

An Archaeological Watching Brief for Pipeline Excavation and Re-Excavation Works at Bellefield Road, Orpington, London Borough of Bromley

Site Code: BFF05

Central National Grid Reference: TQ 4668 6757

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September 2009**

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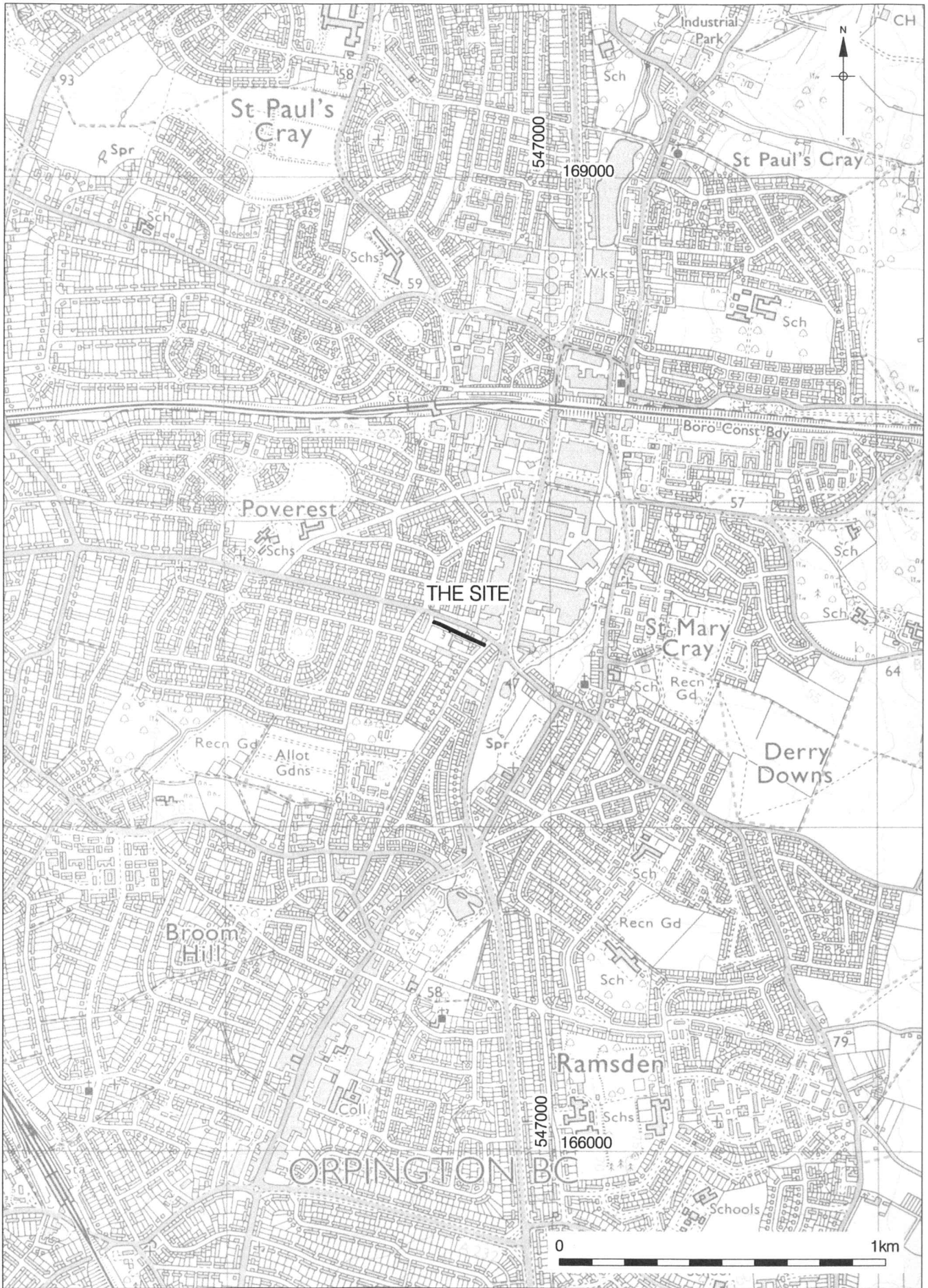
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1 ABSTRACT

- 1.1 This report details the results and working methods of an archaeological watching brief undertaken on a linear trench excavated for the installation of a replacement water pipe plus seven additional trenches excavated within the area of the original water pipe. All these works were located in Bellefield Road, which lies within the London Borough of Bromley. The watching brief was commissioned by Thames Water Plc and was undertaken between 22nd April and 24th July 2009.
- 1.2 All of the excavated areas were located within the existing carriageway and included an east-west linear transect through a Scheduled Monument (SAM 145, Trenches A and C), as well as seven further trenches to the east and outside the scheduled area (trenches D-I)
- 1.3 During the watching brief natural drift geology was partly revealed beneath a sequence of deposits, the earliest of which contained artefacts of Roman date. A relatively sterile soil sealed this Roman horizon and this was likely to represent colluvial sediment that formed gradually over an extended period. Post-medieval activity in the form of service cuts and a roughly cobbled track way either overlaid or truncated the earlier deposits and modern levelling deposits. Numerous modern service cuts were seen to either overlay or cut through the cobbled track way. The existing tarmac surface represented the most recent deposit recorded.

2 INTRODUCTION

- 2.1 An archaeological watching brief commissioned by Thames Water Plc was undertaken between 22nd April and 24th July 2009. The work comprised a linear trench excavated for the installation of a replacement water pipe plus seven additional trenches excavated within the area of the original water pipe. All these works were located in Bellefield Road, which lies within the London Borough of Bromley (Figure 1).
- 2.2 The bulk of the excavations comprised linear pipe trench (Trench A), which commenced at approximately 10.00m from the western end of Bellefield Road and extended eastwards for approximately 120m. This trench lay completely within an area designated as a Scheduled Ancient Monument (SAM).
- 2.3 Trench A was re-excavated because part of Bellefield Road comprises a Scheduled Ancient Monument: Roman Bath House and Saxon Cemetery (SAM 145). Although Scheduled Monument consent was obtained for the pipeline works, part of Trench A was not excavated under archaeological supervision. Therefore, the Inspector of Ancient Monuments, Dr Jane Sidell, stipulated that the unsupervised section of the trench should be re-excavated and the other, unexcavated trenches should be excavated under archaeological supervision and then recorded archaeologically.
- 2.4 Beyond the eastern end of Trench A, seven rectangular trenches were excavated (Trenches C-I) The westernmost of these (Trench C) delineated the approximate limit of the Scheduled Area and was connected to the eastern end of Trench A by an oblique spur trench, recorded as part of Trench C. Of the remaining trenches, Trench D was located a further 24.00m to the east, and Trench E was 15.00m beyond this. Trench F was located to the east of Trench D, Trench G was located to the east of Trench F, Trench H was located to the east of Trench F and Trench I was located between Trenches G and E (Figure 2). Trench B was located to the north of Trench A, in an area previously used as a compound. Investigations here showed that the SAM was not disturbed during the use of the area as a compound and therefore no further work was carried out in this area.
- 2.5 The archaeological watching brief was carried out as specified in the Written Scheme of Investigation (Hawkins 2009) and with Scheduled Monument Consent where required.
- 2.6 The site was centred on National Grid Reference TQ 4668 6757.
- 2.7 The pipeline trench was excavated by the contract workers to a depth of between 0.75m and 1.20m below current ground level and was recorded as an archaeological watching brief.
- 2.8 The work was commissioned by Thames Water Plc. The project was managed for Pre-Construct Archaeology by Helen Hawkins and archaeologically monitored by; Stuart Watson, Will Johnson, Ireneo Grosso, Jim Heathcote and the author. The project was managed for Thames Water Plc by Mike Lang Hall and Claire Hallybone and monitored by Dr Jane Sidell, Inspector of Ancient Monuments at English Heritage and Mark Stevenson of the Greater London Archaeological Advisory Service (GLAAS).
- 2.9 The site was assigned the code BFF05.



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Figure 1
Site Location
1:16,000 at A4

3 PLANNING BACKGROUND

- 3.1 The Watching Brief was located within one of London Borough of Bromley's Areas of Archaeological Significance and also lies within part of a Scheduled Ancient Monument: Roman Bathhouse & Saxon Cemetery (SAM 145). The following is a summary of the Borough's Unitary Development Plan:

ANCIENT MONUMENTS AND ARCHAEOLOGY; POLICY BE16

Planning permission will not be granted for development that would adversely affect scheduled ancient monuments or other nationally important archaeological sites, involve significant alterations to them or harm their settings. When considering planning applications for development involving excavation or other ground works the Council will require that

- (i) *within Areas of Archaeological Significance, as defined on the Proposals Map and listed in Appendix IV, a written statement of the likely is submitted in the form of an archaeological assessment (which can be desk based); where necessary information cannot be obtained by other means, an archaeological field evaluation should be carried out prior to determination;*
- (ii) *at sites of potential archaeological importance (as defined below), where permanent preservation in situ is not justified, provision shall be made for an appropriate level of investigation and recording to be undertaken by a recognised archaeological organisation before any development commences. Where investigations indicate that in situ preservation is inappropriate, excavation and recovery should be carried out by a reputable archaeological body, before development commences. Any such investigations shall be in accordance with a detailed scheme to be approved in advance by the Council and the results shall be subsequently published. Where in situ preservation is appropriate, suitable designs, land uses and management strategies will be required and the Council's archaeology strategy promoted.*

Ancient monuments and archaeological remains constitute the principal surviving evidence of the Borough's past. However they are vulnerable to modern development and changes in land use and are easily lost or damaged. The Council considers that preservation of archaeological sites and ancient monuments is a legitimate objective against which the demands of development must be balanced and fully assessed. The destruction of such remains should be avoided and should never take place without prior archaeological excavation and record.

In addition to Areas of Archaeological Significance, there are locations outside these defined boundaries where archaeological remains have been found and where there may be potential for further finds. Where development is proposed within an Area of Archaeological Significance (as shown on the Proposals Map), or near a site of archaeological potential, the Council will require a preliminary archaeological site evaluation before proposals are considered. The council will seek the appropriate professional advice and will require applicants proposing development to do the same. Where the Council considers it appropriate, detailed investigation shall be carried out to an agreed written specification of work by a professionally qualified archaeological organisation or archaeological consultant.

The Council will encourage early co-operation between landowners, developers and archaeologists in accordance with the Developers Liaison Group Code of Practice, and by attaching appropriate conditions to planning consents, and/or negotiate appropriate planning obligations (section 106 agreements).

It is important to increase public awareness of the historical and archaeological heritage of the Borough and to encourage its effective management as an educational and recreational resource. The Council will promote the conservation, protection and

enhancement of ancient monuments and archaeological sites and their interpretation and presentation to the public.

The following sites in the Borough have been scheduled as Ancient Monuments:

- (i) Fordcroft, Poverest Road, Orpington – Romano-British Site/Anglo Saxon Cemetery*
- (ii) Caesar's Camp, Holwood Park, Keston - Iron Age hill fort*
- (iii) Camp on Keston Common, Keston – earthworks*
- (iv) The Temple, west of Keston Court, Westerham Road, Keston –Romano British mausoleum*
- (v) Romano-British villa, Crofton Road, Orpington*
- (vi) St.Botolph's Church, Ruxley - former medieval church on site of earlier church*
- (vii) Romano-British site, Wickham Court Farm, West Wickham – site of substantial Romano British settlement*
- (viii) Ice Well at High Elms.*

Sites (i), (iii), (iv), (v), (vii) and (viii) are owned by the Council.

The Council has published its Archaeological Strategy and will seek to use the planning process to implement its objectives. The Strategy provides a framework for dealing with archaeological issues and draws upon Planning Policy Guidance Note 16: Archaeology and Planning published by the Department of the Environment in 1990. Supplementary planning guidance will be prepared on archaeological issues and the preparation of statements.

4 GEOLOGY AND TOPOGRAPHY

- 4.1 Bellefield Road is located within the valley of the River Cray some 200m to the west of the river. The area slopes gently down from west (52.35m OD) to east (47.24m OD). Immediately to the west, beyond Bellefield Road this slope increases in steepness as it climbs towards Poverest. Although no watercourses or bodies of water lie within the area of the Scheduled Monument, the presence of the Roman Bath House at the base of the hill could suggest the presence of a spring line somewhere.
- 4.2 The British Geological Survey (England and Wales Sheet 271) indicates that the underlying solid geology of the site is Solid Upper Chalk. This is overlain by alluvium and River Terrace gravel (Taplow Gravel), which itself is overlain by naturally deposited sandy silt termed as 'Brickearth'. These deposits represent the natural Drift Geology of the area.
- 4.3 An evaluation immediately to the south of Trench A within the former H Smith Yard revealed the Taplow Gravel at levels between 47.23m OD and 47.43m OD. This was overlain by Brickearth, which sloped down towards the east at a height of between 47.92m OD at the west of the site and 46.20m OD at the east (Wragg 2003).
- 4.4 Due to the relatively shallow depth of the excavations that comprised this phase of work, only a very limited extent of the drift deposits was revealed. However a sequence of colluvial deposits was encountered that indicate a degree of slope erosion has occurred, probably during the Roman and post-Roman period. These erosional sediments are likely to have formed over an extended period, until the slope of the hill had been fully stabilised by the deposition of impermeable surfaces or well established vegetation.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 The following text has been extracted from the 2008 assessment report written for the archaeological investigations at the former H Smith Yard and Bellefield Road (Taylor 2008). This assessment itself drew heavily from a number of documents pertinent to an understanding of the archaeology of the Fordcroft area (Densem & Potter 2002; Philp & Keller 1995; Meekums 2001; Wragg 2003).

5.2 Prehistoric

5.2.1 Mesolithic activity is well documented within the Cray Valley. In the immediate vicinity of the site Mesolithic flint artefacts were found at 64 May Avenue to the north, and a scatter of Mesolithic tools and flint waste were recorded at Poverest Road. In 2003 an evaluation in the east of the former H Smith Yard recovered a mixed assemblage of struck and burnt flints including one struck flint blade, one multi-platformed flint core and one struck flint flake of probable Mesolithic date. One sherd of pottery of possible Iron Age date was found residually during the evaluation (Wragg 2003; 2004). Further work undertaken within the former H Smith Yard undertaken by PCA in 2005 (Taylor 2008) revealed a burnt tree throw containing artefacts of Bronze Age date.

5.3 Roman

5.3.1 There is substantial evidence for Roman activity throughout the Cray Valley including the area surrounding the study site. Approximately 200m to the north of the site a small Roman cremation cemetery was recorded at 34 May Avenue; a corn drying oven and pit were recorded near Lower Road; a ditch was excavated at Kent Road; areas of metalling and quarry pits were recorded at Wellington Road; 376 silver denarii were found in a hoard at Forest Way; and Roman pottery and building material was recovered from a garden in Chelsfield Road.

5.3.2 The remains of a Romano- British bathhouse stands to the immediate north of Bellefield Road and to the west of this, excavations have revealed the presence of a kiln or furnace, outbuildings, metallised surfaces, a courtyard and an animal urine soakaway or flue. Excavations to the east of the bathhouse revealed a ditch, several pits, postholes and an area of flint rubble dating to this period. Romano-British pottery was recovered in 1946 from a sewer trench being dug along Bellefield Road itself and also during subsequent excavations undertaken to the immediate east and south of the former H Smith Yard. During 2005, further excavations within the former H Smith Yard revealed more evidence of Roman activity, which possibly relates to industrial processes. Additionally works undertaken between 2006 and 2007 within Bellefield Road itself revealed part of the southern wall of the Roman Bathhouse (Taylor 2008).

5.4 Saxon

5.4.1 Excavations to the northeast and east of the bathhouse revealed a Saxon cemetery containing 71 burials dating from the mid 5th to 6th century. Ten burials were recorded in close proximity to the bathhouse during later excavations, and a further burial was found to the west of the bathhouse. An isolated grubenhaus or SFB was recorded in excavations at 10-20 Kent Road some 300m to the east of the site. During the 2005-2006 excavations in Bellefield Road four more graves of Saxon date were discovered (Taylor 2008).

5.5 Medieval

5.5.1 The River Cray is first attested in AD 798, the name meaning clean or pure. The settlement at Sudcrai is mentioned in the Domesday Book, meaning south of the Cray. The parish church of St Mary Cray, standing on the other side of the river, on the High Street 750m north east of the site, dates to the thirteenth century, by which time the settlement is documented as Creye Sancte Marie. The settlement is thought

to have comprised a small town, concentrated along the High Street. A medieval burnt clay hearth was discovered during excavations to the north of the site. The study site is thought to have comprised open farmland during this period.

5.6 **Post-Medieval**

- 5.6.1 The maps of the 16th century showing St Mary Cray indicate that the land around the area west of the river was open. However the 1864 map evidence shows that by the later 19th century the area around and including Bellefield Road was enclosed farmland. By 1894-6 the Ordnance Survey map shows that Bellefield Road and associated housing to the north of the road had been established. Later maps show few changes to the immediate area, although from 1909 until 1950 allotment gardens are shown to the south of Bellefield Road. Later developments respected the line of Bellefield Road, which remains today on its original alignment.

6 ARCHAEOLOGICAL METHODOLOGY

- 6.1 The watching brief was implemented to monitor groundworks associated with the re-excavation of a pipeline along Bellefield Road and its continued excavation along Bellefield Road.
- 6.2 The previously excavated section of trench was re-excavated using both a mechanical excavator and hand tools to the depth of the original excavations. The trench was then planned, the sections recorded and context numbers allocated for the various deposits encountered.
- 6.3 The location of the new trenches was marked out by the contractors and the existing tarmac surface of around 0.14m thickness was cut using a circular disc cutter. This was then broken for removal using a pneumatic chisel attached to a small mechanical excavator and then removed both by hand and mechanically to expose the surface of the underlying deposits. These deposits were excavated using both the small mechanical excavator and a variety of hand tools appropriate to both the substrate and the numerous live services encountered. The spoil was removed from the trench either by hand or mechanically. The required depth of the trenches varied from between 0.75m to 1.20m below the existing ground surface.
- 6.4 An archaeologist monitored the excavation of all of the trenches.
- 6.5 All recording systems employed were fully compatible with those used elsewhere in London; that is those developed out of the Department of Urban Archaeology Site Manual, now published by the Museum of London Archaeology Service (MoLAS 1994).
- 6.6 Additional plans were drawn at 1:500 and a 1:200, which located the trenches within the surrounding topography.
- 6.7 A detailed description of all archaeological strata exposed was recorded on pro-forma recording sheets.
- 6.8 Excavated spoil was inspected for finds and indications of archaeologically significant deposits where safe to do so.

7 SUMMARY OF THE ARCHAEOLOGICAL SEQUENCE

7.1 Excavated and recorded phases

7.1.1 Of the five phases identified, only the final two (phase 4, post-medieval and phase 5, modern) were actually encountered within the footprint of the excavated trenches. The remaining three were only revealed within the trench sections after hand cleaning with a trowel.

7.2 Phase 1: Natural drift geology

7.2.1 The earliest deposits revealed comprised a dark orangish-brown silty clay [2011] and a mottled mid brownish-grey and mid greyish yellow sandy silt [2056]/[2078] (figure 3). Deposit [2011] was located approximately 19.00m from the eastern end of Trench A at a depth of 0.80m below existing ground surface (approximately 48.55m OD), whilst context [2056] was located within Trench C at a depth of 0.95m below existing ground level (approximately 47.65m OD). Context [2078] was identified in Trench I at c. 0.85m below ground level.

7.2.2 These deposits are believed to represent in-situ drift geology, previously referred to as Brickearth. The formation process is uncertain, possibly periglacial windblown sediments, although the presence of small pebble inclusions within context [2056] combined with its mottled appearance does suggest some subsequent reworking, possibly through bioturbation or erosional processes.

7.3 Phase 2: Roman

7.3.1 Features of definitive Roman date were generally lacking, although a small 0.25m wide steep sided cut was revealed within the northern edge of Trench C at a level of approximately 47.80m OD (context [2058], Figure 3). This contained a single fill [2057] which comprised a mottled dark grey and mid greyish-brown sandy silt (figure 3). No dating evidence was retrieved from this deposit, however because of the features close proximity to the Roman Scheduled Monument and the fact that the overlying deposit contained un-abraded Roman ceramics, it seems likely that this cut is also of Roman date. The cut was only revealed in section because, as discussed previously the trench itself comprised only service cut infilling. This makes any meaningful interpretation for the feature difficult; however the narrowness of the cut and pointed profile would seem to suggest a possible posthole, although this of course is by no means certain.

7.3.2 Overlying this cut was a 0.24m thick layer of dark brownish-grey fine sandy silt containing very occasional pebbles and flint nodules with a surface level of approximately 47.80m OD [2055] (figure 3). This was only revealed in the south facing trench section, although whilst cleaning with a trowel a large fragment of un-abraded Roman tile, as well as fragments of Roman ceramics were recovered. This deposit is believed to equate to a dark soil horizon that was also revealed periodically within the north facing section of Trench A (contexts [2004], [2008], [2042]), discussed below.

7.3.3 Context [2004] was located approximately 1.60m to the west of [2055], at the eastern end of Trench A. The deposit was only partly revealed in the north facing trench section where it appeared as a dark greyish-brown fine silty-sand with a surface level of approximately 48.00m OD. This also contained occasional small rounded pebbles and was around 0.35m thick. However the narrowness of the trench and contrasting light conditions made subtle colours very difficult to discern with accuracy, which made accurate recording of deposit thicknesses difficult. The context contained CBM and ceramics as well as iron nails.

7.3.4 Context [2042] was located approximately 6.20m further to the west of [2004], also within Trench A. This was only partly revealed within the north facing section where it

appeared as a dark brownish-grey fine sandy-silt with a surface level of approximately 47.95m OD. It also contained very occasional pebbles and moderate flint nodules and was around 0.30m thick. This context also contained CBM and ceramics as well as metal, struck flint and fragments of daub.

- 7.3.5 Context [2008] was located approximately 37.50m to the west of [2042], approximately midway along the length of Trench A. The deposit was only partly revealed within the south facing trench section and comprised a dark brownish-grey fine silty-clay with no visible inclusions. The deposit had a surface level of approximately 49.15m OD and was partly excavated to a depth of around 0.10m.
- 7.3.6 Context [2077] was identified in Trench I within the north facing section. The deposit comprised a mid grey brown fine sandy silt and was 0.50m thick.
- 7.3.7 These deposits when combined are believed to comprise the remains of an extensive layer of dark soil of probable Roman or immediate post-Roman date. The formation process itself is undoubtedly natural, possibly colluvial or in-situ organic decomposition that is typical of areas of Roman activity. The presence of large un-abraded fragments of Roman material indicate that the source material is unlikely to have moved far from its original position and it is highly likely that should an area of this deposit be revealed in plan cut features of archaeological significance would be revealed.

7.4 **Phase 3: post-Roman**

- 7.4.1 Overlying the previously described sequence of deposits within Trenches A and C was a relatively sterile homogenous soil horizon, which as with the previously discussed phases was only revealed in the trench sections.
- 7.4.2 Context [2054] was located within Trench C and overlay deposit [2055]. The deposit appeared as a mid greyish-brown fine silty-sand with a surface level of approximately 48.00m OD. It contained occasional small pebbles, carbon and chalk fragments and was around 0.29m thick. This deposit is believed to equate to a similar homogenous soil horizon revealed within the north and south facing sections of Trench A (contexts [2007], [2010/2025], [2023], [2024], [2046]), discussed below.
- 7.4.3 Deposit [2046] was located approximately 1.60m to the west of [2054], at the eastern end of Trench A. The deposit was a 0.35m thick mid greyish-brown fine silty-sand containing occasional small rounded pebbles with a surface level of approximately 48.25m OD. This context contained CBM and ceramics of post-Roman date.
- 7.4.4 Context [2010/2025] was located approximately 15.50m further to the west of [2046], within the south facing section of Trench A. Here the deposit appeared as a mid orangey-brown silty clay with a surface level of approximately 48.95m OD. This also contained occasional pebbles and chalk fragments and was c. 0.40m thick.
- 7.4.5 Context [2007] was a generic number used within the remaining parts of Trench A and is equivalent to both contexts [2023] and [2024]. Its eastern limit was recorded within the north facing section of the trench approximately 16.00m to the west of [2046] and directly opposite context [2010-2025]. From this point it extended almost uninterrupted for approximately 82.00m westwards where it was recorded both within the north and the south facing trench sections. Because of the length over which this deposit was recorded and the natural slope of the topography the surface level varied from approximately 48.95m OD at its eastern end to around 50.55m OD at the western extent. Around 0.60m of the surface of this deposit was seen again a further 15.00m to the west, and here the surface level was recorded at 50.85m. Generally the deposit appeared as a mid to dark orangey-brown silty clay with few inclusions, except some occasional small pebbles and small CBM and chalk fragments.

7.4.6 The above contexts, when combined are believed to comprise the remains of an extensive soil layer of post-Roman date. The formation process is believed to be natural, although the similarity between this deposit and some of the infilling deposits of the earlier service cuts may have resulted in some misinterpretation of the deposits revealed. However in general terms it is clear that a fairly extensive deposit of naturally derived soil does exist, which is likely to be colluvial in origin. Its formation is likely to represent gradual processes over an extended period and the general lack of anthropogenic material when compared with the underlying Roman deposits may indicate its formation during periods of little direct human activity.

7.5 **Phase 4: post-medieval**

7.5.1 Although almost half of the deposits and features monitored date to the post-medieval period, these in general comprise levelling deposits and service cuts, which are of little interest archaeologically. Consequently the bulk of these contexts will only be discussed briefly, although some expanded discussion will be included if deemed to be of sufficient interest. Additionally post-medieval deposits represent the earliest deposits encountered within Trenches D and E and as a consequence these trenches are included within the subsequent discussion. All of the deposits referenced below are within Trench A unless otherwise stated.

7.5.2 Linear cuts [2037] and [2062] in Trench C probably represent the earliest post medieval features found on the site. Within cut [2062] an iron service pipe was still in-situ and it is possible that the partly excavated cut [2037] also contained a similar service. Both these cuts were sealed by a layer of chalk, lain as the initial levelling deposit for a metalled track way. A third cut [2032] contained a similar infilling material and may be contemporary.

7.5.3 Chalk levelling deposits [2006], [2030], [2045] and [2051] in Trench C (Figure 3, Figure 4) are all believed to have been lain as the initial construction phase of a metalled track way, as each comprise a compacted layer of clean crushed chalk that varies in thickness from 0.05m to 0.25m. The variation in thickness for this layer is likely to be associated with a deliberate camber on the track way rather than degrees of truncation. This hypothesis cannot be proven as it was only within Trench C that the metalled track way was seen to survive on top of the chalk.

7.5.4 Metalled surfacing deposits [2052] and [2050] were both recorded within Trench C (Figure 3) and represent two phases of surfacing. The earliest deposit comprised a single layer of fairly large compacted flint nodules (context [2052]) around 0.03m thick, within which was a single fragment of CBM. In contrast the second phase of surfacing (context [2050]) was 0.11m thick and comprised smaller rounded pebbles containing numerous ceramic, glass and metal fragments. As mentioned previously this surface is believed to equate to that first shown on the map dated to 1894-96.

7.5.5 The remaining contexts within this phase are all likely to post date the construction of the previously discussed surface and comprised either a series of rough levelling or demolition deposits or service cuts. Of the levelling deposits, context [2065] represented the earliest deposit revealed in Trench D context [2070] was the earliest deposit in Trench E, whilst the remainder were within Trench A (contexts [2017], [2018], [2026], [2027], [2044] and [2045]).

7.5.6 The recorded service cuts were all within Trench A (contexts [2016], [2029], [2035], [2039], [2041] and [2048]) and each contained a single fill deposit.

7.6 **Phase 5: Modern**

7.6.1 As with the previously discussed phase the contexts designated as modern comprise a series of levelling or demolition deposits or service cuts. Context [2059] was revealed in Trench C (Figure 3) and context [2064] in Trench D. The remainder were within Trench A (contexts [2001], [2002], [2005], [2014], [2031] and [2047]).

- 7.6.2 Of the service cuts, context [2060] was revealed in Trench C (Figure 3), cut [2066] was revealed in Trench D and context [2069] was recorded in Trench E. The remainder were within Trench A (contexts [2013], [2020] and [2022]). Each contained a single fill deposit.
- 7.6.3 Trench F contained a number of service cuts and fills for a gas main and water pipe. These comprised [2072], [2073], [2074], [2075] and [2076]. Context [2071] was a brick rubble makeup layer for the road surface.
- 7.6.4 Trench I also contained service cuts cutting through the possible Roman colluvial layer [2077]. These comprised [2080], [2081] and [2082]. Layer [2079] comprised a rubble makeup layer for the modern road surface.
- 7.6.5 The remaining context [2049] (Figure 3) was a generic number allocated for the existing tarmac road surface which represented the latest deposit recorded within each trench.

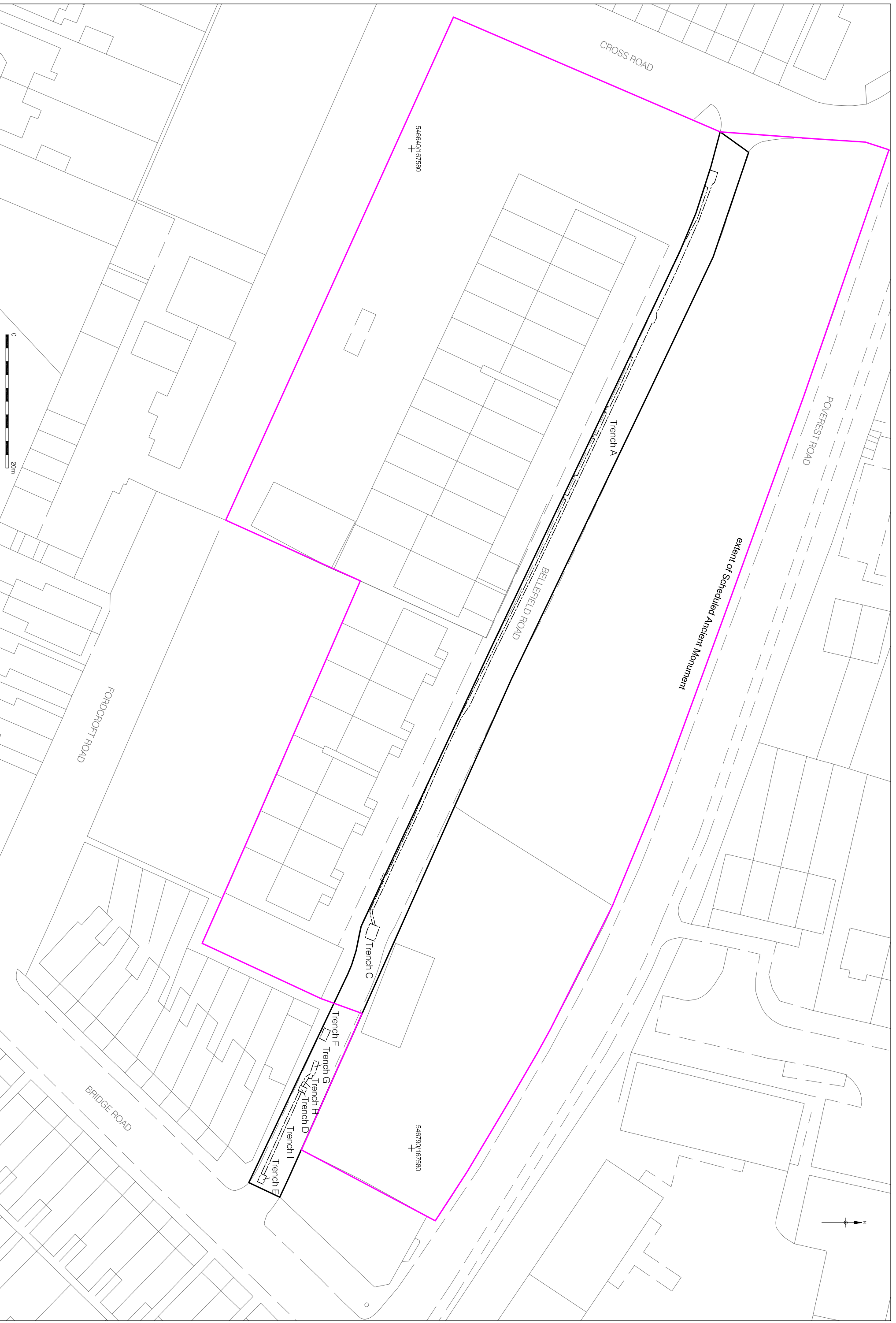
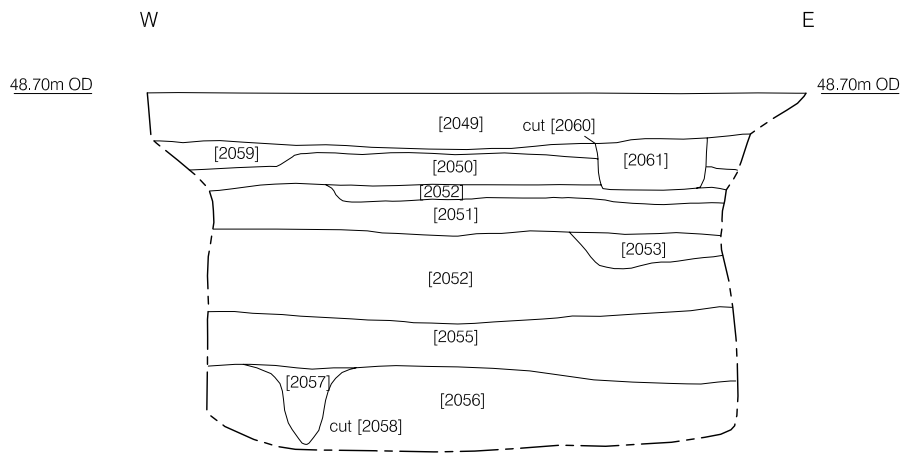
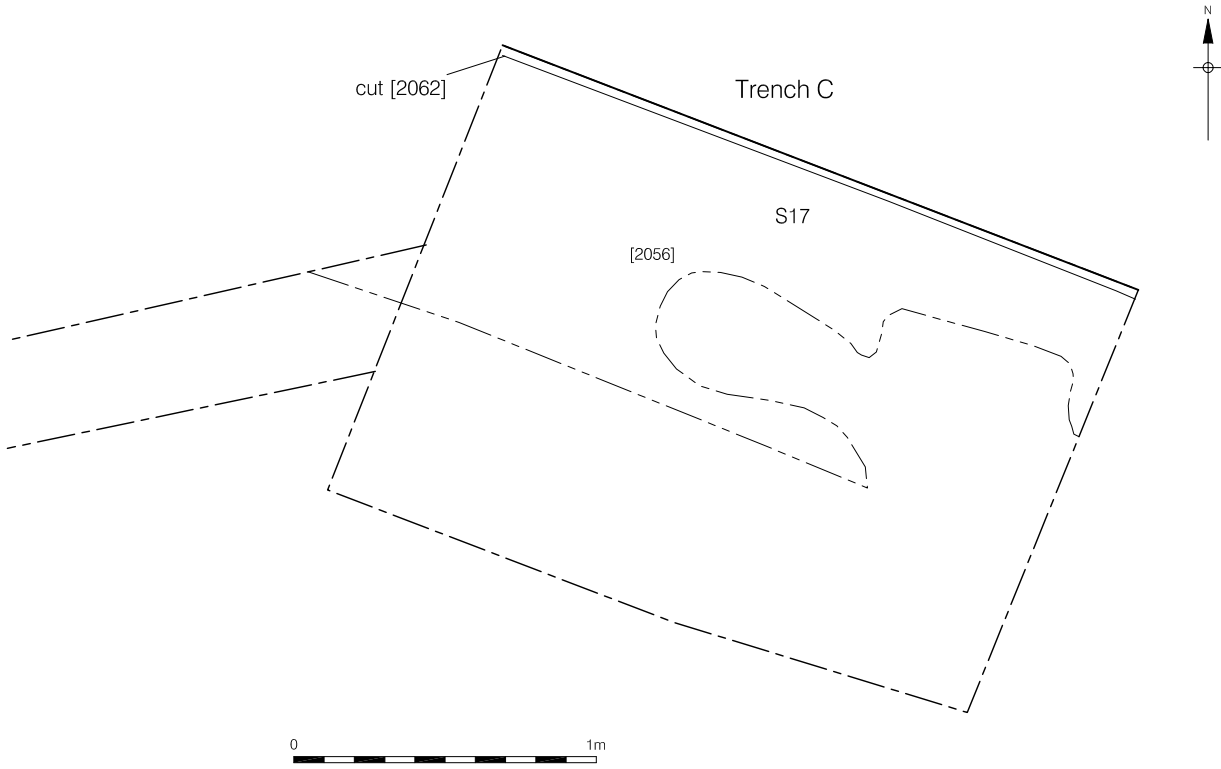


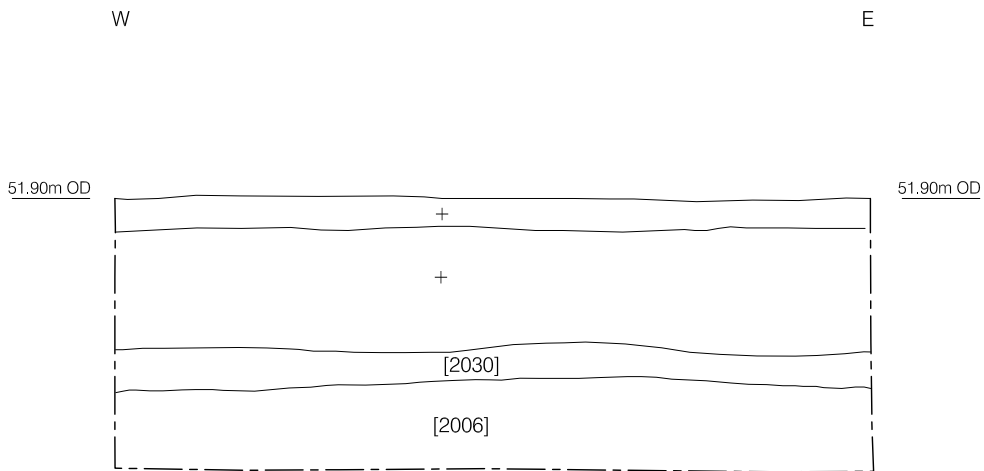
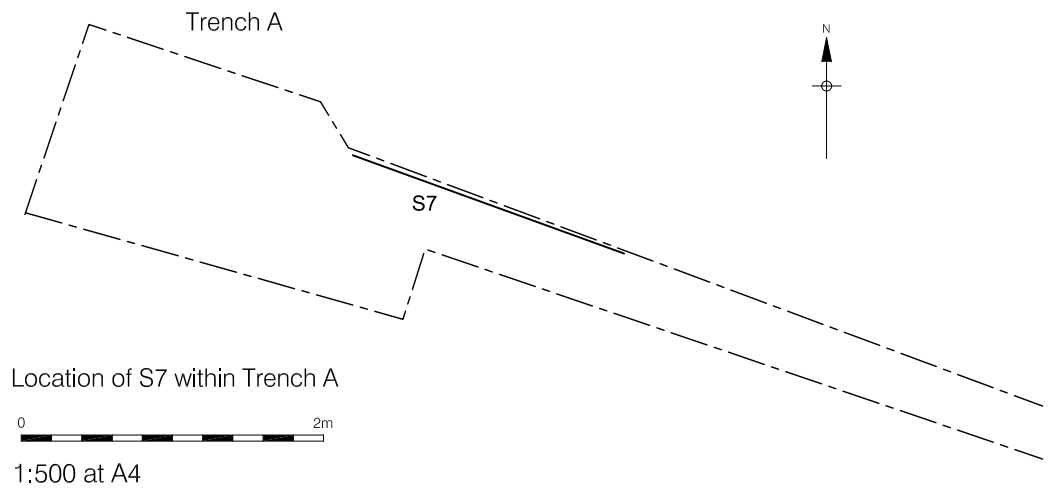
Figure 2
Trench Location
1:500 at A3



Section 17
Trench C South facing



Figure 3
Plan and section of Trench C
1:25 at A4



Section 7
Trench A South facing



Figure 4
Section 7
1:25 at A4

8 INTERPRETATION AND CONCLUSIONS:

- 8.1 The objectives of the archaeological works were identified within the Written Scheme of Investigation (WSI):
- *Examine and record the nature and depth of any exposed archaeological deposits or features.*
 - *To assess the extent of any damage to archaeologically sensitive deposits caused by the insertion of the pipe.*
- 8.2 These objectives were achieved and the results are summarised below:
- 8.2.1 The watching brief established that the excavation of all the trenches comprised mainly the removal of infilling deposits associated with the insertion of earlier services or post-medieval levelling deposits. However whether this was also the case within the excavated length of Trench A, which was previously undertaken without archaeological supervision, is unclear.
- 8.2.2 Cleaning of the sections revealed the presence of undisturbed mainly naturally derived soils within the sections of Trenches A and C, although these deposits were of a localised nature.
- 8.2.3 The excavation of Trenches A and C also established, albeit to a localised extent the depth of the in-situ drift geology, which is likely to represent a periglacial windblown sediment. It is interesting to note that the natural drift geology was only revealed within the eastern end of the Trench A and within Trench C. This may indicate that the depth of the overlying soil increases towards the west, although whether this is due to truncation of the natural soil or the natural topographical profile is unclear.
- 8.2.4 Also within Trenches A and C an extensive layer of dark soil was identified, which to judge by the presence of large un-abraded fragments of Roman material is unlikely to have moved far from its original position. This deposit is clearly of Roman or immediate post-Roman date and it is highly likely that it represents the level at which features of archaeological significance would be revealed.
- 8.2.5 Overlying this horizon was a fairly extensive deposit of naturally derived soil, which is likely to be colluvial in origin. Its formation is likely to represent gradual processes over an extended period and the general lack of anthropogenic material when compared with the underlying Roman deposits is believed to indicate its formation during periods of little direct human activity.
- 8.2.6 It is clear that post-medieval and modern deposits form a substantial percentage of the soils which lie beneath Bellefield Road. Also it has been established that there are post medieval service cuts which predate the late 19th century metalled trackway. However within these deposits it is also clear that elements of the earlier soil horizon do remain, probably as isolated blocks of intact Roman and post-Roman stratigraphy.

9 ACKNOWLEDGEMENTS

- 9.1 Pre-Construct Archaeology Limited would like to thank Claire Hallybone and Mike Lang Hall of Thames Water Plc for commissioning the project and Skanska who carried out the work.
- 9.2 The author would like to Stuart Watson, Will Johnson, Ireneo Grosso and Jim Heathcote for carrying out the site work, Helen Hawkins for her project management and the construction crew for their on-site co-operation. Illustrations were produced by Josephine Brown.

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Appendix 1 Context Register

Conte xt No	Sect/ elev No	Plan No	Trench	Type	Description	Interpretation	date
2000	1	n/a	B		VOID		
2001	2	n/a	A	layer	mid yellow-brown silty clay	levelling deposit	modern ?
2002	2	n/a	A	layer	dark yellow-brown sandy silt	levelling deposit	modern ?
2003	2	n/a	A	layer	dark greyish-brown sandy silt	levelling or fill deposit	post-medieval
2004	2 & 3	n/a	A	layer	dark greyish-brown sandy silt	Roman colluvium ?	late Roman ?
2005	3	n/a	A	layer	dark greyish-brown sandy silt	levelling or fill deposit	post-medieval
2006	4, 5, 7, 9 & 11	n/a	A	layer	light greyish white chalk	levelling deposit	post-medieval
2007	4, 5 & 7	n/a	A	layer	mid orangish brown silty clay	colluvium ?	post Roman?
2008	4	n/a	A	layer	dark brownish-grey silty clay	Roman colluvium ?	late Roman ?
2009	6	n/a	A	layer	dark brownish-black sandy silt	levelling deposit	post-medieval
2010	6	n/a	A	layer	mid orangish brown silty clay	colluvium ?	post Roman?
2011	6	n/a	A	layer	dark orangish brown sandy clay	drift geology ?	periglacial ?
2012	7	n/a	A	fill	mixed sandy silt, CBM and pebbles	fill of [2013]	modern
2013	n/a	n/a	A	cut	linear cut	service cut	modern
2014	8	n/a	A	layer	mid yellow-brown coarse sand	levelling deposit	modern
2015	9 & 11	n/a	A	fill	mid greyish-brown clayey silt	fill of [2016]	post-medieval ?
2016	9 & 11	n/a	A	cut	linear cut	service cut	post-medieval ?
2017	11	n/a	A	layer	mid greyish-brown clayey silt & gravel	levelling deposit	post-medieval
2018	11	n/a	A	fill	mid greyish-brown clayey silt	levelling deposit	post-medieval ?
2019	7	n/a	A	fill	dark greyish-brown clayey silt	fill of [2020]	modern
2020	7	n/a	A	cut	linear cut	service cut	modern
2021	7	n/a	A	fill	dark greyish-brown sandy clay	fill of [2022]	undated
2022	7	n/a	A	cut	linear cut ?	cut	undated
2023	12	n/a	A	layer	mid reddish-brown	colluvium ?	post Roman?

Conte xt No	Sect/ elev No	Plan No	Trench	Type	Description	Interpretation	date
					clayey silt		
2024	13	n/a	A	layer	mixed greyish and reddish-brown clayey silt	colluvium ?	post Roman?
2025	6	n/a	A	layer	mid reddish-brown clayey silt	colluvium ?	post Roman?
2026	13	n/a	A	layer	dark brownish-grey sandy silt	working debris	post-medieval
2027	7	n/a	A	layer	mid reddish-brown clayey silt	levelling deposit	post-medieval
2028	14	n/a	A	fill	mid reddish-brown clayey silt	fill of [2029]	post-medieval ?
2029	14	n/a	A	cut	linear cut ?	service cut ?	post-medieval ?
2030	7 & 14	n/a	A	layer	mid grey chalk fragments	levelling deposit	post-medieval
2031	7 & 14	n/a	A	layer	dark reddish-brown sandy silt	levelling deposit	modern ?
2032	7	n/a	A	fill	mid-brown sandy clay	fill of [2033]	undated
2033	7	n/a	A	cut	cut	uncertain	undated
2034	7 & 14	n/a	A	fill	dark greyish-brown sandy clay	fill of [2035]	post-medieval ?
2035	7 & 14	n/a	A	cut	linear cut	service cut ?	post-medieval ?
2036	7 & 14	n/a	A	fill	dark greyish-brown clayey silt	fill of [2037]	post-medieval
2037	7 & 14	n/a	A	cut	cut	service cut ?	post-medieval
2038	7 & 14	n/a	A	fill	dark brown clayey silt	fill of [2039]	post-medieval
2039	7 & 14	n/a	A	cut	linear cut	service cut ?	post-medieval
2040	7	n/a	A	fill	dark brown sandy clay	fill of [2041]	post-medieval
2041	7	n/a	A	cut	linear cut	service cut ?	post-medieval
2042	16	n/a	A	layer	dark brownish-grey sandy silt	Roman colluvium ?	late Roman ?
2043	16	n/a	A	fill	mixed dark grey and mid brown sandy silt	fill of [2048]	post-medieval
2044	16	n/a	A	layer	dark brownish-grey sandy silt	uncertain	post-medieval
2045	16	n/a	A	layer	crushed chalk (same as [2051]?)	levelling deposit	post-medieval
2046	3 & 16	n/a	A	layer	mid greyish-brown sandy silt	colluvium ?	post Roman ?

Conte xt No	Sect/ elev No	Plan No	Trench	Type	Description	Interpretation	date
2047	16	n/a	A	layer	light grey and red CBM and concrete mix	levelling deposit	modern
2048	16	n/a	A	cut	shallow cut	uncertain	post-medieval
2049	16 & 17, 22	n/a	A, C, D & E	layer	tarmac	road surface	modern
2050	17	2050	C	layer	flint pebbles	trackway surface	post- medieval/mod ern
2051	17	2051	C	layer	crushed chalk (same as [2045]?)	levelling deposit	post-medieval
2052	17	2052	C	layer	flint pebbles	trackway surface	post-medieval
2053	17	n/a	C	layer	dark brownish-grey sandy silt	disturbed colluvium	post-medieval
2054	17	n/a	C	layer	mid greyish-brown sandy silt	colluvium ?	post Roman ?
2055	17	n/a	C	layer	dark brownish-grey sandy silt	Roman colluvium ?	late Roman ?
2056	17	n/a	C	layer	mottled mid brown and mid greyish- yellow sandy silt	bioturbated drift geology	undated
2057	17	n/a	C	fill	mottled dark grey and mid greyish- yellow sandy silt	fill of [2058]	Roman ?
2058	17	n/a	C	cut	steep sided narrow cut	possible cut feature	Roman ?
2059	17	n/a	C	layer	mixed red and yellow CBM fragments	levelling deposit	modern
2060	17	2060	C	cut	generic number for numerous cuts	service cuts	modern
2061	17	n/a	C	fill	generic number for numerous modern fills	fill of [2060]	modern
2062	n/a	2062	C	cut	linear cut	service cut	post-medieval
2063	n/a	n/a	C	fill	mixed mid brown with occasional grey sandy silt	fill of [2062]	post-medieval
2064	n/a	n/a	D	layer	mixed mid grey and red CBM and concrete mix	levelling deposit	modern
2065	n/a	2064	D	layer	dark blackish grey sandy silt	levelling deposit ?	post-medieval
2066	n/a	2064	D	cut	linear cut	service cut	modern

Conte xt No	Sect/ elev No	Plan No	Trench	Type	Description	Interpretation	date
2067	n/a	2064	D	fill	generic number for numerous modern fills	fill of [2066]	modern
2068	n/a	2069	E	fill	generic number for numerous modern fills	fill of [2069]	modern
2069	n/a	2069	E	cut	linear cut	service cut	modern
2070	n/a	2069	E	layer	mixed dark grey and dark brown silty sand and pebbles	levelling deposit	post-medieval
2071	18, 19, 20	n/a	F	layer	brick rubble makeup for road surface	road makeup	modern
2072	14, 18	n/a	F	fill	dark grey brown mottled sandy silt	fill of gas pipe	modern
2073	18, 20	n/a	F	fill	dark brown grey sandy silt	secondary fill of water pipe	modern
2074	18, 20	n/a	F	fill	mid grey brown fine sandy silt	primary fill of water pipe	modern
2075	18	2075	F	cut	linear cut	cut for e-w drain	modern
2076	18	n/a	F	fill	concrete casing around modern drain	fill of [2075]	modern
2077	21	n/a	I	layer	mid grey brown fine sandy silt	Roman colluvium ?	Roman ?
2078	21	Trench I	I	layer	light yellow brown sand and gravel	drift geology ?	periglacial ?
2079	21, 22	n/a	I	layer	light red/mid brownish grey brick rubble crush	road makeup	modern
2080	21	n/a	I	fill	dark brown grey sandy silt	fill of [2077]	modern
2081	21	n/a	I	fill	dark grey brown mottled sandy silt	fill of gas trench	modern
2082	22	n/a	H	fill	sandy silt and type 1	fills of service cuts	modern

Appendix 2 OASIS form

OASIS ID: preconst1-64068

Project details

Project name	An Archaeological Watching Brief for Pipeline Excavation and Re-Excavation Works at Bellefield Road, Orpington, Bromley
Short description of the project	An archaeological watching brief was undertaken on a linear trench excavated for the installation of a replacement water pipe plus seven additional trenches excavated within the area of the original water pipe. All of the excavated areas were located within the existing carriageway. Those within the existing carriageway include an east-west linear transect through a Scheduled Monument (SAM 145), as well as seven further trenches to the east and outside the scheduled area. During the watching brief natural drift geology was partly revealed beneath a sequence of deposits, the earliest of which contained artefacts of Roman date. Post-medieval activity in the form of service cuts and a roughly cobbled track way either overlaid or truncated the earlier deposits and modern levelling deposits, as well as numerous modern service cuts were seen to either overlay or cut through the cobbled track way.
Project dates	Start: 22-04-2009 End: 24-06-2009
Previous/future work	Yes / Not known
Any associated project reference codes	BFF05 - Sitecode
Type of project	Recording project
Site status	Scheduled Monument (SM)
Current Land use	Other 11 - Thoroughfare
Monument type	LAYER Roman
Significant Finds	NONE None
Significant Finds	NONE None
Investigation type	'Watching Brief'
Prompt	Scheduled Monument Consent

Project location

Country	England
Site location	GREATER LONDON BROMLEY ORPINGTON Bellefield Road, Orpington
Postcode	BR5 2DB
Study area	1800.00 Square metres
Site coordinates	TQ 46680 67570 51.3876712834 0.108287819690 51 23 15 N 000 06 29 E Point
Height OD / Depth	Min: 47.65m Max: 48.55m

Project creators

Name of Pre-Construct Archaeology Ltd
Organisation

Project brief English Heritage
originator

Project design English Heritage
originator

Project Helen Hawkins
director/manager

Project supervisor John Payne

Type of Utility Company
sponsor/funding
body

Name of Thames Water
sponsor/funding
body

Project archives

Physical Archive No
Exists?

Digital Archive LAARC
recipient

Digital Archive ID BFF05

Digital Contents 'none'

Digital Media 'Database','Spreadsheets','Survey','Text'
available

Paper Archive LAARC
recipient

Paper Archive ID BFF05

Paper Contents 'none'

Paper Media 'Context
available sheet','Correspondence','Drawing','Map','Matrices','Photograph','Plan','Report','Section','Survey',
'Unpublished Text'

Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)

Title An Archaeological Watching Brief for Pipeline Excavation and Re-Excavation Works at Bellefield Road, Orpington, London Borough of Bromley

Author(s)/Editor(s) Payne, J.

Date 2009

Issuer or Pre-Construct Archaeology Ltd
publisher

Place of issue or London
publication

Entered by Helen Hawkins (hhawkins@pre-construct.com)

Entered on 4 September 2009