourne, Kent	
Site Address: Shimmin Road, Sittingbourne, Kent, ME9 8BZ	
Summary of discoveries: A total of 21 archaeological features were recorded during trial trenching and excavation, comprising ditches, pits, quarry pits and a posthole. Four pits were of later Bronze Age/Early Iron Age date. Two poorly preserved ditched trackways were inconclusively dated but potentially contemporary with the pits. Other ditches formed late post-medieval field boundaries, whilst the remainder of the features are of uncertain date and function	
District/Unitary: Swale	**Parish:** Sittingbourne
Period(s): Late Bronze Age/Early Iron Age	
NGR (centre of site to nearest 1m): 589936 160276 (TQ 89936 60276) **(NB if large or linear site give multiple NGRs)**	
Type of archaeological work (delete) Excavation	
Date of fieldwork (dd/mm/yy) From: 21st March 2022 **To:** 11th April 2022	
Unit/contractor undertaking recording: Wessex Archaeology	
Geology: Upper Chalk capped with Clay-with-Flints, but with outcrops of the Upper Chalk (BGS viewer)	
Title and author of accompanying report: Title: Kent Science Park, Sittingbourne, Kent: Post-excavation Assessment and Updated Project Design Authors: Andrew Souter	
Summary of fieldwork results (begin with earliest period first, add NGRs where appropriate) Following on from a trial trench evaluation in 2021, archaeological mitigation works, comprising the excavation of a 4.5 hectare parcel of land, were carried out as a condition of outline planning permission for the extension of Kent Science Park. Eight ditches, four pits and two quarry pits were recorded during the excavation, with a further six pits and a posthole identified during the trial trenching. Four of the pits, all of which were small and shallow, are attributable to the later Bronze Age/Early Iron Age. Two pairs of shallow, truncated ditches probably formed the remains of trackways, at least one of which was potentially broadly contemporary with the Late Bronze Age/Early Iron Age pits. Other ditches can be correlated with agricultural land divisions marked on late 19th- and 20th-century OS maps, whilst the remainder of the features are of uncertain date and function. A small, limited assemblage of finds was recovered, the most notable elements of which are a small collection of Late Bronze/Early Iron Age pottery, retrieved mainly from pits, and a backed flint blade of probable Late Glacial/Early Mesolithic date that was found residually during the trial trenching. Environmental sampling of selected contexts was generally unproductive, although a relatively rich deposit of emmer wheat chaff, together with some spelt wheat and wild taxa, was identified in one of the probable later Bronze Age pits during the evaluation.	
Location of archive/finds: Wessex Archaeology Meopham and Salisbury Offices	
Contact at Unit: Rob De'Athe	**Date:** 23/09/2022

Appendix 4 OASIS summary

OASIS ID (UID)	wessexar1-509618
Project Name	Kent Science Park, Sittingbourne, Kent: Archaeological Excavation
Sitename	Kent Science Park, Sittingbourne, Kent
Activity type	Open Area Excavation
Project Identifier(s)	249301
Planning Id	20/503707/HYBRID
Reason For Investigation	Planning: Post determination
Organisation Responsible for work	Wessex Archaeology
Project Dates	21-Mar-2022 - 11-Apr-2022
Location	Kent Science Park, Sittingbourne, Kent NGR : TQ 89936 60276 LL : 51.3098963925862, 0.723764029634311 12 Fig : 589936,160276
Administrative Areas	Country : England County : Kent District : Swale Parish : Milstead
Project Methodology	The excavation area was set out using a Global Navigation Satellite System (GNSS), in the same position as that proposed in the WSI. The topsoil/overburden was removed in level spits using a 360º excavator equipped with a toothless bucket, under the constant supervision and instruction of the monitoring archaeologist. Machine excavation proceeded in level spits until the archaeological horizon or the natural geology was exposed. Where necessary, the surfaces of archaeological deposits were cleaned by hand. A sample of archaeological features and deposits was hand-excavated, sufficient to address the aims of the excavation. A sample of natural features, such as tree-throw holes, was also investigated. Spoil derived from machine stripping and hand-excavated archaeological features was visually scanned for the purposes of finds retrieval. A metal detector was also used. Artefacts were collected and bagged by context. All artefacts from excavated contexts were retained, although those from features of modern date (19th-century or later) were recorded on site and not retained.

Project Results	Eight ditches, four pits and two quarry pits were recorded during the excavation, with a further six pits and a posthole identified in a previous trial trench evaluation. Four of the pits, all of which were small and shallow, are attributable to the later Bronze Age/Early Iron Age. Two pairs of shallow, truncated ditches probably formed the remains of trackways, at least one of which was potentially broadly contemporary with the Late Bronze Age/Early Iron Age pits. Other ditches can be correlated with agricultural land divisions marked on late 19th- and 20th-century OS maps, whilst the remainder of the features are of uncertain date and function. A small, limited assemblage of finds was recovered, the most notable elements of which are a small collection of Late Bronze/Early Iron Age pottery, retrieved mainly from pits, and a backed flint blade of probable Late Glacial/Early Mesolithic date that was found residually during the trial trenching. Environmental sampling of selected contexts was generally unproductive, although a relatively rich deposit of emmer wheat chaff, together with some spelt wheat and wild taxa, was identified in one of the probable later Bronze Age pits during the evaluation.
Keywords	Ditch - UNCERTAIN - FISH Thesaurus of Monument Types Rubbish Pit - LATER PREHISTORIC - FISH Thesaurus of Monument Types Pit - LATER PREHISTORIC - FISH Thesaurus of Monument Types Pit - UNCERTAIN - FISH Thesaurus of Monument Types Extractive Pit - UNCERTAIN - FISH Thesaurus of Monument Types Sherd - LATER PREHISTORIC - FISH Archaeological Objects Thesaurus
Funder	
HER	Kent HER - unRev - STANDARD
Person Responsible for work	A, Souter, R, De'Athe
HER Identifiers	
Archives	

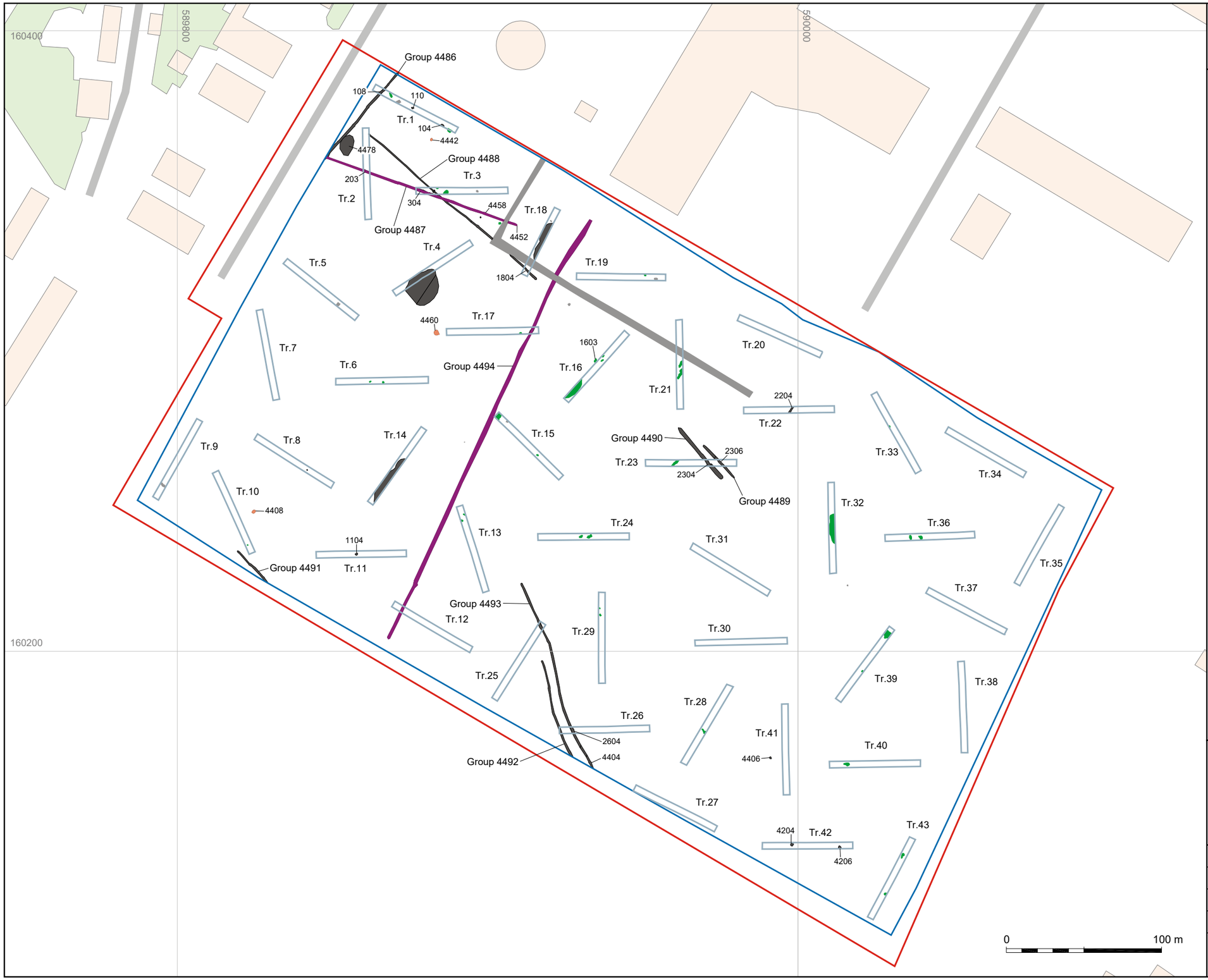


Coordinate system: OSGB36 National Grid

Date:	28/09/2022	Revision number:	0
Scale:	1:2500 at A4	Created by:	JFL/ND
Path:	R:\PROJECTS\249301\Graphics_Office\Rep figs\Eval\2022_09_28		

Site location, previous evaluation trenches and excavation area

Figure 1



Site boundary
Mitigation area
Archaeology (uncertain date)
Late Bronze Age/Early Iron Age
Post-medieval
Disturbance
Natural feature

Date:	28/09/2022
Scale	1:1250 at A3
Revision number:	0
Created by:	ND
Path:	R:\PROJECTS\249301\GO\Rep figs\Eval\2022_09_21

Archaeological results

Figure 2

Figure 3: Pit 4408, viewed from the south-east

Figure 4: Pit 4460, viewed from the north-west

Figure 5: Pit 4406, viewed from the north-west

Figure 6: Machine slot through quarry pit 4480, viewed from the west

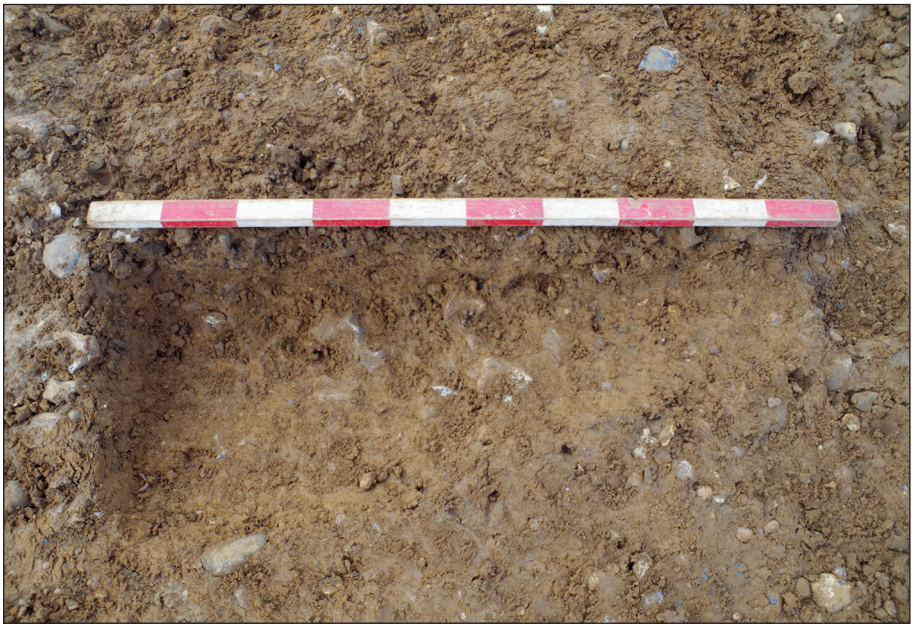


Figure 7: Ditch 4489, longitudinal profile through truncated terminal, viewed from the north-east

Figure 8: Ditches 4487 and 4488, viewed from the south-east

Figure 9: Ditch 4492, viewed from the north

Figure 10: Ditch 4491, viewed from the north-west

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