LAND AT BIGGLESWADE
SEWAGE TREATMENT WORKS,
BIGGLESWADE, BEDFORDSHIRE

ARCHAEOLOGICAL FIELD EVALUATION

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Preface

Every effort has been made in the preparation of this document to provide as complete an assessment as possible, within the terms of the specification. All statements and opinions in this document are offered in good faith. Albion Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party, or for any loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in this document.

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Albion Archaeology is grateful to Robert Pues (Team Manager Design) of Anglian Water Services Ltd for commissioning the project. We would also like to acknowledge the comments of Lesley-Ann Mather, the Bedfordshire County Council, Assistant County Archaeological Officer.

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Structure of this Report

Section 1 serves as an introduction to the site, describing its location, archaeological background and the aims of the project. The methodology and results of the of the trial trenching are discussed in section 2, while section 3 provides a synthesis of the results, and states their significance within the surrounding landscape. Section 4 is a bibliography and Appendix 1 contains summary information for all the trenches.

Key Terms

Throughout this report the following terms or abbreviations are used:

BCC's ACAO	Bedfordshire County Council's Assistant County Archaeological Officer
Client	Anglian Water Services Ltd
HER	Historic Environment Record [Bedfordshire's sites and monuments record]
IFA	Institute of Field Archaeologists
Procedures Manual	*Procedures Manual Volume 1 Fieldwork,* 2nd edn, 2001 Albion Archaeology

Non-Technical Summary

In June 2004 Albion Archaeology undertook an archaeological field evaluation on land at Biggleswade sewage treatment works (STW), Bedfordshire on behalf of Anglian Water Services Ltd. The aim was to establish the extent and condition of any archaeological remains located within the study area, to characterise them and to allow their importance to be assessed. The evaluation would also allow an appropriate mitigation strategy to be developed.

The study area lies in a landscape rich in archaeological remains dating from the palaeolithic period onwards (BCC 2004). Bedfordshire Historic Environment Record (HER) lists several cropmarks within the immediate vicinity of the site. These are thought to represent remains likely to date to the prehistoric and Roman periods. These include a ring ditch cropmark (HER10138), tentatively dated to the Bronze Age, that falls within the proposed development area.

The evaluation represented an opportunity to confirm the existence and state of preservation of HER10138 and to augment our knowledge of the distribution of archaeological features within the remainder of the study area. In particular, one of the main objectives was to determine whether or not the putative Bronze Age ring ditch (HER10138) had survived in the western part of the site.

Four trial trenches were opened. They were located within the boundaries of the proposed development area to test cropmarks identified in aerial photograph (BUT031).

A total of five archaeological features were recorded: a putative Bronze Age ring ditch, three undated ditches and a ditch terminal. None of the excavated features produced any artefactual or ecofactual material.

The evaluation has demonstrated HER10138 is partially preserved despite having been disturbed by modern sewage pipe trenches; and that previously unknown archaeological remains exist elsewhere on the development area. Despite a relatively low density of archaeological features within the trial trenches the alignment of the ditches in Trench 3, in relation to the ring ditch, suggest that other elements of the Bronze Age landscape may have been preserved in the eastern part of the study area.

1. INTRODUCTION

1.1 Planning Background

A pre-application enquiry was made by Anglian Water Services Ltd in connection with a proposed extension to the Biggleswade STW. Bedfordshire County Council's Assistant County Archaeological Officer (BCC's ACAO) advised that an aerial photograph (BUT031) held by the HER recorded the location of a putative Bronze Age ring ditch (HER10138) at the site. This demonstrated that the site might have archaeological potential.

The BCC ACAO further advised that in order to determine any planning applications further information on the archaeological impact of the proposed development would be required. A brief (BCC 2004) was issued, specifying the work required work to obtain the necessary information.

The brief indicated that a programme of trial trenching was required to establish the extent and condition of this and any other archaeological remains, to characterise them and to allow their importance to be assessed. The evaluation would also allow an appropriate mitigation strategy to be developed.

Albion Archaeology was subsequently commissioned by Anglian Water Services Ltd to undertake the evaluation of the site and to prepare a report on the results.

1.2 Site Location and Description

The proposed extension to the Biggleswade STW (hereafter referred to as the development area) comprises an area *c.*0.7ha in size. It lies approximately 1.5km north of Biggleswade, and *c.*500m east of the river Ivel (Figure 1).

The development area is a rectangular shape in plan. It lies at *c.*25m Above Ordnance Datum (AOD) on generally flat arable land. The site is also bordered by arable land to the south and east, by the existing Biggleswade STW to the northwest and by a railway line to the west.

The site is located in the eastern valley of the river Ivel. The natural soils of the area are derived from the underlying river terrace deposits, a combination of silts, sand and gravel (British Geological Survey 2001).

1.3 Archaeological Background

The study area lies in a landscape rich in archaeological remains. The area contains archaeology dating from the paleolithic period onwards (BCC 2004).

The Bedfordshire HER lists several cropmarks within the immediate vicinity of the site. These were thought to represent archaeological remains dating to the prehistoric and Roman periods. A ring ditch cropmark (HER10138) is located within the proposed development area; it was thought this may represent the remains of a Bronze Age ring ditch.

A utility search carried out as part of this project indicated that live sewage services were located in the western part of the site. These appeared to run parallel, and immediately adjacent to the railway line. It was considered highly likely that the excavations required for these would have destroyed a proportion of HER10138. Therefore, it was hoped that trial trenching would confirm whether any of the putative ring ditch had survived.

Several other cropmarks, not listed on the HER were recognised during aerial photographic analysis of the study area undertaken by Albion (BUT031). These were also tested during trial trenching. The results are described below (Section 2).

Also in the immediate vicinity of the site is the suspected route of a Roman road running from Baldock-Sandy-Godmanchester (Simco 1984). This is thought to have been obliterated by the railway line which borders the western part of the site.

2. TRIAL TRENCH EXCAVATION

2.1 Introduction

The trial trenching took place on the 1st – 3rd June 2004. A total of four trenches were opened. They were placed within the footprint of the proposed extension to the Biggleswade STW in order to test the cropmarks identified in the HER and by Albion (Figure 2). These trenches represented a total sample of 178m^2.

2.2 Aims and Method Statement

Throughout the project the standards set out in the following documents were adhered to:

- IFA's *Standard and Guidance for Field Evaluation*;
- Albion Archaeology's *Procedures Manual for Archaeological Fieldwork and the Analysis of Fieldwork Records* (1996);
- IFA's *Code of Conduct*;
- English Heritage's *Management of Archaeological Projects* (1991).

The trench plan (Figure 1) was discussed with, and approved by, BCC's ACAO prior to any trial trenching taking place. Appendix 1 defines the main objectives of the individual trenches. In summary, these were:

1. To test cropmarks, and blank areas, identified on aerial photograph BUT031 held by the HER.
2. To determine the location, extent, nature and date of any archaeological features or deposits that were present and to obtain information on the integrity and state of preservation of any archaeological features or deposits that were present.
3. Trench 1 had the specific aim of clarifying whether the putative Bronze Age ring ditch (HER10138) survived in the western part of the site

The initial area of trenching sampled 3% of the development area. Provision was made for contingency trenching of a further sample of 0.5% of the application area, to allow for the further investigation of any significant features or deposits encountered in the initial phase of investigation. No contingency was invoked.

The location of all trenches was marked out on the ground in advance of machine excavation, using a differential Global Positioning System (dGPS), which ensured that the centre-lines of the trenches were within 20mm of the desired location.

Topsoil and modern overburden were mechanically removed by a wheeled machine (JCB) fitted with a toothless ditching bucket. This was conducted under close archaeological supervision. These deposits were removed down to the top of the archaeological deposits, or undisturbed geological deposits, whichever was encountered first. The spoil heaps were scanned for artefacts.

The bases and sections of all trenches were cleaned by hand. The deposits and any potential archaeological features were noted, cleaned, excavated by hand and

recorded using Albion Archaeology's *pro forma* sheets. The trenches were subsequently drawn, and photographed as appropriate. All deposits were recorded using a unique recording number sequence commencing at 100 for Trench 1, 200 for Trench 2 etc.

The trenches were inspected by BCC's ACAO prior to being backfilled.

2.3 Results

All four trenches are discussed below; detailed technical information on each trench can be found in Appendix 1. Only Trenches 1 and 3 contained archaeological features.

2.3.1 Trench 1

This trench was located towards the western edge of the proposed development area (Figure 1).

Within this trench a *c.*0.35m thick topsoil (103) overlay a 0.05m thick layer of light orange white gravel (102). It is suggested that this was the result of modern activity, quite possibly deposition occurring during the excavation of trenches for sewage pipes located in the western half of the trench. Underlying layer 102 was subsoil (101) a 0.55m thick layer which in turn overlay the sand and gravel geology (100).

The sides of a modern sewage pipe trench [106] were clearly visible in the section and base of this trench (Figure 3). [106] was sealed by the topsoil but clearly truncated subsoil 101 and ditch [104] located on its western edge.

It is considered highly likely that ditch [104] is the partial remains of HER10138, and therefore part of a putative Bronze Age barrow. This ditch was not excavated to avoid further damage to the monument. However, deposit 105 was cleaned by hand, prior to recording (Appendix 1).

The ditch appeared to be sealed by subsoil 101 on its undisturbed western side. Truncation by pipe trench [106] had destroyed the stratigraphic relations on its eastern side.

In the western end of the trench part of a second modern service trench was recorded cutting the undisturbed geological deposits.

2.3.2 Trench 2

This trench was located in the approximate centre of the southern edge of the study area (Figure 1, Plate 8). It was positioned at this point in order to test a possible pit alignment observed on aerial photographs.

This trench did not reveal any archaeological features or finds. The deposits in this trench consisted of a 0.40m thick topsoil overlying a single subsoil layer. The latter was 0.2m thick and sealed the undisturbed geological deposits.

2.3.3 Trench 3

This trench was 50m long and located centrally within the study area (Figures 1, 2 and 4, Plates 3 and 4).

The overburden in this trench was similar to that recorded in Trench 2: a relatively thick topsoil (0.35m) overlay the subsoil, which was 0.30m thick.

The most prominent feature was ditch [311] (Plate 6). This was aligned north-west to south-east, recorded *c.*8.5m from the western end of the trench. Its V-shaped profile contained two silty brown fills (312) and (313), neither of which produced artefactual material. This feature appeared to correspond with a crop mark observed on aerial photographs.

A second ditch [307] (Plate 5) was aligned parallel to [311]. Hand excavation revealed a possible second, later ditch ([309]) cut into the upper part of [307]. No artefactual material was recovered from the deposits contained within either of these features.

A ditch terminal [314] was aligned perpendicular to ditch [311]. This contained one deposit (315), from which no artefactual material was recovered. A distinct similarity between deposits 315, within [314], and 313, within [311] was noted (Appendix 1). This suggests that both features became backfilled at the same time, and therefore may have been in use during the same period.

Two pits ([305] and [303]) were recorded on the northern edge of ditch [307]. It is considered possible that both 'pits' may in fact be areas of slumping along the line of the ditch. No artefactual material was recovered from the fills (306) and (304) of these features.

It was noted during hand excavation that the geological sands and gravels provided very loose, unstable sides for all of the archaeological features recorded in this trench. Therefore, it is probable that the sides of pits and ditches in this vicinity would have been subject to frequent collapse during wet weather or when humans and animals walked on or near them. Once backfilled, these areas of slumping appear to have been pits located on the edge of a generally linear ditch feature. It is hoped that this matter can be clarified during the forthcoming open area excavation.

2.3.4 Trench 4

This trench was located in the eastern quadrant of the proposed extension to the sewage works (Figure 1, Plate 7).

Trench 4 exhibited a 0.35m thick layer of topsoil (401) which overlay approximately 0.25m of subsoil (401). Below this were layers (404) and (403). Deposit (404) was a dark brown sandy silt and (403) was a orange/black sandy silt. Pieces of modern glass and burnt plant remains were noted within (403) and it is suggested that these deposits were the result of modern disturbance most likely to have been the result of agricultural activity. The undisturbed geological deposit consisted of a mid yellow orange sand.

3. SYNTHESIS

3.1 Significance of Results

The evaluation successfully demonstrated the presence of archaeological features within the study area. However, the density of features was low. Trenches 2 and 4 were entirely blank. The other two trenches produced a total of five archaeological features: the putative Bronze Age ring ditch (HER10138), three undated ditches and a ditch terminal.

None of the excavated features produced any artefactual or ecofactual material. However, it should be noted that features dating to the prehistoric period can often contain very few artefacts or ecofacts. Therefore this lack of dating material may in fact support a prehistoric date.

Trench 1 demonstrated that although HER10138 was partially destroyed by the groundworks associated with two sets of modern sewage pipes, a significant quantity of it still remains (Figure 3, Plates 1 and 2). The existing development plans (Figure 2) have been designed to avoid further damage to this ring ditch.

Elsewhere within the study area it is interesting to note that ditches [307] and [309] in Trench 3 appear to run parallel to the line of ditch [311] (Figure 4). The deposits within the ditches are also relatively similar (Appendix 1), suggesting that these features may be related and possibly contemporary. At the very least, the fact that they contained similar material suggests they may have been backfilled at the same time.

Field boundaries were often used to sub-divide plots of arable land and it is possible that this ditch alignment forms part of a larger field boundary system. An alternative to this is that the ditch alignment was used as a droveway for the movement of livestock. The distance between the two ditches was *c.*6m which would provide an appropriate passageway for such a purpose. It is, therefore, quite possible that these features are remnants of an agricultural landscape.

Also of note is the fact that the line of ditch [311] (Figure 4), observed as a cropmark, appears to run slightly to the north of ring ditch [104]. This might suggest that the two features, ring ditch and ditch alignment, were in fact contemporary as they respect each other. If this were the case then the area to the east of the Bronze Age ring ditch has the potential to enhance our understanding of the contemporary Bronze Age landscape surrounding the ring ditch.

3.2 Summary

The study area is located in a landscape rich in archaeological remains and this evaluation has demonstrated that HER10138 is partly preserved, despite some modern disturbance. It has also shown that the area to the east of the ring ditch (examined using Trench 3) has the potential to enhance our knowledge of how archaeological remains in the immediate vicinity may relate to HER10138.

4. BIBLIOGRAPHY

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5. APPENDICES

5.1 Appendix 1 - Trench And Context Summaries

Trench: 1

Max Dimensions: Length: 15.00 m. Width: 1.60 m. Depth to Archaeology Min: 0.62 m. Max: 1.11 m.

Co-ordinates: OS Grid Ref.: TL1892446642

OS Grid Ref.: TL1893746648

Reason: To determine the extent to which modern sewage pipe trenching had truncated a Bronze Age ring ditch observed in cropmarks.

Context:	Type:	Description:	Excavated:	Finds Present:
100	**Natural**	**Firm mid orange yellow sandy gravel Undisturbed geological deposit**	☑	☐
101	**Subsoil**	**Loose dark red brown silty sand occasional small stones Subsoil approximately 0.60m thick**	☐	☐
102	**Modern disturbance**	**Loose light orange white gravel Redeposited gravel, possibly as a result of sewage piping works.**	☐	☐
103	**Topsoil**	**Hard dark grey black silty sand moderate small-medium stones Topsoil**	☐	☐
104	**Ditch**	**Curving linear dimensions: min breadth 1.7m Cut of Bronze age ring ditch. Unexcavated due to proximity of modern sewage piping**	☐	☐
105	Fill	Loose dark brown red silty sand Fill of ring ditch. Tertiary fill, unexcavated but very similar to the subsoil (101)	☐	☐
106	**Modern Intrusion**	**Linear N-S profile: near vertical dimensions: min breadth 1.18m Very steep straight sided cut of linear feature on North south alignment, visible in section. Unexcavated due to fact that it is a modern sewage pipe trench.**	☐	☐
107	Modern Intrusion	Loose mid orange yellow silty gravel Very mixed backfill of of sewage pipe trench also contained dark black grey silty sands.	☐	☐
108	**Service Trench**	**Linear N-S dimensions: max breadth 2.71m, max length 1.5m Modern sewage service trench.**	☐	☐
109	Fill	Fill of modern sewage service cut.	☐	☐

Trench: 2

Max Dimensions: Length: 7.40 m. Width: 7.00 m. Depth to Archaeology Min: 0.58 m. Max: 0.66 m.

Co-ordinates: OS Grid Ref.: TL1896846651

OS Grid Ref.: TL1897946647

Reason: To test possible archaeological features suggested by cropmarks.

Context:	Type:	Description:	Excavated:	Finds Present:
200	Natural	Loose mid orange yellow sandy gravel Undisturbed geological deposit	☐	☐
201	Subsoil	Loose mid orange brown silty sand frequent small-medium stones Subsoil, approximately 0.25m thick	☐	☐
202	Topsoil	Firm dark brown grey silty sand occasional small-medium stones Topsoil, approximately 0.40m thick	☐	☐

Trench: 3

Max Dimensions: Length: 47.00 m. Width: 1.50 m. Depth to Archaeology Min: 0.61 m. Max: 0.8 m.

Co-ordinates: OS Grid Ref.: TL1895446666

OS Grid Ref.: TL1899846689

Reason: To test possible archaeological features as indicated by cropmarks.

Context:	Type:	Description:	Excavated:	Finds Present:
300	**Topsoil**	**Hard dark grey brown sandy loam Topsoil, approx. 0.40m thick**	☐	☐
301	**Subsoil**	**Compact mid brown orange silty sand frequent small stones Subsoil, approx. 0.30m thick**	☐	☐
302	**Natural**	**Loose mid brown orange sand Undisturbed geological deposit**	☐	☐
303	**Pit**	**Sub-circular ENE-WSW profile: 45 degrees base: concave dimensions: max breadth 0.9m, max depth 0.35m, max length 1.2m It is considered possible that this feature may in fact be an area of slumping along the line of the ditch.**	☑	☐
304	Fill	Loose dark orange brown silty sand occasional small stones Fill of pit. Result of natural deposition	☑	☐
305	**Pit**	**Sub-circular NE-SW profile: 45 degrees base: concave dimensions: max breadth 1.5m, max depth 0.4m, max length 1.1m It is considered possible that this feature may in fact be an area of slumping along the line of the ditch.**	☑	☐
306	Fill	Loose dark grey brown silty sand occasional small stones Fill of pit. Probably the result of natural deposition	☑	☐
307	**Ditch**	**Linear E-W profile: 45 degrees base: concave dimensions: max breadth 1.4m, max depth 0.75m Cut of ditch.**	☑	☐
308	Fill	Loose mid orange brown silty sand occasional small stones Fill of ditch. Probably the result of natural deposition	☑	☐
309	**Ditch**	**Linear E-W profile: 45 degrees base: concave dimensions: min breadth 0.4m, max depth 0.6m Cut of ditch.**	☑	☐
310	Fill	Loose light orange brown sandy silt occasional small stones Fill of ditch. Probably the result of natural deposition	☑	☐
311	**Ditch**	**Linear E-W profile: 45 degrees base: v-shaped dimensions: max breadth 1.9m, max depth 0.67m Cut of ditch running parallel to [306] and [309]**	☑	☐
312	Fill	Loose mid yellow brown sandy silt occasional small-medium stones Primary fill of ditch, probably the result of slumping.	☑	☐
313	Fill	Loose mid orange brown sandy silt moderate small-medium stones Tertiary fill of ditch, probably natural silting/weathering derived.	☑	☐
314	**Ditch**	**Linear NE-SW profile: concave base: concave dimensions: max breadth 0.96m Cut of possible ditch terminus running into [311]**	☑	☐
315	Fill	Loose mid orange brown silty sand Single fill of possible ditch terminus	☑	☐
316	**Natural Interface**	**Irregular ENE-WSW dimensions: max breadth 1.15m, max length 1.91m Natural hollow.**	☑	☐
317	Fill	Natural infilling of natural hollow.	☑	☐
318	**Natural Interface**	**Irregular NNW-SSE dimensions: max breadth 1.65m, max length 2.85m Band of natural silt within natural.**	☑	☐
319	Fill	Loose grey silt Band of natural silt within natural.	☑	☐

Trench: 4

Max Dimensions: Length: 19.00 m. Width: 1.50 m. Depth to Archaeology Min: 0.53 m. Max: 0.9 m.

Co-ordinates: OS Grid Ref.: TL1901546702

OS Grid Ref.: TL1902446684

Reason: To check for archaeological features hinted at by cropmarks observed in aerial photographs.

Context:	Type:	Description:	Excavated:	Finds Present:
400	Natural	Loose light orange yellow sand Undisturbed geological deposit	☐	☐
401	Subsoil	Loose mid orange brown sandy silt moderate small-medium stones Sub soil	☐	☐
402	Topsoil	Firm mid grey brown silty sand occasional small-medium stones Topsoil	☐	☐
403	Modern disturbance	Loose dark orange black sandy silt Modern layer approx.0.10m thick. Contained burnt root	☐	☐
404	Modern disturbance	Loose dark orange brown sandy silt occasional small-medium stones Interface between (401) and (403).	☐	☐

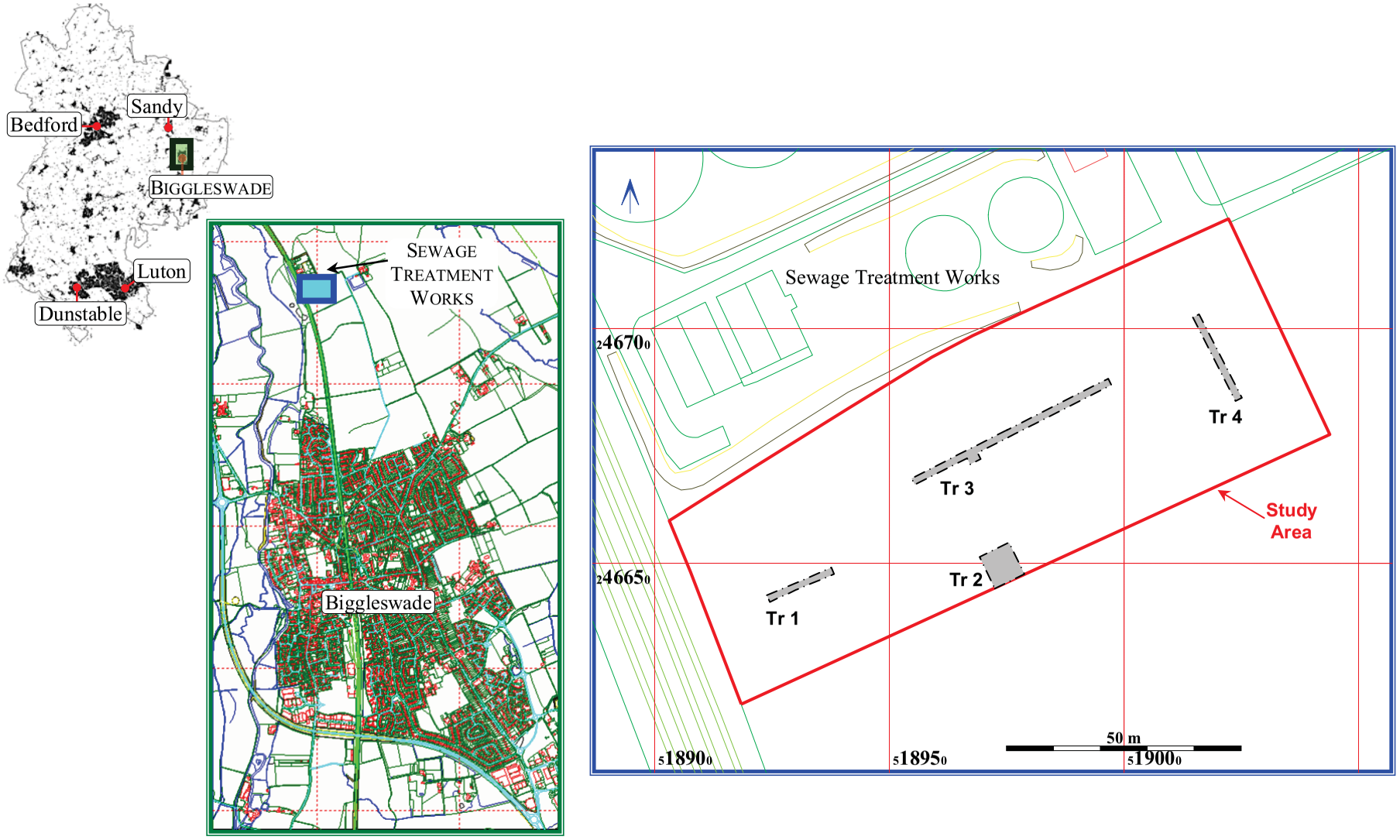
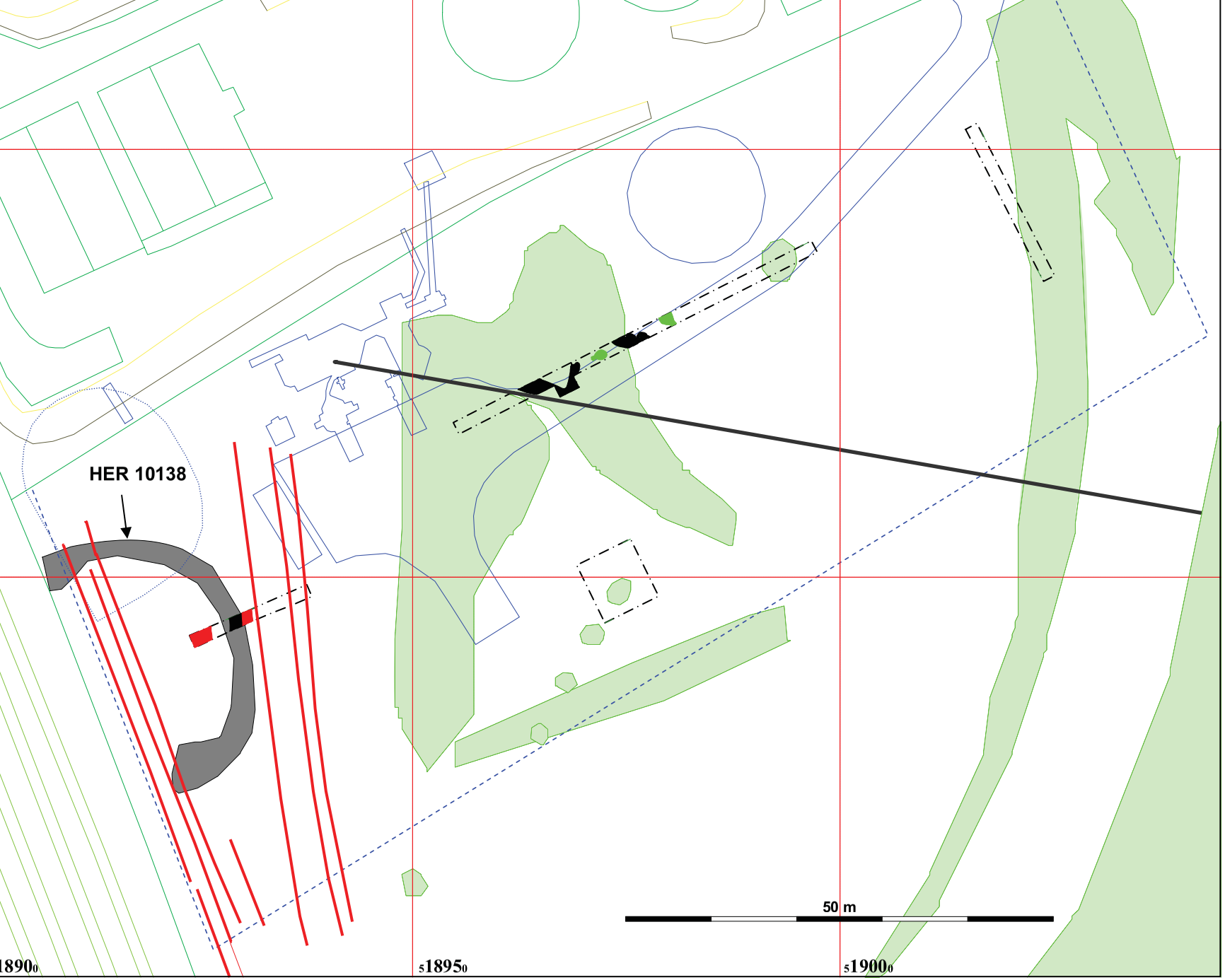


Figure 1: Site location



Key

Development

Trial trenches

Trench

Archaeological features

Geological features

Known modern intrusion

Cropmarks

Archaeological features

Geological features

Modern intrusion

Figure 2: All features pl
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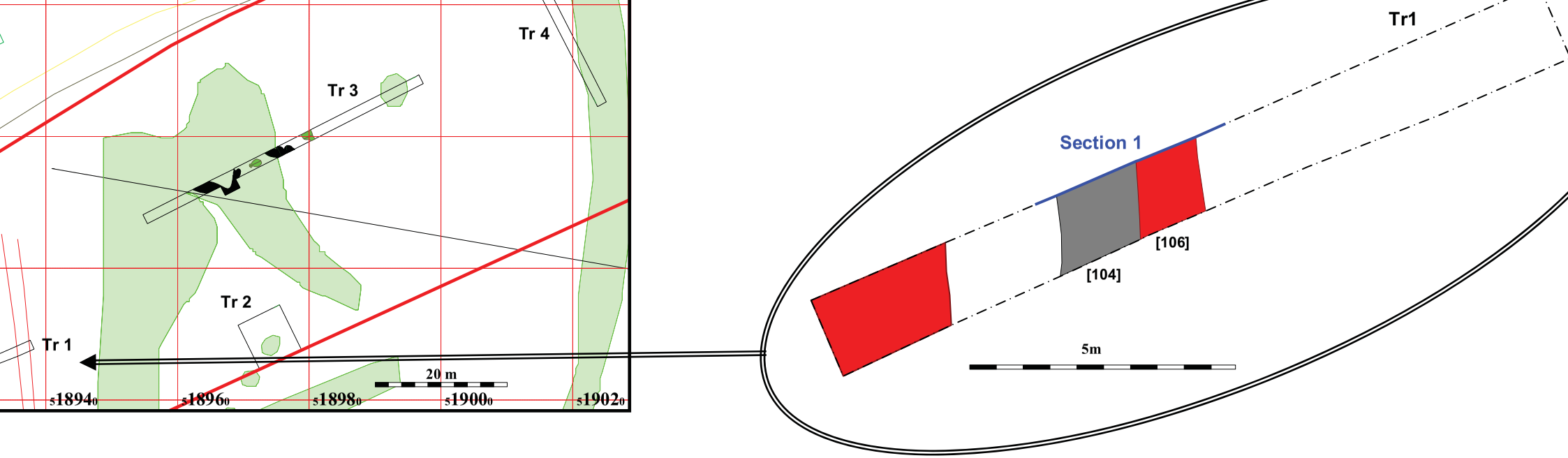

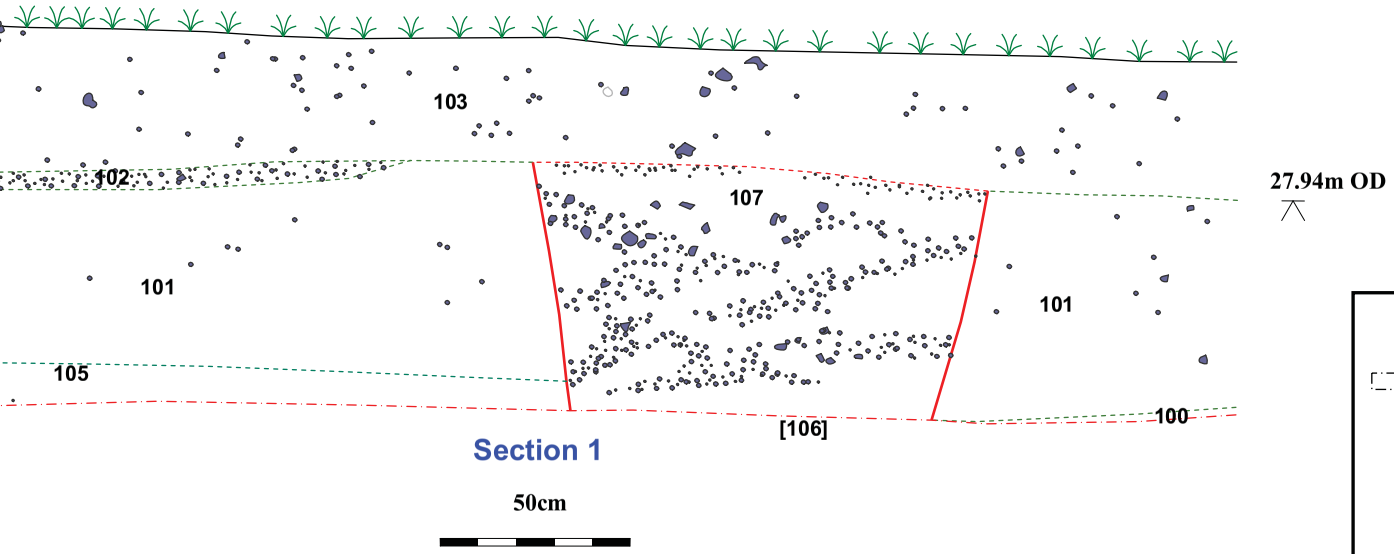

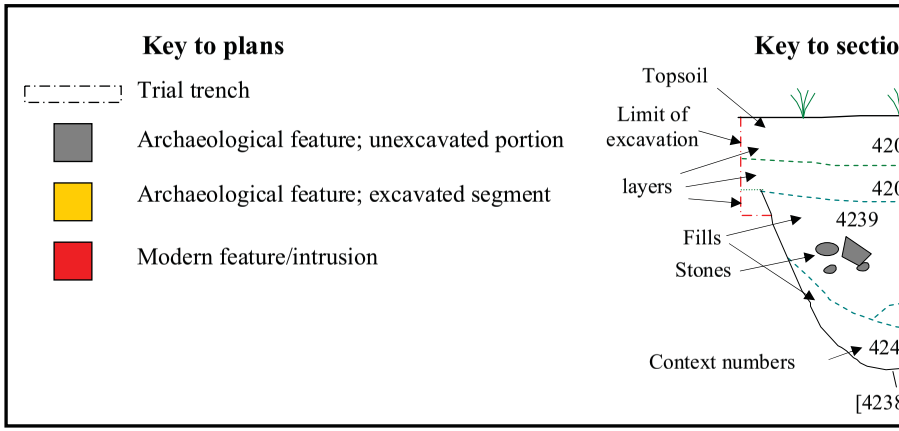

Figure 3: T

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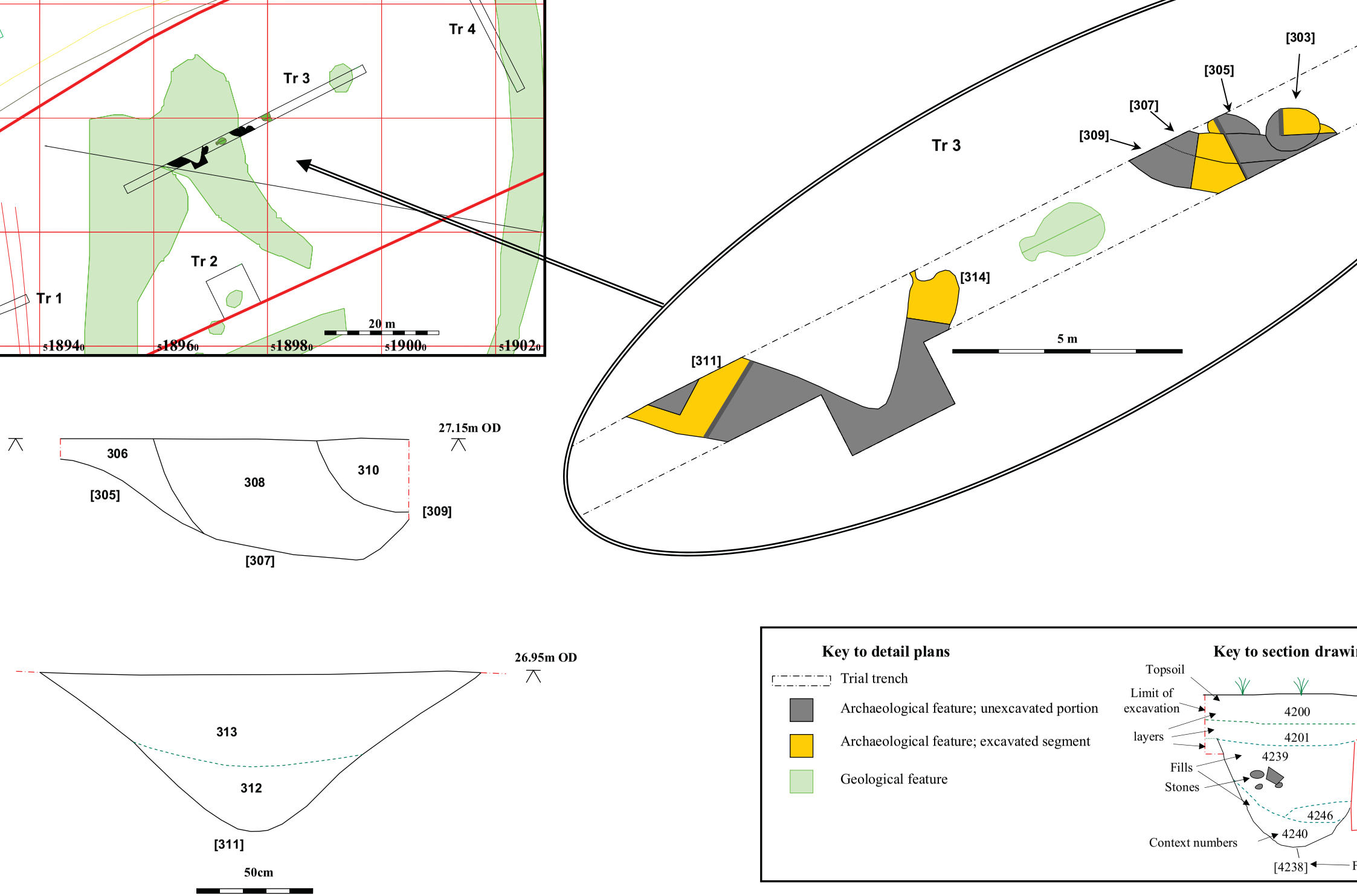

Figure 4: Trench 3

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PLATES

Plate 1: Modern sewage service [106] (foreground),
putative Bronze Age ring ditch [104] (background, below photographic scale)

Plate 2: Oblique view of sewage service trench [106]
and putative Bronze Age ring ditch [104]

Plate 3: General shot of Trench 3, facing northeast

Plate 4: General shot of Trench 3, facing southwest

Plate 5: Northwest facing section of pit [305] and ditches [307] and [309]

Plate 6: Northwest facing section of ditch [311]

Plate 7: General shot of trench 4, facing southeast

Plate 8: General shot of trench 2, facing northwest