THE A24 HORSHAM - CAPEL ROAD IMPROVEMENT SCHEME WEST SUSSEX & SURREY

WATCHING BRIEF

NOVEMBER 2004

PRE-CONSTRUCT ARCHAEOLOGY

The A24 Horsham - Capel Road Improvement Scheme, West Sussex & Surrey

Watching Brief

Site Code: WHCR 04
Central National Grid Reference: TQ 16850 33400 to TQ 17080 3965

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Pre-Construct Archaeology Limited, November, 2004

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1 ABSTRACT

1.1 This report details the results of an archaeological watching brief undertaken by Pre-Construct Archaeology Limited between 25th August and 17th September 2004 on the route of the proposed A24 Horsham to Capel Road Improvement Scheme which runs between Surrey and West Sussex.

1.2 The excavation of eighty-nine trial pits was monitored during the watching brief. Nine of these revealed possible archaeological features, including pits, postholes and a large ditch. Disturbed river deposits were identified within four trial pits and twelve trial pits produced archaeological finds from the topsoil.

1.3 The small quantity of dating evidence, generally recovered as residual or unstratified material, included struck flint and burnt flint probably reflecting prehistoric activity and later finds representing the late medieval and post-medieval periods.

2 INTRODUCTION

2.1 An archaeological watching brief was conducted by Pre-Construct Archaeology Limited on the site of the A24 Horsham to Capel Road Improvement Scheme, Surrey and West Sussex. The watching brief formed part of a geotechnical investigation along the proposed route of the new road by Structural Soils who commissioned the archaeological work. The fieldwork was conducted between 25th August and 17th September 2004.

2.2 The site followed the proposed route of the new road which is to run north-south from Clark's Green roundabout to the north in Surrey, to the Great Daux roundabout to the south in West Sussex. The route was approximately six kilometres in length extending between TQ 1685 3340 to TQ 1708 3965.

2.3 The site was given the code WHCR 04.

2.4 The watching brief was undertaken by Kathelen Sayer and project managers for Pre-Construct Archaeology were Jim Leary and David Divers.

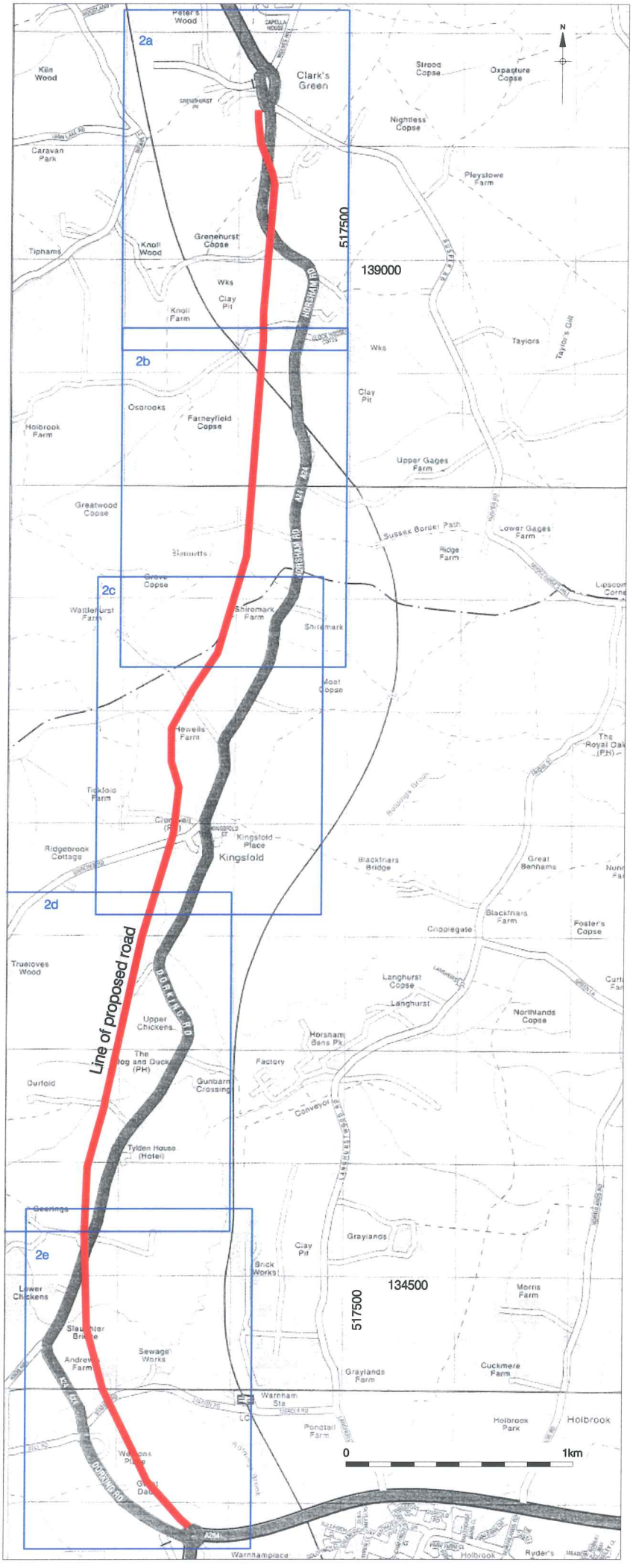
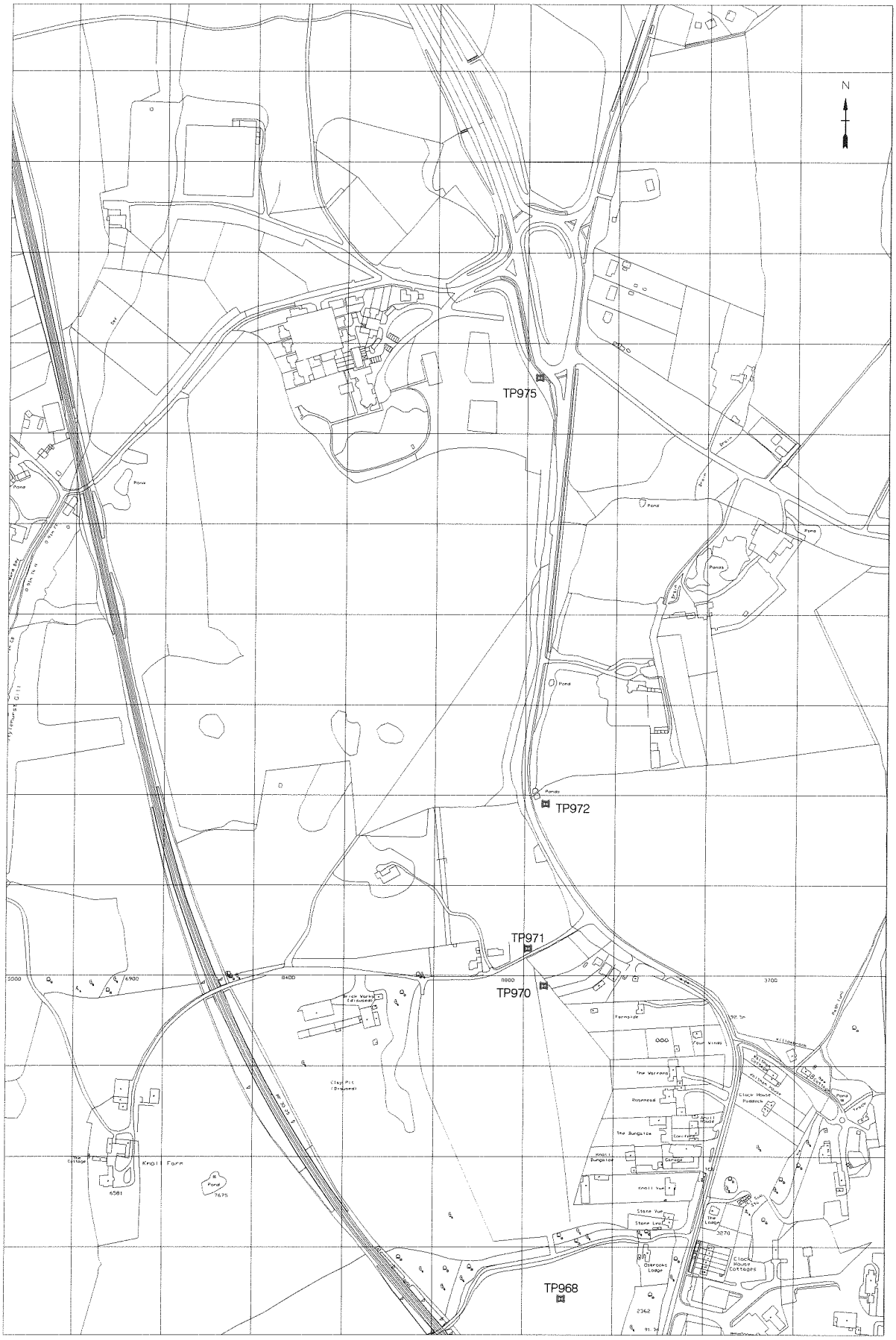


Figure 1
Site Location
showing location
of Figure 2 a-e
1:25,000

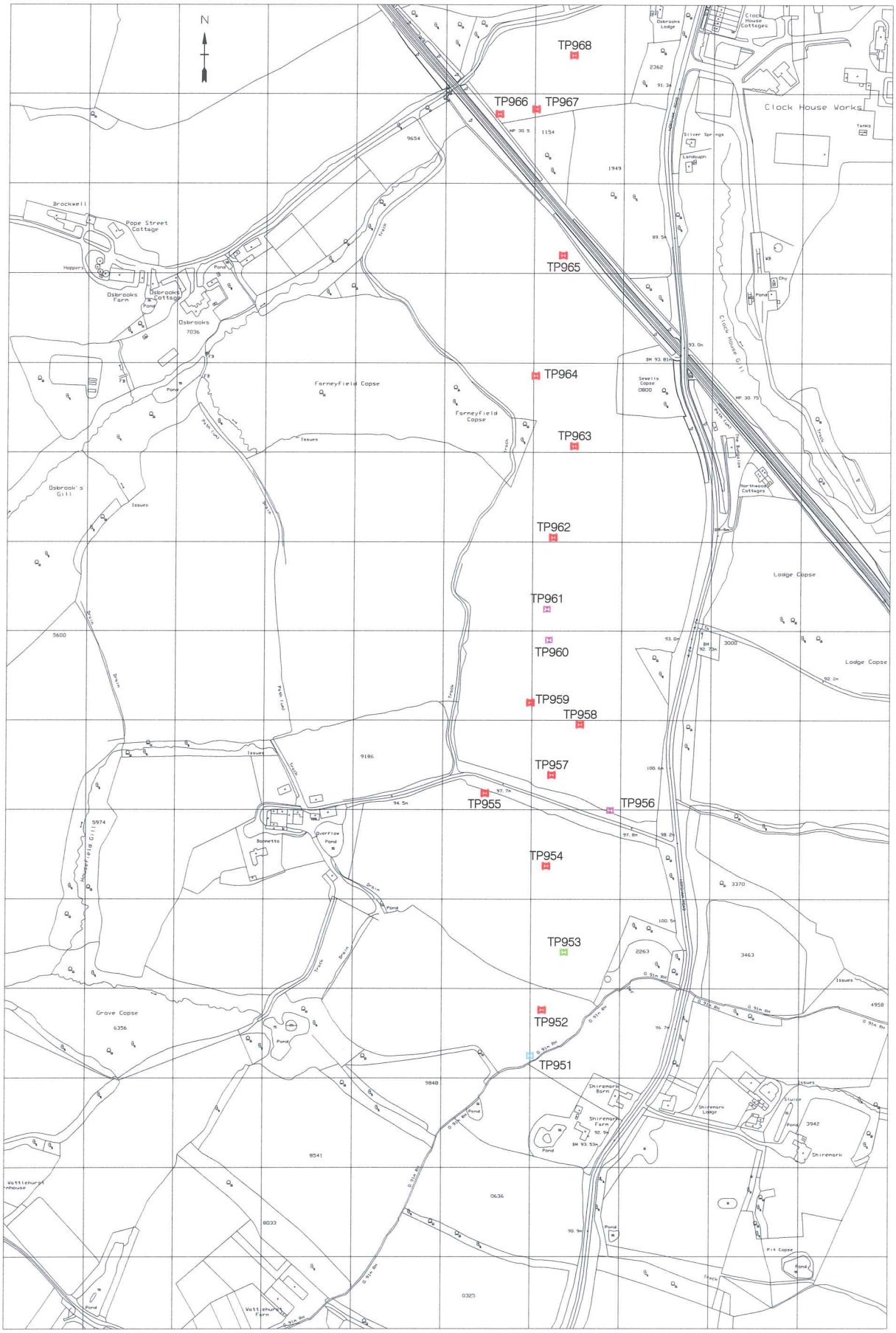


Based on Structural Soils plan (40918)

Negative TPs

0 200m

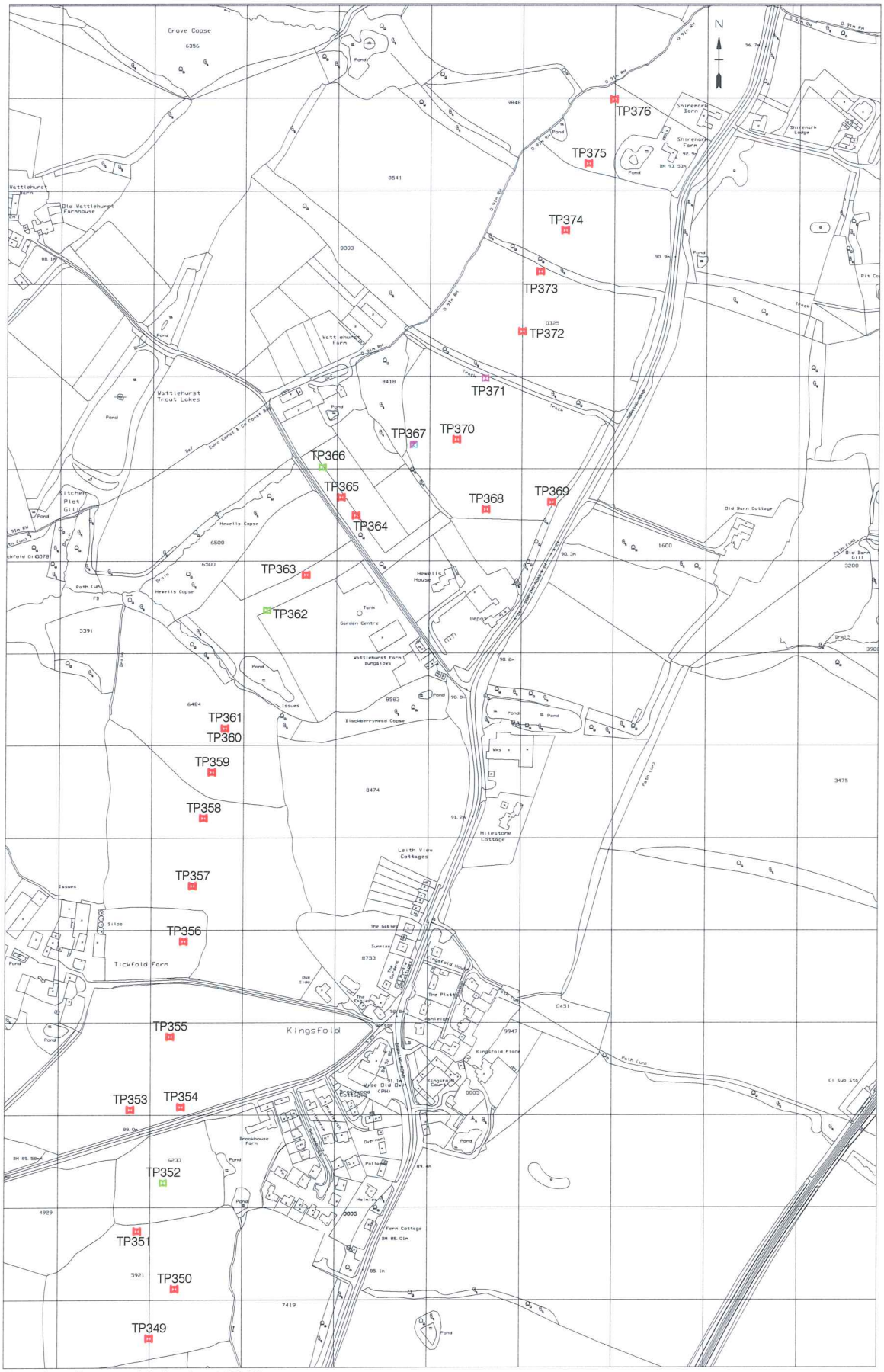
Figure 2a
Exploratory Hole Location Plan
1:6,000



Based on Structural Soils plan (40918)

- TPs with features
- TPs with remnants of terrace gravels
- TPs with subsoil
- TPs with finds in the topsoil
- Negative TPs

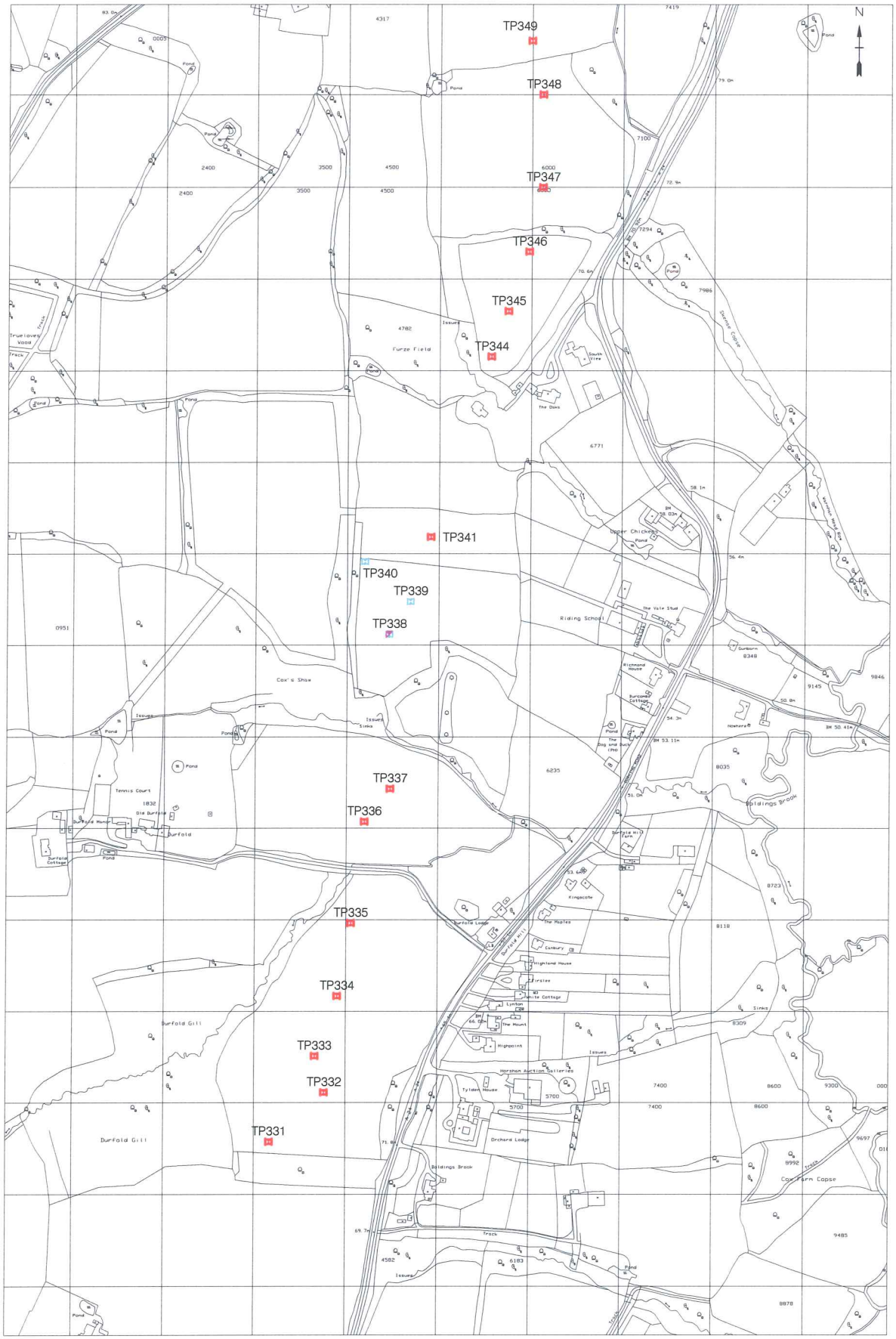
Figure 2b
Exploratory Hole Location Plan
1:6,000



Based on Structural Soils plan (40918)

- TPs with features
- TPs with remnants of terrace gravels
- TPs with subsoil
- TPs with finds in the topsoil
- Negative TPs

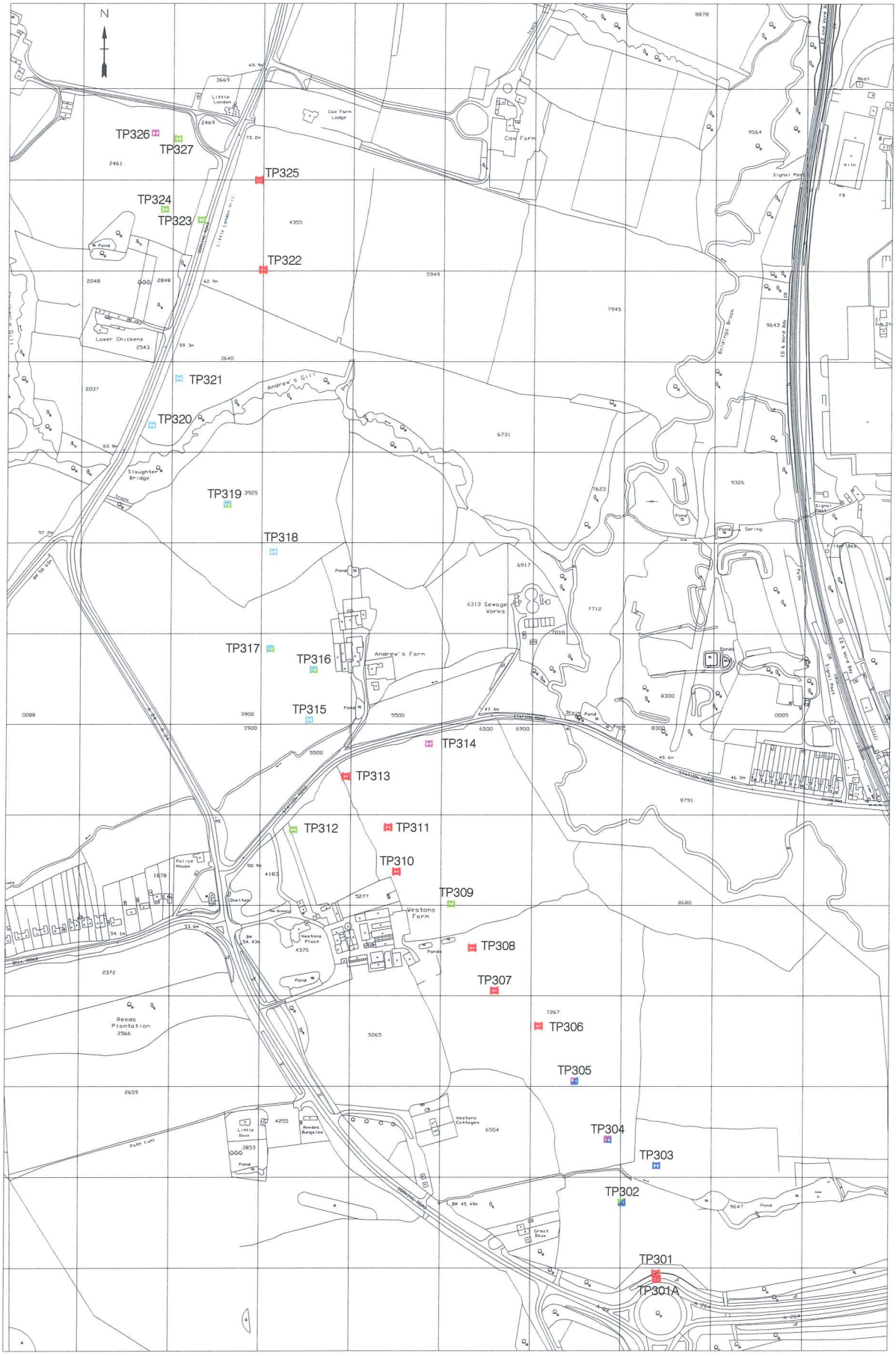
Figure 2c
Exploratory Hole Location Plan
1:6,000



Based on Structural Soils plan (40918)

- TPs with features
- TPs with remnants of terrace gravels
- TPs with subsoil
- TPs with finds in the topsoil
- Negative TPs

Figure 2d
Exploratory Hole Location Plan
1:6,000



Based on Structural Soils plan (40918)

- TPs with features
- TPs with remnants of terrace gravels
- TPs with subsoil
- TPs with finds in the topsoil
- Negative TPs

0 200m

Figure 2e
Exploratory Hole Location Plan
1:2,500

3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

3.1 The archaeological and historical background of the proposed route has been thoroughly researched Cultural Heritage Chapter of the Environmental Statement for the scheme, dated 2004. This identified 77 sites within the area of the proposed route. These included known archaeological sites, listed buildings, archaeological anomalies identified from a previous geophysical survey within the study area in 1995, as well as a large number of additional sites, mostly ridge and furrow features which were identified from aerial photographic research. In addition historical map regression yielded a number of further potential archaeological sites. The following is a summary of the information provided in The Draft Chapter Cultural Heritage.

3.2 PREHISTORIC

Evidence for prehistoric activity within the Weald tends to be sparse. Dense forests throughout this period covered much of this area, and settlement activity tended to concentrate on its outer rims where soils were of better quality and more amenable to cultivation. A small amount of Mesolithic activity in the form of seasonal hunter gathering is evident from finds of their flint implements. Some small-scale arable cultivation on the more easily accessible and ploughable soils took place from the Neolithic period onwards. The presence of burial mounds in the area of the High Weald indicates activity attributable to the Bronze Age while the Iron Age saw the exploitation of local iron ore resources and associated hilltop settlement activity.

3.3 Several sites of prehistoric origin have been recorded within the study area. A Mesolithic flint scatter has been recorded at the Rockwood Golf Course and a prehistoric flint scatter at Bonnetts Farm. An earlier geophysical survey undertaken in connection with a previous route option in 1995 close to the railway line located a number of possible archaeological anomalies. These included an area of possible pits and a possible Mesolithic site.

3.4 ROMAN

There is limited evidence for Roman settlement activity in the Weald. Such as there is confined mainly to roads and iron working sites. In addition a few settlement sites have been noted in the High Weald. No archaeological sites of Roman origin were identified within the study area.

3.5 ANGLO SAXON

Similarly no archaeological sites of Anglo-Saxon origin have been identified within the study area. The large forest of Andredeswald largely covered the Weald during this period, and tended to limit settlement in this area. What settlement there was largely consisted of iron working and animal husbandry such as pig rearing. Many of the roads and trackways in this area originated at this time.

3.6 MEDIEVAL

Scattered pastoral activity in the Weald continued into the medieval period. The open field system of arable cultivation did not develop in this area to any great extent due to the typically heavy clayey soils which contemporary ploughs were unable to cope with. The few exceptions where arable cultivation did take place tended to be enclosed at a very early time such as at Kingsfold and Tickfold in the 13th century. Landholdings in this area tended to be scattered and to be centred on small settlements, many of which still survive as individual farms such as Durfold with many of the farm names themselves originating from this period.

3.7 Five medieval sites are recorded within the study area. This includes two moated sites at Moat Copse and Homestead Moat. These were possibly originally manorial centres. Associated with Homestead Moat was a deserted medieval village (DMV) site. Two 15th century Grade II listed buildings originate from this period comprising Weston Place and Clock House. This assessment noted that these buildings may possibly have replaced earlier buildings or may have incorporated elements of earlier buildings within their structures.

3.8 The aerial photographic analysis for this study identified a number of areas of possible Medieval ridge and furrow or areas of former ploughing activity. These were north-east of Kingsfold Place and associated headland west of Shiremark Windmill, south-west of Upper Chickens and south of Cox Farm Copse, east of Littlebrooks and north-west of Wattlehurst Farm.

3.9 The present landscape within the study area is largely a fossilised late medieval landscape comprising small and irregularly shaped field plots, which were assarted from previously dense woodland areas. The remaining woodland areas were exploited as shaws through coppicing and the production of timber for example for shipping. In addition scattered across this landscape were a number of large farms often with buildings of early post medieval origin, though possibly occupying sites of

earlier origin. Some modifications of these field patterns took place during the 19th century when improvements in farming and ploughing technologies enabled arable farming to take place on a much larger scale than previously. Most of the cultural heritage sites identified by the Stage 2 assessment in the study area are attributed to this period.

3.10 POST MEDIEVAL

The majority of the cultural heritage sites relating to this period comprise various listed buildings and associated farm buildings of historical interest which date from between the 16th-19th centuries and include the following: an 18th century barn at Wattlehurst Farm; a 17th century barn at Wattlehurst Farm; a 18th century granary at Wattlehurst Farm; a 17th century barn at Bonnetts; a 19th century granary at Bonnetts; a 17th century house at Knoll Farm; a 17th century outbuilding at Weston Place; the two 17th century Weston Cottages; 1 & 2 Great Daux, 17th century; the 17th century Lower Chickens Farmhouse; the 16th century Cox's Farmhouse; the 16th century Geerings; 1 & 2 Geerings Cottages, 16th century; 16th century Durfold Manor; 17th century Burcombe Cottage; 17th century Kingsfold Place; 16th century High Buildings; 16th century Tickfold Farmhouse; 16th-17th century Brook Farmhouse; 17th century Shiremark Farmhouse, 16th-17th century Wattlehurst Farmhouse; 16th-17th century Bonnetts; 16th century Osbrooks, and 16th-18th century Old Mead.

3.11 In addition there are two areas of Post Medieval parklands within the study area comprising Kingsfold Park and Warnham Park. This study also identified the site of a former Quaker burial ground; the site of a former clay pit to the south of Clark's Green; a brickworks and the site of the former World War II Flame Warfare Establishment, both of which are closely situated to the railway line.

3.12 The historical map regression researches for this study identified several more sites also of Post Medieval origin. These comprise the Capel Windmill, the Shiremark Windmill and the site of a lime kiln near Bonnetts. In addition field names featured on tithes map consulted in this study indicated several other potential archaeological sites of possible Post Medieval origin. These potential sites have not been assigned site numbers but include Old Kiln Field (south-east of Shiremark Farm); Kiln Plat and Upper Kiln Plat (to the south-east of Durfold), and may indicate the sites of possible lime or brick kilns. The field name of Black Land Field to the north of Kingsfold may refer to a nearby ironworking site.

3.13 The aerial photographic analysis for this study also identified a large number of additional sites, most of which are probably post medieval in origin and comprise areas of ridge and furrow, evidence of former ploughing activity.

3.14 Other miscellaneous sites also identified from this source, which may date to the Post Medieval period or are of uncertain origin include a parchmark of a possible field boundary marked on the tithe map to the east of Shiremark; the site of a possible building or small enclosure west of Kitchen Plot Ghyll and a small cropmark complex of circular and linear shaped features north-east of Kitchen Plot Ghyll.

4 METHODOLOGY

4.1 The watching Brief involved an archaeologist being present to record archaeological remains revealed during the machine excavation of 93 trial pits during a geotechnical investigation of the site.

4.2 All works followed locally recognised archaeological watching briefs methodologies; English Heritage Guideline Papers (revised June 1998) and Standards and Guidance issued by the Institute of Field Archaeologists. Pre-Construct Archaeology are an Institute of Field Archaeologists Registered Organisation and therefore operates within the bylaws of the Institute.

4.3 The archaeological deposits and features were investigated using hand tools were it was safe to enter the trial pits. Deposits and features were photographed and recorded using pro-forma sheets. Plans and sections were drawn at a scale of 1:10 and 1:20 where appropriate.

4.4 Spoil from the excavated trial pits was scanned visually and with a metal detector in order to maximise the potential for the recovery of finds.

4.5 Several trial pits (TP 302 – 306) located within the valley of one of the minor headwater tributaries of the River Arun in Sussex were recorded by a specialist geoarchaeologist to investigate the possibility that river deposits might be present. These sedimentary sequences were recorded in the field using standard procedures for the characterisation of unconsolidated sediment. Bulk samples were taken where appropriate and were retained for a rapid laboratory-based geoarchaeological and bio-archaeological investigation. (see Appendix 3).

5 ARCHAEOLOGICAL RESULTS

5.1 Nine trial-pits contained archaeological features and 12 produced archaeological material from the topsoil. A subsoil deposit was recorded above the natural clay in 13 trial pits and a thick colluvial layer was found in another. Four trial-pits also revealed river terrace gravels.

5.2 THE GENERAL SEQUENCE

5.2.1 Natural Weald clay was recorded in all the trial-pits, the upper part of this deposit was often seen to have been weathered. A silty clay interface or sub-soil between 0.15m and 0.50m thick overlay the natural clay in trial pits 307, 308, 338, 339, 340 and 367 (Figs 2c, 2d and 2e) and a mid reddish brown clayey silt subsoil was observed in trial pits 315 - 321 (Fig 2e). This latter deposit, which contained very frequent small daub and charcoal flecks and occasional chalk fragments, probably represents an earlier period of ploughing. A 0.80m thick layer of colluvium overlay the natural clay in trial pit 951 (Fig. 2b). Topsoil between 0.15m to 0.60m thick sealed the underlying deposits.

5.3 ARCHAEOLOGICAL FEATURES

Where archaeological features occurred in the same trial-pits as subsoil deposits were encountered, the archaeological features were recorded cutting into the Weald clay, sealed below the subsoil layer.

5.3.1 **Trial pit 305(Fig 4):** A layer of river gravels (see paragraph 5.5 and appendix 3) up to 0.70m thick overlay the natural Weald clay [60] and was sealed by a 0.15m thick layer of weathered Weald clay [57]. A posthole, measuring 0.30m NS x 0.40m deep, was recorded cutting in to the weathered clay. The posthole was sealed by a 0.40m depth of topsoil.

5.3.2 **Trial pit 314 (Fig. 5):** A possible pit or posthole [50], measuring 0.60m N-S x 0.54m deep, cut into the natural Weald clay [51] at 47.35m OD. The feature and was filled by a mid brownish grey silty clay [49] which contained stone and brick towards the base. It was sealed by topsoil [48], which was 0.30m thick.

5.3.3 **Trial pit 326 (Fig. 4):** A pit or tree hollow [14] was found cutting into the natural Weald clays [15] at 72.18m OD. It measured 1.40m N-S x 0.30m in depth, and was filled by a mid-light orangey brown clayey silt [13] with very occasional cbm flecks. No finds were recovered from the fill. A 0.40m depth of topsoil overlay the feature.

5.3.4 **Trial pit 338 (Fig. 5):** The natural Weald clay [46] in this test pit was covered by a light greyish brown silty clay 'interface' layer [45]. A shallow pit [44] which was only 0.10m deep cut into this layer at 61.00m OD. It measured 0.90m E-W although its western edge was unclear. The pit was filled by a mid greyish brown silty clay [43] which produced no finds, but very small fragments of cbm were recorded. A subsoil layer [42] which was 0.22m thick, overlay the feature and this deposit was sealed by a 0.23m depth of topsoil [41].

5.3.5 **Trial pit 367**: The natural Weald clay [76] was overlain by a possible archaeological deposit consisting of mid orangey brown silty clay [75] which was 0.24m thick with occasional weathered Horsham stone and possible daub flecks. This deposit was sealed by a subsoil layer [74] up to 0.36m thick at 85.41m OD which was in turn covered by a 0.23m depth of topsoil [73].

5.3.6 **Trial pit 371 (Figs. 3 & 5):** Cutting the natural clay [79] was a large NE-SW ditch [80] filled by a very light grey clayey silt [79] with occasional charcoal fragments. The ditch measured 3m EW x 1m in depth at 87.34m OD. The only piece of dating, a very small fragment of medieval pot or CBM, came from the very top of the fill. The ditch was sealed by a 0.15m thickness of subsoil [78] and then topsoil 0.20m thick.

5.3.7 **Trial pit 956 (Figs. 3 & 5):** The natural clay [35] was cut by a shallow N-S gully [34] at 98.23m OD. The gully was 0.50m wide x 0.10m deep although the top of the feature has probably been ploughed out. It was filled by [33] a light greyish brown silty clay which contained a fragment of burnt flint and a sherd of medieval pot. The gully was sealed by A 0.20m thick 'interface' layer of disturbed topsoil and natural clay [32] which sealed the gully was then overlain the topsoil [31] which was 0.30m thick.

5.3.8 **Trial pit 960 (Fig. 5):** The Weald clay [30] was sealed by a 0.20m thick layer of naturally deposited clayey sand [29] into which posthole [28] was cut at 97.00m OD. It measured 0.20m N-S x 0.22m in depth and was filled by [27], a light brownish grey clayey sand which contained no dating evidence. The posthole was sealed by 0.30m of topsoil.

5.3.9 **Trial pit 961 (Fig. 5):** A tree hollow [24] measuring 2.30m NS x 0.70m EW x 0.80m in depth at 98.80m OD was found cutting into the natural clay [25]. It was filled by a light brownish grey clayey sand [23] and sealed by 0.20m of topsoil [22].

5.4 FINDS RECOVERED FROM TOPSOIL

5.4.1 A small quantity of archaeological material was recovered from the topsoil of twelve of the pits.

Trial Pit	OD Height	Finds
302	44.46m	Sherd of medieval glazed ware. Burnt flint - 1fragment, Brick fragment
309	49.86m	Struck flint - Debitage 18mm x 8mm x 3mm. Bulb of percussion and striking platform present with slight preparation near the striking platform. Hinge fracture. Subsequently burnt.
312	49.83m	Burnt flint - 1 fragment
316	49.07m	Burnt flint - 1 fragment, pot - 1 sherd, cbm - 1 fragment
317	51.57m	Slag - 1 fragment
319	55.58m	Glass slag? - 2 fragments, cbm - 1 fragment
323	68.83m	CBM
324	71.74m	Glass slag? - 3 fragments, pot - 1 sherd of C15th - C17th pot
327	73.39m	Pot - 1 sherd 1580 - 1900
352	90.00m	Struck flint ? - 1 fragment, pot - 1 sherd of medieval pot, C17th/C18th Red Border slipware, LC18th/C19th Pearl Ware?, cbm - 2 fragments, slag - 1 fragment, Fe nails - 2
362	78.28m	Cbm - 2 fragments
366	81.71m	Cbm - 1 fragment
953	99.82m	Struck flint- Badly damaged blueish grey waste flake 38mm x 25mm x 9mm. Blueish grey flint 27mm x 14mm x 8mm struck but no evidence that is has been humanly struck. Light creamy brown broken blade 21mm x 19mm x 3mm with a hinge fracture. Bulb of percussion and striking platform broken off. Mesolithic characteristics.

5.4.2 In addition to finds recovered from the topsoil scatters of burnt flint were noted within the area of trial pits 306, 310, 313 and 340.

5.5 GEOARCHAEOLOGICAL INVESTIGATION (see Appendix 3 for full report)

5.5.1 Thin disturbed remnants of river deposits were recorded within trial pits 302, 303, 304 and 305 (Fig. 4).

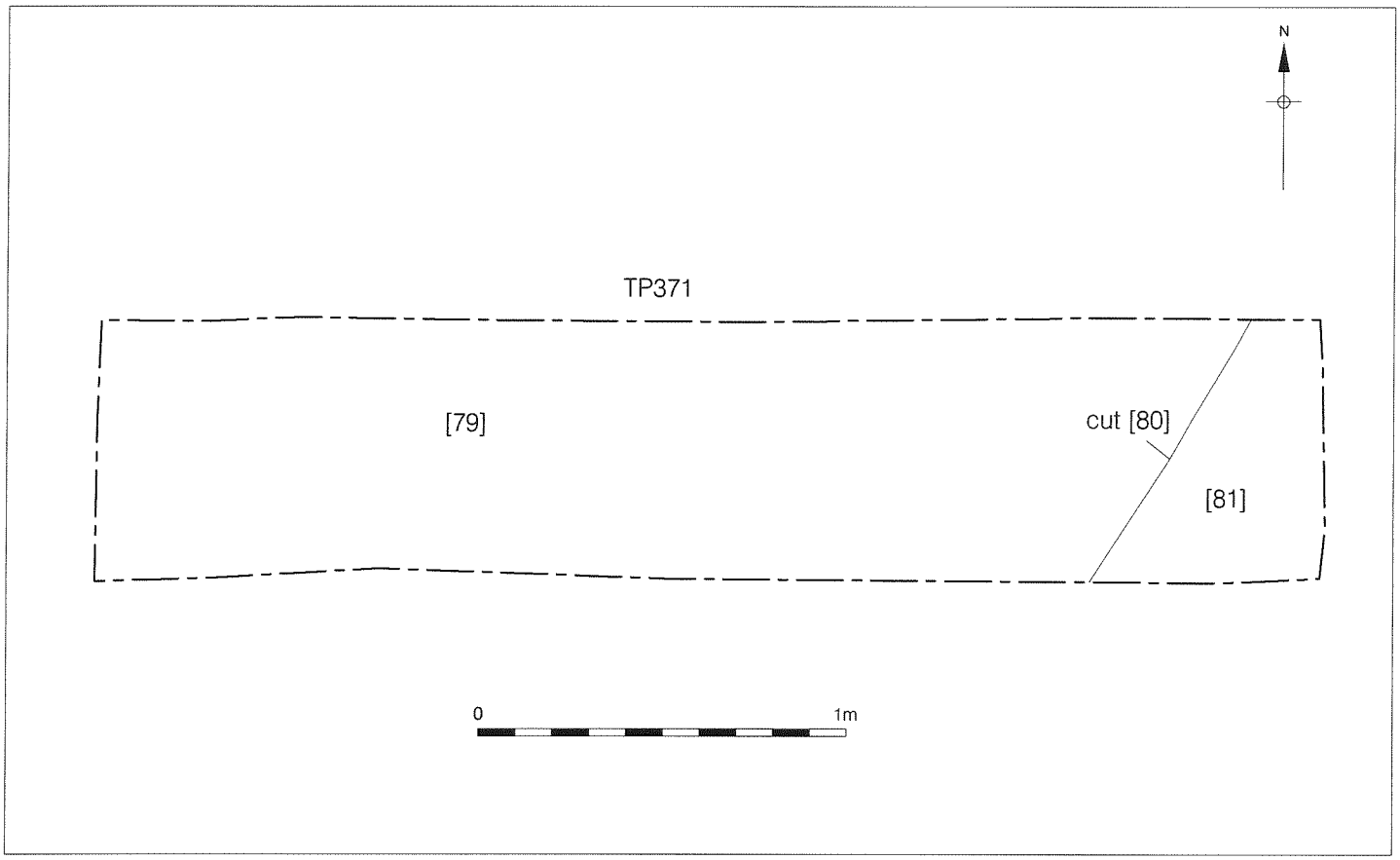
5.5.2 The sequence recorded within trial pits 302, 303, 304 and 305 was of un-weathered weald clay (dark brown) and horizons of siltstone. Above the weald clay a stony clay

unit up to 1m thick was recorded, this was in turn overlain by weathered weald clay (yellowish brown) in trial pits 302, 304 and 305. Topsoil with a depth of 0.30m to 0.40m was recorded within trial pits 302 to 305.

5.5.3 The stony beds were largely comprised of sandstone clasts. Laboratory examination of the samples taken from these beds showed little evidence of having been shaped by fluvial processes, the clasts were mostly sharply sub-angular with little sign of abrasion. However there was a small water-worn component that must have derived from fluvial deposits upslope and/or further upstream and represent the disturbed remnants of river deposits.

5.5.3 No waterlogged or charred seeds, charcoal, Mollusca, wood, bone or archaeological artefacts were found within the bulk samples.

5.5.6 In trial pit 306 and borehole 401 sediments were comprised of a large thickness of weald clay with several siltstone horizons. The stony clay unit was not present and 0.30m of topsoil overlay the weald clay.



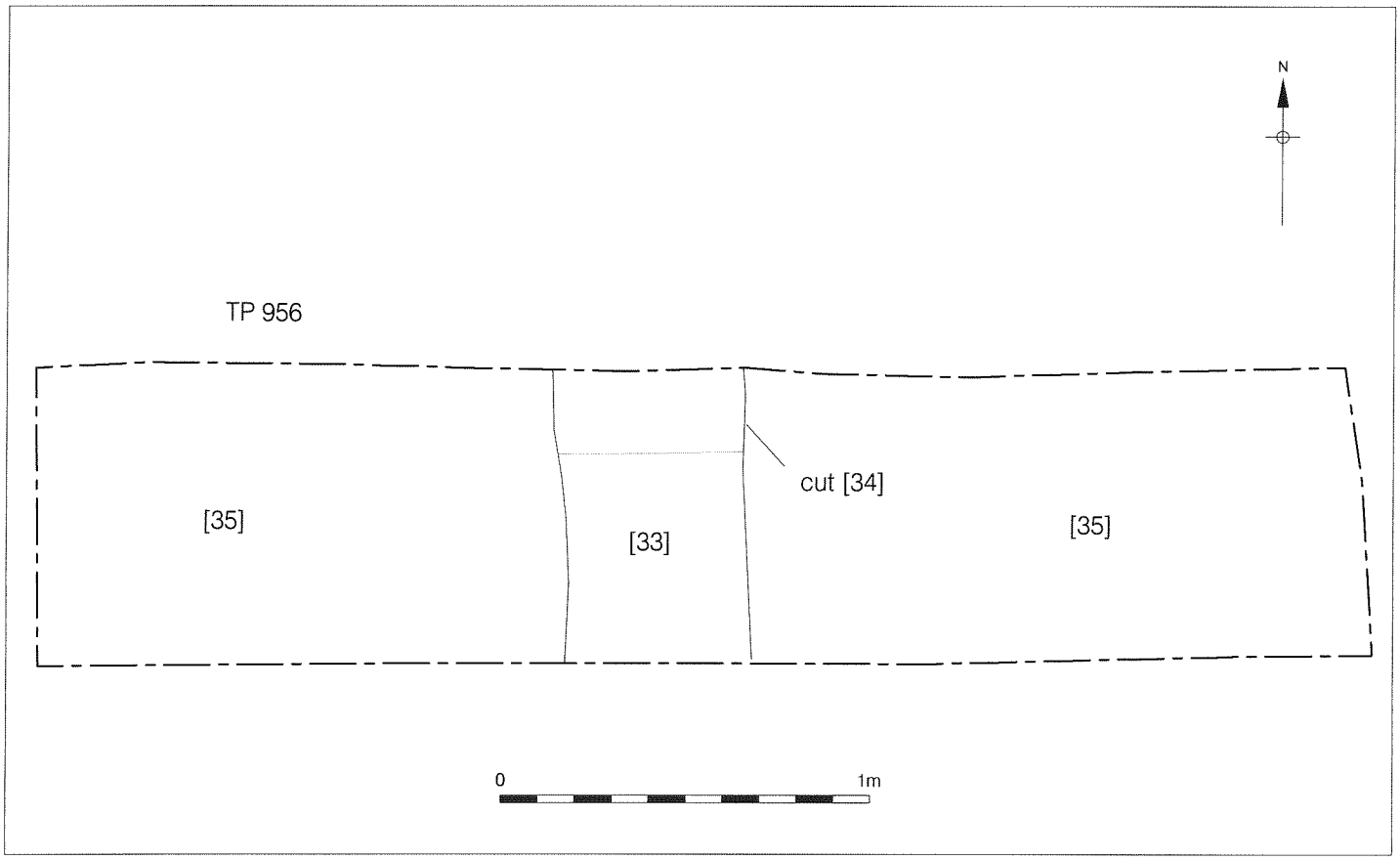


Figure 3
Plans of TP371 and TP956
1:20

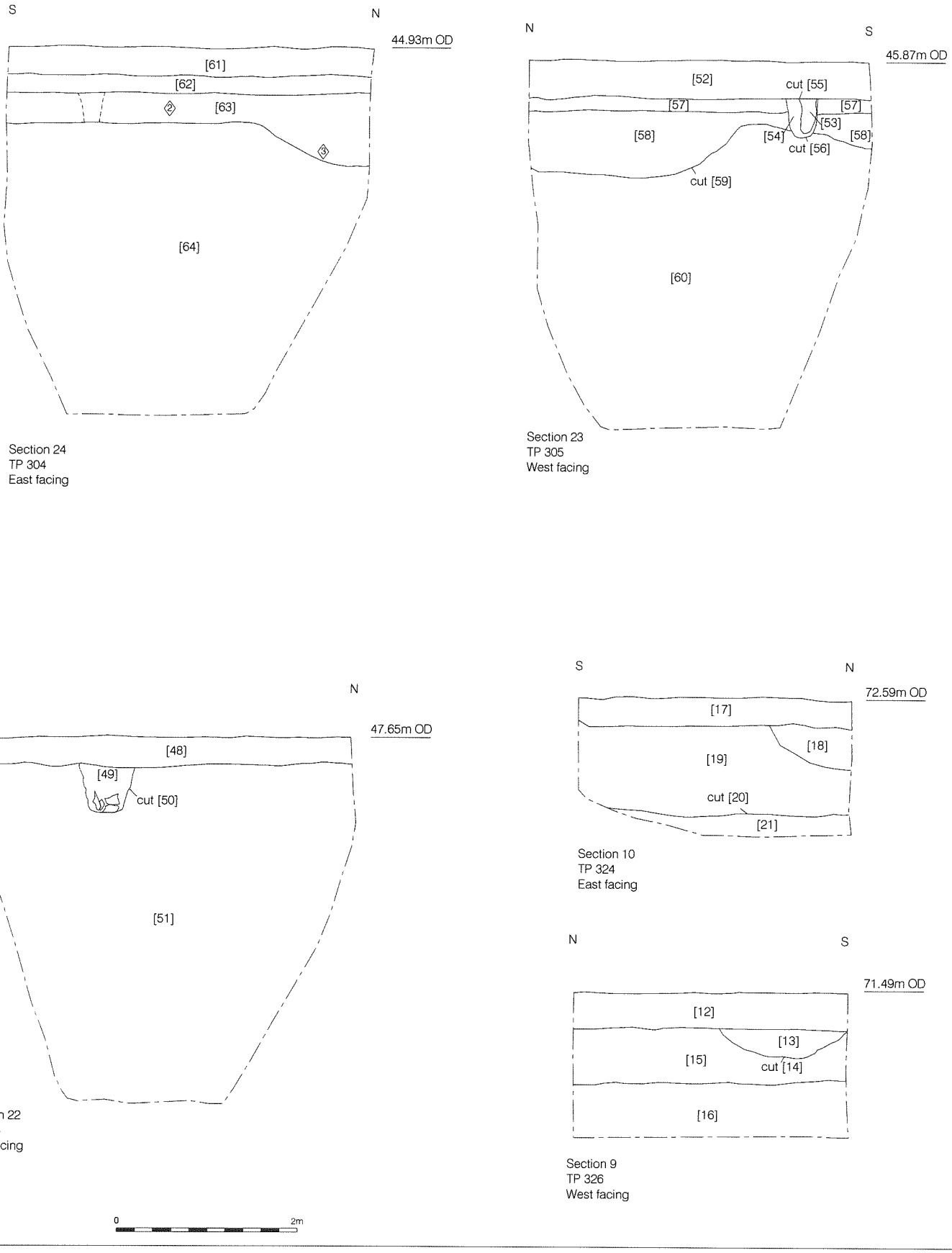


Figure 4
Sections
1:60

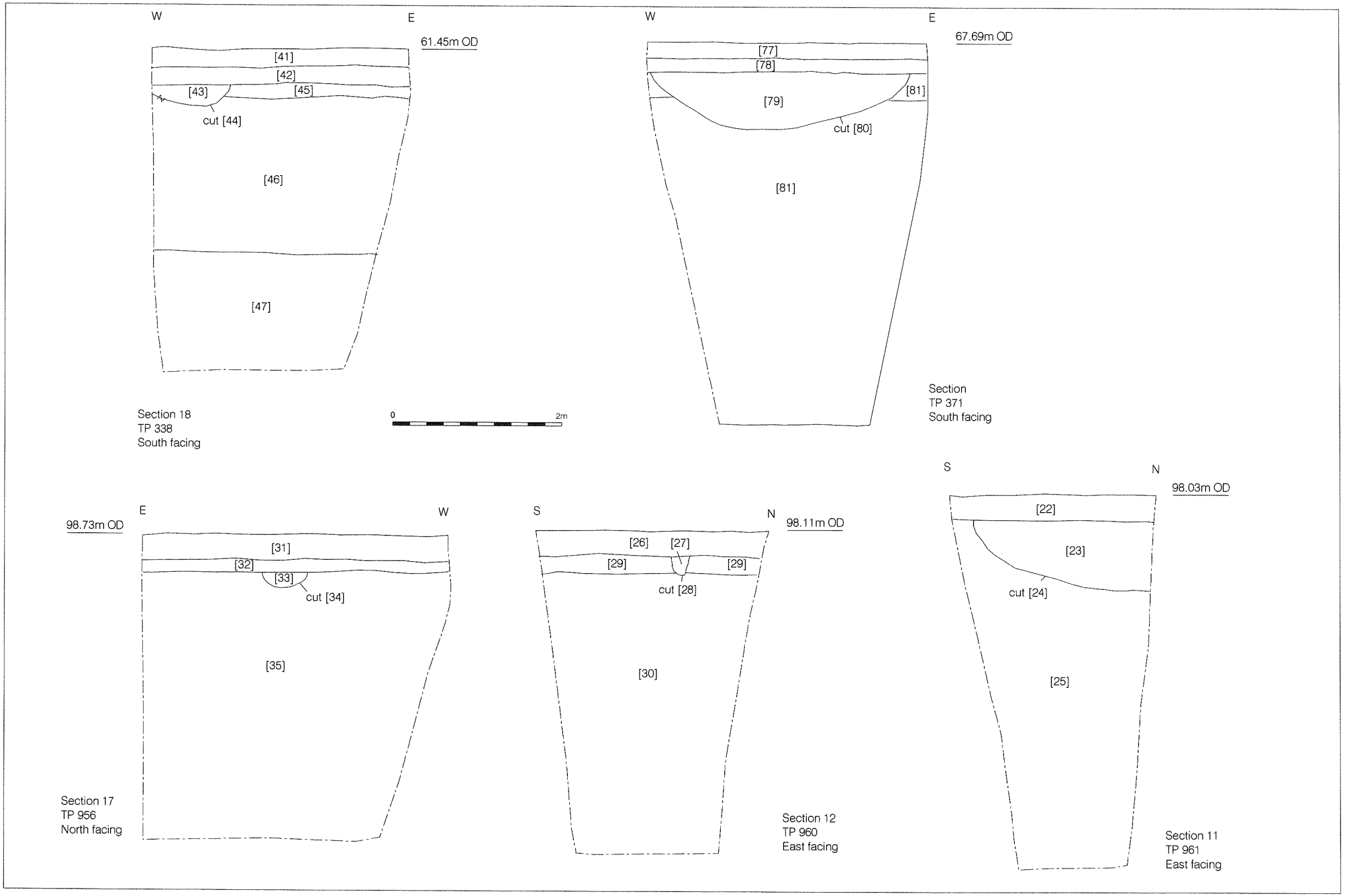


Figure 5
Sections
1:60

6 CONCLUSION

6.1 The watching brief conducted at the A24 Horsham to Capel Road Improvement, West Sussex and Surrey, revealed the presence of possible archaeological features within 9 of the trial pits including pits, post holes, a gully and a ditch. Most of the features remain undated although ceramic building material in some may suggest a post-medieval date while a single find from the top of a large ditch in Trial pit 371 suggests a possible medieval date. The small quantity of dating evidence recovered from the topsoil includes struck flint and burnt flint probably reflecting prehistoric activity, while later finds represent the late medieval and post-medieval activity.

6.2 The trial pits where archaeological features and finds were revealed were generally found clustered along the route in locations which did not always correlate with the areas initially identified as areas of potential archaeological interest prior to the geotechnical investigation. While the presence of the features and finds indicates an increased potential for significant archaeological remains in those locations, the absence of features should not be seen to signify the absence of archaeological remains as such evidence can be difficult to identify in small geotechnical trial pits.

6.3 The remnants of disturbed river deposits identified within trial pits 302 – 305 may reflect part of a prehistoric landscape which could have attracted early exploitation, and evidence for this may be preserved in these deposits.

6.4 Archaeological features identified during the watching brief tended to be cut into natural clay deposits and sealed by a 'subsoil deposits' which was recorded in 13 trial pits. These subsoil deposits, and a thick colluvial layer recorded in another trial pit, may indicate a greater potential for the survival of archaeological remains in these locations.

6.5 The results of the watching brief indicate that archaeological deposits and features potentially survive along the entire route of the proposed new road. Some areas previously identified as being of potential archaeological interest failed to reveal further evidence, while other locations where archaeological finds or features were found had not previously been identified. A program of archaeological evaluation along the proposed route of the road would help to clarify the extent, date, nature and significance any archaeological remains.

7 ACKNOWLEDGEMENTS

7.1 Pre-Construct Archaeology Limited would like to thank Structural Soils for commissioning the work and specifically Jim Southern and Kieron Nicholson for there help and assistance. The author would like to thank Josephine Brown for the illustrations, Bernie Sudds for identifying the pottery, Jim Leary for identifying the lithics and David Divers for the project management and editing.

APPENDIX 1: CONTEXT DESCRIPTIONS

Context	Type	Description	Section	Trial Pit
1	Layer	Topsoil	1	354
2	Layer	Natural Weald clay (light yellowish brown)	1	354
3	Layer	Natural Weald clay (dark orangey brown with light grey)	1	354
4	Layer	Natural compacted Weald (mid-dark reddish brown)	1	354
5	Layer	Natural Weald clay	1	354
6	Layer	Topsoil	2	353
7	Layer	Natural Weald clay	2	353
8	Layer	Natural Weald clay (dark reddish brown with mid grey)	2	353
9	Layer	Topsoil		355
10	Layer	Natural Weald clay		355
11	Layer	Natural silty clays		355
12	Layer	Topsoil		326
13	Fill	Fill of [14]	9	326
14	Cut	Cut of pit/tree bole	9	326
15	Layer	Natural weathered Weald clay	9	326
16	Layer	Natural Weald clay	9	326
17	Layer	Topsoil	10	324
18	Fill	Secondary fill of [20]	10	324
19	Fill	Primary fill of [20]	10	324
20	Cut	Cut of EW ditch/channel?	10	324
21	Layer	Natural Weald clays	10	324
22	Layer	Topsoil	11	961
23	Fill	Fill of [24]	11	961
24	Cut	Cut of possible pit or tree bole	11	961
25	Layer	Natural Weald clays	11	961
26	Layer	Topsoil	12	960
27	Fill	Fill of [28]	12	960
28	Cut	Cut of post hole	12	960
29	Layer	Thin layer of clayey sand	12	960
30	Layer	Natural Weald clays	12	960
31	Layer	Topsoil		956
32	Layer	Clayey silt interface		956
33	Fill	Fill of [34]		956
34	Cut	Cut of possible NS gully		956
35	Layer	Natural Weald clays		956
36	Layer	Topsoil		325
37	Layer	Uncertain clay containing cbm and charcoal flecks		325
38	Layer	Natural Weald clays		325
39	Layer	Natural compacted Weald (mid-dark reddish brown)		325
40	Layer	Natural clays and silt stone bands		325
41	Layer	Topsoil		338
42	Layer	Subsoil		338
43	Fill	Fill of [44]		338
44	Cut	Cut of possible pit		338
45	Layer	Silty clay interface		338
46	Layer	Natural Weald clay		338

47	Void		
48	Layer	Topsoil	314
49	Fill	Fill of [50]	314
50	Cut	Cut of pit	314
51	Layer	Natural Weald clay	314
52	Layer	Topsoil	305
53	Fill	Fill of post pipe [55]	305
54	Fill	Fill of post hole [56]	305
55	Cut	Cut of post pipe of post hole [56]	305
56	Cut	Cut of post hole	305
57	Layer	Weathered weald clay	305
58	Layer	Fluvially deposit possible terrace gravels	305
59	Cut	Recorded as cut of possible channel however could be natural topography	305
60	Layer	Natural Weald clays	305
61	Layer	Topsoil	304
62	Layer	Weathered weald clay	304
63	Layer	Possible terrace gravels	304
64	Layer	Natural Weald clays	304
65	Layer	Topsoil	303
66	Layer	Possible terrace gravels	303
67	Layer	Natural silts	303
68	Layer	Compacted Weald clay	303
69	Layer	Natural Weald clays	303
70	Layer	Topsoil	308
71	Layer	Interface	308
72	Layer	Weald clays	308
73	Layer	Topsoil	367
74	Layer	Subsoil	367
75	Layer	Silty clay layer with possible arch. Material	367
76	Layer	Weald clays	367
77	Layer	Topsoil	371
78	Layer	Subsoil	371
79	Fill	Fill of ditch [80]	371
80	Cut	Cut of NE-SW ditch	371
81	Layer	Weald clays	371

APPENDIX 2: TRIAL PIT CO-ORDINATES

Trial Pit	Easting	Northing	Surface level	Thickness of topsoil	Subsoil present	Level on natural
TP301	516840	133394	46.45	Not watched		
TP302	516802	133472	44.46	0.2	No	44.26
TP303	516840	133513	44.47	0.3	No	44.16
TP304	516786	133542	44.93	0.4	No	44.53
TP305	516749	133606	45.87	0.4	No	45.48
TP306	516709	133667	47.36	0.3	No	47.07
TP307	516660	133705	48.89	0.3	No	48.59
TP308	516635	133753	49.19	0.3	No	48.49
TP309	516612	133802	49.87	0.3	No	49.57
TP310	516551	133837	52.11	0.3	No	52.81
TP311	516542	133886	50.31	0.4	No	49.91
TP312	516437	133883	49.84	0.5	No	49.33
TP313	516495	133942	48.58	0.5	No	48.08
TP314	516587	133978	47.65	0.3	No	47.35
TP315	516454	134004	47.60	0.35	Yes	47.30
TP316	516459	134060	49.07	0.3	Yes	49.77
TP317	516411	134083	51.57	0.4	Yes	51.17
TP318	516413	134190	54.87	0.15	Yes	54.52
TP319	516362	134242	55.59	0.15	Yes	55.13
TP320	516278	134330	54.96	0.15	Yes	54.65
TP321	516308	134381	57.31	0.3	Yes	57.00
TP322	516401	134501	63.07	0.3	No	62.77
TP323	516332	134556	68.84	0.3	No	68.04
TP324	516291	134568	71.75	0.15	No	70.75
TP325	516396	134600	71.04	0.25	No	71.78
TP326	516280	134652	72.59	0.4	No	72.19
TP327	516306	134645	73.39	0.4	No	72.99
TP331	516317	134957	74.32	0.4	No	73.91
TP332	516377	135011	71.90	0.4	No	71.49
TP333	516367	135051	66.04	0.3	No	65.64
TP334	516391	135117	59.43	0.3	No	59.02
TP335	516412	135184	57.74	0.2	No	57.53
TP336	516420	135307	57.43	0.2	No	57.23
TP337	516448	135343	57.91	0.25	No	57.7
TP338	516446	135512	61.45	0.23	Yes	60.85
TP339	516470	135547	63.54	0.25	Yes	63.04
TP340	516427	135591	65.75	0.25	Yes	65.24
TP341	516492	135618	66.65	0.25	No	66.14
TP344	516556	135815	68.10	0.3	No	67.8
TP345	516575	135865	71.58	0.3	No	71.17
TP346	516598	135929	74.81	0.3	No	74.51
TP347	516612	135999	77.56	0.3	No	77.26
TP348	516607	136086	82.57	0.3	No	82.26
TP349	516600	136159	86.77	0.3	No	86.46
TP350	516627	136211	88.51	0.3	No	88.21
TP351	516587	136274	89.91	0.3	No	89.61
TP352	516615	136326	90.01	0.4	No	89.5
TP353	516579	136406	86.45	0.3	No	86.05

TP354	516634	136409	88.64	0.27	No	88.37
TP355	516622	136485	86.65	0.3	No	83.65
TP356	516636	136588	84.95	Not watched		
TP357	516645	136648	83.96	Not watched		
TP358	516657	136721	81.75	0.3	No	81.44
TP359	516666	136771	80.73	0.3	No	80.43
TP360	516680	136818	79.04	0.3	No	78.73
TP361	516680	136818	79.05	0.35	No	78.7
TP362	516725	136947	78.28	0.35	No	77.94
TP363	516767	136985	80.78	0.35	No	80.48
TP364	516821	137050	83.44	0.3	No	83.13
TP365	516805	137069	82.61	0.3	No	82.31
TP366	516785	137101	81.71	0.3	No	81.31
TP367	516883	137126	85.65	0.23	Yes	84.85
TP368	516962	137056	89.02	0.25	No	87.77
TP369	517033	137064	89.42	0.25	No	89.17
TP370	516930	137131	87.60	0.2	No	87.39
TP371	516960	137198	87.69	0.2	Yes	87.34
TP372	517001	137248	87.52	0.35	No	87.16
TP373	517020	137313	87.23	0.45	No	86.82
TP374	517047	137357	88.03	0.25	No	87.77
TP375	517072	137429	89.95	0.4	No	89.55
TP376	517100	137498	90.28	0.4	No	89.88
TP951	517101	137525	90.62	0.2	Yes	80.62
TP952	517113	137576	95.64	0.3	No	95.64
TP953	517138	137640	99.82	0.5	No	99.32
TP954	517118	137737	99.52	0.5	No	99.02
TP955	517049	137818	98.02	0.5	No	97.52
TP956	517189	137799	98.73	0.3	No	98.23
TP957	517123	137838	98.87	0.3	No	98.66
TP958	517154	137895	99.59	0.5	No	99.09
TP959	517099	137920	98.56	0.3	No	98.26
TP960	517120	137990	98.11	0.3	No	97.7
TP961	517117	138025	98.03	0.3	No	97.73
TP962	517123	138105	97.26	0.3	No	96.96
TP963	517146	138207	94.97	0.3	No	94.66
TP964	517103	138285	94.07	0.3	No	93.87
TP965	517133	138419	91.63	0.5	No	91.13
TP966	517061	138577	85.36	0.5	No	85.86
TP967	517102	138582	86.24	0.4	No	85.84
TP968	517144	138643	87.61	0.4	No	87.21
TP970	517123	138988	94.75	0.3	No	94.44
TP971	517105	139030	95.53	0.4	No	95.12
TP972	517123	139191	94.61	0.4	No	94.21

APPENDIX 3: GEOARCHAEOLOGICAL TRIAL PIT MONITORING

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INTRODUCTION

This report summarises the findings arising out of a geoarchaeological field investigation undertaken by *ArchaeoScape* in connection with the proposed A24 road improvement scheme from Horsham to Capel. *ArchaeoScape* monitored five trial pits (TP 302-306), and one borehole (401) near Warnham station, located at the southern extent of the improvement scheme. The investigations, which formed part of a watching brief by Pre Construct Archaeology Ltd, permitted an examination of the local sediment successions, and thus provided an opportunity to record the presence of deposits that might enhance our understanding of the recent geological history of the study area, in particular the 4th terrace sand and gravel deposits of the River Arun, and hence provide an improved research framework for investigating the early cultural history. The assessment involved: (a) review of previous geoarchaeological (including environmental archaeological) work for the study area; (b) recording the lithostratigraphy in selected trial pits and a single borehole; (c) rapid geoarchaeological and bio archaeological assessment of bulk samples from the trial pits; and (d) making recommendations for further work.

GEOLOGICAL CONTEXT

The study area (trial pits 302-306 and borehole 401) (NGR TQ 167 336) is in the valley of one of the minor headwater tributaries of the Sussex Arun. This tributary rises c.8km to the north of Horsham, near Capel, and flows south to a confluence with the Arun on the southwestern outskirts of Horsham. The study area is on the right bank of the river c.3km upstream from the confluence in an area mapped by the British Geological Survey (1:50,000 Sheet 302 Horsham 1972) as Lower Cretaceous Weald Clay. The catchment upstream from the study area lies entirely within the outcrop of the Weald Clay, which comprises a large thickness of clay with several thin sandstone and siltstone horizons, of which one of the more prominent is the Horsham Stone.

Within this tributary valley the British Geological Survey has mapped a number of terrace remnants and assigned them to the Fourth Terrace of the Arun. This attribution appears to be based on an evaluation of knick points further downstream and upon an interpretation of these knick points (Thurrell *et al.*, 1968; Gallois & Bristow, 1993) in terms of climatically driven eustatic changes of base level. Such an interpretation would not now be regarded as tenable for an area so far from the coastline, situated in a catchment largely underlain by clay.

Near the study area, mapped remnants of the Fourth Terrace are at a level only a few metres above the present floodplain and this is the only terrace recognised within this valley. Terraces One, Two and Three are only recognised further downstream. The study area is not located on a mapped terrace remnant but lays upslope from a terrace remnant mapped immediately alongside the river.

Records of exposures near the study area, in the areas mapped as Fourth Terrace (Gallois and Worssam, 1993) all refer to relatively thin beds of clayey gravel, generally 1m to 2m in thickness and composed largely of sandstone derived from sandstone beds within the Weald Clay. Occasional clasts of Chalk flint and Greensand chert have also been recorded.

These records, indicating limited development of terrace deposits, are entirely consistent with the location of the terrace remnants within the uppermost headwaters of the Arun catchment (Green and McGregor, 1987).

There are no substantive records of archaeological material having been recovered from any of the terrace sediments at or near the study area. Wymer (1999) referring to the Arun amongst other Sussex rivers, comments that: *Only a few palaeoliths are known from the lower terraces of any of these Sussex rivers, but higher terraces would have been there during the Middle Pleistocene.* It is however relevant to note that a few Mesolithic artefacts have been recovered from the higher ground forming the watershed to the east of the river (Bonsall, 1977).

METHODS

Five trial pits (302, 303, 304, 305 and 306) were opened using a JCB and monitored by *ArchaeoScape.* Borehole (401), in close proximity to the trial pits was also examined. Table 2 indicates the depth of the trial pits and borehole (metres from the surface).

Table 2: Trial Pits and Borehole monitored by *ArchaeoScape*

Trial Pit No.	Depth from surface (m)	m OD at top	m OD at base
302	4.00	44.45	40.45
303	3.80	44.46	40.66
304	4.00	44.92	40.92
305	4.40	45.87	41.47
306	4.50	47.36	42.86
401	5.00	49.58	44.58

The sedimentary sequences within the trial pits and borehole were recorded in the field using standard procedures for the characterisation of unconsolidated sediment. This involved noting the physical properties (e.g. colour), composition (gravel, sand, silt, clay, peat and

organic detritus) and the nature of changes across lithostratigraphic unit boundaries, and inclusions (e.g. artefacts). The lithostratigraphic descriptions are presented in Tables 3 to 8.

Bulk samples <1>, <2>, <3>, <4> and <5> (10-20 litres in volume) were taken from the stony clay deposits discovered in trial pits 302, 303, 304 and 305. These were retained for a rapid laboratory-based geoarchaeological and bio-archaeological investigation. Bulk samples were wet sieved by staff at Royal Holloway through a 1mm and 300µm mesh and assessed for possible Mollusca, plant macrofossils, animal bone, charcoal and archaeological artefacts. The results are presented in Table 9.

RESULTS

Trial pits 302, 303, 304 and 305 (Tables 3, 4, 5, and 6) were comprised of un-weathered weald clay (dark brown) and horizons of siltstone ranging in colour from light blue to dark brown. A stony clay unit up to 1m in thickness was present above the weald clay that was in turn overlain by weathered weald clay (yellowish brown).

The stony beds (up to 1m in thickness) in these trail pits were composed largely of sandstone clasts. The clasts were almost all fairly sharply sub-angular and showed little sign of abrasion. The matrix was clayey and often heavily iron/manganese-stained. In some cases there is only a sparse scattering of sandstone clasts in the soil and sub-soil (Tables 3 to 8).

Detailed laboratory examination of the bulk samples from this unit shows that the >2mm material consists exclusively of sandstone/siltstone clasts. The larger clasts (up to 30mm) and the bulk of the smaller clasts (<10mm) are subangular with a small proportion of sharply angular material. Many clasts are highly irregular in shape, with fine details of bedding, etc delicately etched out on the surface of the clast. There is however also a small proportion of well-rounded clasts, mainly in the <10mm fraction. Clasts of iron-cemented 'gravel' are common and some of the individual clasts, including some of the well-rounded specimens, have a complete ferruginous coating.

The bulk of the material in this sample shows little evidence of having been shaped by fluvial processes and would not look out of place in a weathered colluvial deposit. There is however a very small water-worn component and this must derive from fluvial deposits further upslope and/or further upstream.

The bulk samples did not contain any waterlogged seeds, charred seeds, charcoal, Mollusca, wood, bone or archaeological artefacts that would reveal any further information about the nature of the deposit (Table 9).

A few fragments of charcoal, brick and burnt flint were identified within the upper unit of silty clay in trial pit 302. Remnants of a posthole were also identified within the yellowish brown silty clay in trial pit 305. This is consistent with archaeological finds in the area (Cultural Heritage document).

In trial pit 306 and borehole 401 sediments (Tables 7 and 8) were comprised of large thickness of weald clay with several siltstone horizons. The stony clay unit was not present.

Table 3: Lithostratigraphic Descriptions of Trial Pit 302

Approximate Depth (m OD)	Approximate Depth (m from surface)	Sample Number	Context Number	Description
40.45-41.45	4.00-3.00	-	-	Light blue siltstone; sharp contact
41.45-42.55	3.00-1.90	-	-	Dark brown siltstone; sharp contact
42.55-43.25	1.90-1.40	-	-	Light grey silty clay; sharp contact
43.05-43.25	1.40-1.20	-	-	Reddish brown clay with pockets of fine silty sand; sharp contact
43.25-44.25	1.20-0.20	-	-	Orangey brown to light yellowish brown stony clay with infrequent fairly sharply sub-angular clasts; heavily manganese stained, structureless; diffuse contact
44.25-44.45	0.20-0.00	-	-	Light greyish brown silty clay; modern rooting; brick; charcoal

Table 4: Lithostratigraphic Descriptions of Trial Pit 303

Approximate Depth (m AOD)	Approximate Depth (m from surface)	Sample Number	Context Number	Description
40.66-41.76	3.80-2.70	-	69	Greyish brown very compacted, hard siltstone; sharp contact
41.76-42.16	2.70-2.30	-	68	Reddish brown very compacted, hard siltstone; diffuse contact
42.16-42.76	2.30-1.70	-	68	Reddish brown siltstone; sharp contact
42.76-43.71	1.70-0.75	-	67	Light grey siltstone; sharp contact
43.71-43.96	0.75-0.50	5	66	Orangey brown to yellowish brown stony clay with few fairly sharply sub-angular clasts; manganese stained, structureless; diffuse contact
43.96-44.11	0.50-0.35	4	66	Orangey brown stony clay with few fairly sharply sub-angular clasts; manganese stained, structureless; diffuse contact
44.11-44.46	0.35-0.00	-	65	Light greyish brown silty clay; modern rooting; brick; charcoal

Table 5: Lithostratigraphic Descriptions of Trial Pit 304

Approximate Depth (m AOD)	Approximate Depth (m from surface)	Sample Number	Context Number	Description
40.92-42.32	4.00-2.60	-	64	Light blue siltstone; sharp contact
42.32-43.02	2.60-1.90	-	64	Dark brown siltstone; sharp contact
43.02-43.72	1.90-1.20		64	Light brown slightly sandy clay; sharp contact
43.72-43.82	1.20-1.10	3	63	Brownish yellow stony clay with infrequent fairly sharply sub-angular clasts including Horsham Stone; heavily manganese stained, structureless; diffuse contact
43.82-44.47	1.10-0.45	2	63	Orangey brown to light yellowish brown stony clay with infrequent fairly sharply sub-angular clasts including Horsham Stone; heavily manganese stained, structureless; sharp contact
44.47-44.62	0.45-0.30	-	62	Yellowish brown clay; structureless; sharp contact
44.62-44.92	0.30-0.00	-	61	Light greyish brown silty clay; modern rooting

Table 6: Lithostratigraphic Descriptions of Trial Pit 305

Approximate Depth (m AOD)	Approximate Depth (m from surface)	Sample Number	Context Number	Description
41.47-41.87	4.40-4.00	-	60	Light grey siltstone; sharp contact
41.87-43.27	4.00-2.60	-	60	Dark brown siltstone; sharp contact
43.27-43.97	2.60-1.90	-	60	Light brown siltstone; sharp contact
43.97-44.67	1.90-1.20	-	60	Light brown clay; sharp contact
44.67-45.07	1.20-0.80	1	58	Orangey brown to light yellowish brown silty clay with infrequent fairly sharply sub-angular clasts including Horsham Stone; heavily manganese stained, structureless; diffuse contact
45.07-45.54	0.80-0.33	-	57	Yellowish brown clay; structureless; sharp contact. Post hole identified by Pre-construct Archaeology Ltd (Contexts 54-56)
45.54-45.87	0.33-0.00	-	52	Light greyish brown silty clay; burnt flint; modern rooting

Table 7: Lithostratigraphic Descriptions of Trial Pit 306

Approximate Depth (m OD)	Approximate Depth (m from surface)	Sample Number	Context Number	Description
42.86-43.36	4.50-4.00	-	-	Light grey siltstone; sharp contact
43.36-44.76	4.00-2.60	-	-	Dark brown clay; diffuse contact
44.76-45.46	2.60-1.90	-	-	Light brown clay; sharp contact
45.46-47.06	1.90-0.30	-	-	Yellowish brown clay; structureless; sharp contact
47.06-47.36	0.30-0.00	-	-	Light greyish brown silty clay; modern rooting

Table 8: Lithostratigraphic Descriptions of Borehole 401

Approximate Depth (m AOD)	Approximate Depth (m from surface)	Sample Number	Context Number	Description
44.58-46.98	5.00-2.60	-	-	Dark brown silty clay
46.98-49.58	2.60-0.30	-	-	Light brown silty clay
49.58-49.28	0.30-0.00	-	-	Light greyish brown silty clay

Table 9: Assessment of the bulk samples

Sample No.	Trial Pit	Depth (m from surface)	Fraction	W/L seeds	Charred seeds	Charcoal	Mollusca	Insects	Wood	Bone	Other
1	305	1.20-0.80	1mm	-	-	-	-	-	-	-	-
			300µm	-	-	-	-	-	-	-	-
2	304	1.10-0.45	1mm	-	-	-	-	-	-	-	-
			300µm	-	-	-	-	-	-	-	-
3	304	1.20-1.10	1mm	-	-	-	-	-	-	-	-
			300µm	-	-	-	-	-	-	-	-
4	303	0.50-0.35	1mm	-	-	-	-	-	-	-	-
			300µm	-	-	-	-	-	-	-	-
5	303	0.75-0.50	1mm	-	-	-	-	-	-	-	-
			300µm	-	-	-	-	-	-	-	-

Key:

- \- Absent
- \+ Present

CONCLUSION AND RECOMMENDATIONS

Previous findings and the evidence from the trial pits indicate that thin disturbed remnants of river deposits may be encountered within the tributary valley at levels a few metres above the present floodplain. It is recommended that future excavations within areas where the terrace gravels have been mapped should be monitored by an experienced geoarchaeologist. This will ensure that these potentially valuable terrace gravel deposits, other associated deposits (e.g. organic channel fills) and archaeological finds are not overlooked.

REFERENCES

Bonsall, C.J. 1977 *Gazetteer of Mesolithic sites in England and Wales,* CBA Research Report, No. 20

Gallois, R.W. and Worssam, B.C. 1993 *The Geology of the Country around Horsham. British Geological Survey*, HMSO

Green, C.P. and McGregor, D.F.M. 1987 River Terraces: A stratigraphic record of environmental change, In Gardiner, V. (ed) *International Geomorphology* 1986 Part 1, Wiley, 977-987

Heritage and Historical Resources, Extract from ES Cultural Heritage document, A24 Horsham to Capel

Thurrell, R.G., Worssam, B.C. & Edmonds, E.A. 1968 *Geology of the Country around Haslemere*, Memoir of the Geological Survey of Great Britain, HMSO

Wymer, J.J. 1999 *The Lower Palaeolithic Occupation of Britain*, Wessex Archaeology & English Heritage, Salisbury

APPENDIX 4: OASIS HER FORM

OASIS ID: preconst1-4475

Project details

Project name	A24 Horsham - Capel Road Improvement
Short description of the project	A watching brief on the route of the proposed A24 Horsham to Capel Road Improvement Scheme during a geotechnical investigation. Nine of the 89 trial pits revealed possible archaeological features. Disturbed river deposits were identified within four trial pits and twelve trial pits produced archaeological finds from the topsoil. The small quantity of dating evidence, generally recovered as residual or unstratified material, included struck flint and burnt flint probably reflecting prehistoric activity and later finds representing the late medieval and post-medieval periods.
Project dates	Start: 25-08-2004 End: 17-09-2004
Previous/future work	Yes / Yes
Any associated project reference codes	WHCR 04 - Site code
Type of project	Recording project
Site status	None
Current Land use	Cultivated Land 4 - Character Undetermined
Investigation type	'Watching Brief'
Prompt	unknown

Project location

Country	England
Site location	WEST SUSSEX HORSHAM HORSHAM A24 Horsham - Capel Road Improvement
Study area	6 Kilometres
National grid ref	TQ 1685 3340 Line
National grid ref	TQ 1708 3965 Line
Height OD	Min: 44.2m Max: 99.3m

Project creators

Name of Organisation	Pre-Construct Archaeology Ltd
Project brief originator	unknown
Project design originator	David Divers
Project director/manager	David Divers
Project supervisor	Kathelen Sayer
Sponsor or funding body	Structural Soils

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	The A24 Horsham - Capel Road Improvement: Watching Brief
Author	Sayer, K
Date	2004
Issuer or publisher	Pre-Construct Archaeology
Place of issue or publication	London
Description	Watching Brief report' A4 document

Entered by	David Divers (ddivers@pre-construct.com)
Entered on	17 November 2004