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SOUTHALL GASWORKS SOUTHALL LONDON BOROUGH OF EALING

Desk-Based Geoarchaeological Deposit Model Report

NGR: TQ 1173 7979

Date: 10th August 2017

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DOCUMENT HISTORY:

REVISION	DATE	PREPARED BY	SIGNED	APPROVED BY	SIGNED	REASON FOR ISSUE
V5	10/08/17	C.P. Green		C.R. Batchelor		Recommendations updated due to additional constraints
v4	07/07/17	C.P. Green		C.R. Batchelor		Addition of Gas Easement plan
v3	30/05/17	C.P. Green		C.R. Batchelor		Third edition
v2	11/05/17	C.P. Green		C.R. Batchelor		Second edition
v1	07/05/17	C.P. Green		C.R. Batchelor		First edition

CONTENTS

1. NON-TECHNICAL SUMMARY

A desk-based geoarchaeological deposit modelling exercise was instigated for the Southall Gasworks site in order to: (1) clarify the nature of the sub-surface stratigraphy, in particular the presence and thickness of any Langley Silt across the site, (2) to provide a rational basis for the ongoing watching brief programme in terms of geoarchaeological and archaeological potential. In order to address these aims, the stratigraphic data from existing stratigraphic records were used to produce a deposit model of the major depositional units across the site. The results are set in the context of past geoarchaeological and archaeological investigations within and near the site and in the broader context of the Pleistocene and Palaeolithic record in southern Britain.

The Langley Silt at the Southall Gasworks site is in general thin, patchily preserved and often gravelly. In addition at the western end of the site, the development of the Holocene floodplain of the Yeading Brook has led to the removal of the Langley Silt and its replacement by Holocene Alluvium. In the central part of the site, west of the NGR Easting 1200, records of the Langley Silt are almost completely absent. This area largely coincides with the historic location of the Gasworks production and storage facilities. The Langley Silt appears to be best preserved close to the site boundary. Elsewhere the results of the present investigation indicate a complex spatial pattern of disturbed and relatively undisturbed ground juxtaposed in small areas of indeterminate size and shape, making the planning of a realistic programme to monitor groundwork difficult or impossible. To the east of NGR Easting TQ1200, the extent of disturbance appears to be less significant, but it must be remembered that here, as elsewhere across much of the site, the ground was occupied in the 19th century by brickpits in which the Langley Silt, then known as 'brickearth' was very actively exploited and largely removed. There are also areas on the western part of the site, where continuous areas of relatively undisturbed alluvium may be present.

A plan illustrating the locations where conditions appear to be most favourable for the preservation of the deposits that overlie the Lynch Hill Gravel is provided. These areas include those that are most likely to represent undisturbed Langley Silt or at the western end of the site, the alluvium of the Yeading Brook. These areas of greatest preservation potential have been further narrowed with reference to maps of the historic use of the site. From this it is recommended that fourteen locations are targeted for further geoarchaeological/archaeological investigation across the site. Six of these are probably in the area underlain by alluvium of the Yeading Brook; the remainder are probably underlain by Langley Silt. In the first instance, test-pits should be dug enabling recording of the sedimentary sequence, with this data integrated into the existing deposit model. Should this exercise indicate undisturbed sedimentary sequences of Langley Silt, it is recommended that more detailed geoarchaeological/archaeological investigations are carried out.

2. INTRODUCTION

2.1 Project background

This report summarises the findings arising out of the desk-based deposit modelling exercise undertaken by Quaternary Scientific (QUEST), University of Reading in connection proposed development at Southall Gasworks, Southall, London Borough of Ealing (NGR: TQ 1173 7979; Figure 1). Quaternary Scientific were commissioned by CgMs Consulting to undertake the geoarchaeological investigations.

Over the past forty years, several investigations exploring the sub-surface conditions at the Southall Gasworks site have been undertaken following the progressive closure of the gas production and storage facilities. In the course of this investigative work at least 600 boreholes and test pits have been put down. These investigations have formed the basis for assessment of archaeological potential (MOLA, 2008) and for schemes of further investigation (MOLA, 2011, CgMs, 2016). Due to the extensive and severe contamination of much of the site the archaeological and geoarchaeological investigations recommended in these schemes were restricted to the most easterly part of the site, to the east of NGR Easting TQ 121. The work recommended in these schemes has recently been completed (Blinkhorn 2016a, 2016b) and the results are outlined below.

For the contaminated part of the site, broadly the area lying to the west of NGR Easting TQ121, further geoarchaeological investigation is limited in the first instance to watching briefs associated with groundwork during remediation and development of the site. The purpose of the investigation described in this report is to provide a rational basis for the watching brief programme in terms of geoarchaeological and archaeological potential. This aim is achieved through a re-evaluation of the borehole and test pit record in order to establish as fully as possible the distribution, stratigraphy and sedimentology of the geological deposits underlying the site. The results are set in the context of past geoarchaeological and archaeological investigations within and near the site and in the broader context of the Pleistocene and Palaeolithic record in southern Britain.

2.2 Site context

Topographic setting: The site is in west London on ground lying between the Yeading Brook to the west and the River Brent to the east (Figure 1). The Yeading Brook forms the headwaters of the River Crane and both the Crane and the Brent are north-bank tributaries of the River Thames which lies some 6.0km to the SE of the site. The site is triangular in shape, bounded on the north by Beaconsfield Road, on the south by the mainline railway (formerly the Great Western Railway) and on the NW by the Grand Union Canal which here follows the valley of the Yeading Brook. The channel of the Yeading Brook is between 50m and 150m from the north-western site boundary. The modern ground level at the site varies from just over 30m OD at its western end, rising to above 32m OD in places in the middle of the site and falling again below 31m OD at its eastern end. It must be remembered however that the site has been greatly disturbed since the mid-19th century by quarrying and industrial development, and that present-day ground levels are likely to reflect this land-use history. The mean OD elevation for the site as a whole is 31.08m OD ($n = 109$, $\sigma = 0.595$). This value has been used in the construction of the deposit models described below where no OD height is recorded in borehole and test pit logs. To the north of the site, the ground slopes gently up to the 40m contour at a distance of *ca*. 4.0km; to the south the ground slopes gently down to the 30m contour at a distance of *ca*. 2.0km.

Geological setting: The British Geological Survey (BGS) (1:50,000 Sheet 270 South London 1998, and online) shows the Gasworks site underlain by Langley Silt resting on Lynch Hill Gravel. The Bedrock is the Paleocene London Clay Formation. In the vicinity of Southall, the surface of the Lynch Hill Gravel forms an extensive river terrace remnant at *ca*. 30.0m OD between the River Crane/Yeading Brook and the River Brent, underlying the urban area of Southall itself, including the Gasworks site. The Gasworks site is close to the northern edge of the terrace remnant, with the most northerly local exposures of the Lynch Hill Gravel mapped in the valley of the Yeading Brook less than 0.5 km to the north of the site. The gravel is mapped southward as far as Hounslow, a distance of *ca*. 4.0km, but the more southerly part of the gravel spread at levels down to 23.0m OD is probably soliflucted material. This extensive spread of Lynch Hill Gravel is masked almost everywhere, including the Gasworks site, by the Langley Silt, the name proposed by Gibbard (1985) for the variable fine-grained deposits formerly known as 'brickearth' which are (or were) widely preserved on terrace surfaces in the valleys of the Thames and its tributaries.

2.3 Palaeolithic Archaeological setting and Pleistocene Mammalia

The Lynch Hill Gravel to the west of London and the overlying Langley Silt have been fairly rich sources of Lower and Middle Palaeolithic material, notably west of the Gasworks site and west of the River Crane around Yiewsley and West Drayton (e.g. Collins 1978); and east of the Gasworks site and east of the River Brent in Ealing (e.g. Brown 1887). In general, where Lower Palaeolithic artefacts and mammalian remains have been recovered in these localities from the Lynch Hill Gravel, they have come from the base and lower part of the gravel and are all in a more or less rolled condition. Where Levallois material has been recovered it has come mainly from the 'brickearth' or the surface of the underlying gravel, e.g. at Creffield Road in Ealing (Brown 1887) and some of it is in mint condition and probably primary context with refitting material present.

On the ground between the Crane and the Brent, where the Gasworks site is located, relatively few Palaeolithic artefacts have been recorded. Wymer (1999) identifies only three find spots, all of which are among the nine localities identified by Blinkhorn (2016) from the Greater London HER and within a 2km radius from the Gasworks site. Of these nine sites, six are between the Crane and the Brent and two are within or very close to the Gasworks site. The remainder lie to the south of the site. The number of artefacts recorded is small. Roe (1968) records 21 handaxes and six unretouched flakes from Southall Gasworks. Of the other six Southall localities listed by Roe, only three yielded handaxes and only six implements are listed in all, including three Levallois flakes. However, the two sites within or close to the Gasworks site are of particular interest because in both cases the artefacts were associated with mammoth remains.

There seems to be some duplication of localities in the HER with one of the Gasworks localities entered twice. Nevertheless, the record appears to indicate the recovery of artefacts associated with mammoth remains on two occasions: Nr White Street 'during the 1860s' (HER 052862/00/00), and again in 1890 'when excavations were made for the gasholder' (Wymer 1968) (this is possibly a duplicated entry in the HER which lists: Southall Gasworks, Southall 050023/00/00 'handaxes and elephant bones'; and Nr White Street 052861/00/00 'palaeolithic flint implements … discovered during 19th century excavations for a gas holder').

A more spectacular discovery of mammoth remains in the Southall spread of Lynch Hill Gravel is recorded by Brown (1889) who describes a mammoth skeleton, complete and articulated, found at a depth of 13 feet (3.96m) at a site in Norwood Lane (now Tentalow Lane) about two kilometres to the SE of the Gasworks site.

Finally, it is worth highlighting the PhD work of Juby (2011); a very useful compilation, scrutinising the associated museum collections of artefacts and mammalian remains of a large number of published accounts of sites in London and London suburbs. A chapter on the areas of Hanwell, Southall, Norwood Green and Osterley contains contextual sites referred to in our report; there are also separate chapters on West Drayton and Yiewsley and Creffield Road. These chapters discuss the same sites as outlined above.

2.4 Recent investigations

Two phases of investigation have been undertaken during 2016/17 by Archaeology South East (ASE) at the eastern end of the Southall Gasworks site, to the east of NGR Easting TQ121 in Area 1A and Area 6 (Blinkhorn 2016a, 2016b, Toms 2017, Banerjea 2017; Figure 1). Twenty archaeological trial trenches, 6 small geoarchaeological test pits (Phase 1) and three 10m x 10m geoarchaeological test pits (Phase 2) have been put down. In the Phase 1 geoarchaeological investigation, the material observed overlying the Lynch Hill Gravel was interpreted in the field as the product of either mass movement or the colluvial reworking of fluvial sediment.

The Phase 2 investigation was specifically focussed on the Langley Silt. In the event, the thickness of the material that could reasonably be interpreted as Langley Silt was recorded in the three large test pits as 0.8m, 0.5m and 0.85m, though in the 0.85m sequence, coke was recorded in the upper part, and the lower part was recorded as 50% gravel. These units of Langley Silt passed up into the modern soil and overlay units that appeared to be a mixture of Langley Silt and the underlying Lynch Hill Gravel. In two of the Phase 2 pits the 'classic' features of the Langley Silt were noted 'calcareous pellets' in one and in the other, 'frequent calcareous nodules/race forming irregular nodules, tubes and fragments'. Particle size analysis showed that the fine component comprised 38-64% silt, 20-41% sand and 9-17% clay. These values are broadly similar to values reported by Gibbard (1985) for the Langley Silt.

The volume of material that has now been examined at the site is considerable. In the three large Phase 2 test pits alone, about 250 cubic metres of Langley Silt have been examined and at least 120m of section. Neither in this investigation, nor in the earlier interventions were any artefacts or other evidence of Palaeolithic occupation or identifiable fossil remains observed.

Two samples collected during these investigations were submitted for Optically Stimulated Luminescence (OSL) dating (Blinkhorn, 2016b). One sample was taken from a depth of 1.75m bgs in trial pit GTP3 (Phase 1) from a unit described as 'clearly bedded coarse to fine sands with gravel partings and grey clay laminae'. A date of 242k BP ± 27 was obtained, placing this apparently fluvial sediment close to the MIS8/7 transition and therefore later than the generally accepted MIS 9 age of the Lynch Hill Gravel. The other sample was taken from a depth of 0.7-1.2m bgs in trial pit GTPB (Phase 2) from a unit described as 'yellow-brown clay-silt with frequent calcareous nodules/race forming irregular nodules, tubes and fragments'. A date of 80.6k BP ± 9.8 was obtained, placing this typical 'brickearth' close to the MIS5/4 transition.

A block sample collected during the ASE investigations was submitted for micromorphological analysis (Blinkhorn, 2016b). It came from the unit immediately underlying and lithologically similar to the unit dated to 80.6k BP in trial pit GTPB. Three microstratigraphic units were recognized. The upper two were described as sediment deposited by mass movement of water-saturated material; the lower unit was regarded as a re-worked land-surface horizon'. It contained fragments of charred wood and showed evidence of soil formation.

Figure 1: Location of Southall Gasworks, Southall, London Borough of Ealing. The locations of the borehole and test pit logs, and developmental areas is also shown.

3. METHODS

3.1 Deposit modelling

As noted above, this report is based on an evaluation of over 600 borehole and test pit records located within or close to the Southall Gasworks site. Of the 586 records that provided useful information, 357 were boreholes or test pits that penetrated the Lynch Hill Gravel and therefore recorded in full the deposits that overlie the gravel. Seven stratigraphic units could be recognized. Sedimentary units from the boreholes were classified into seven groups: (1) London Clay, (2) Lynch Hill Gravel, (3) Sand. (4) Silt-clay Langley Silt, (5) Silt-clay Alluvium, (6) Soil & (7) Made Ground. The classified data for groups 1-7 were then input into a database with the RockWorks 16 geological utilities software, the output from which was displayed using ArcMAP 10. Models of surface height were generated for the London Clay and Lynch Hill Gravel only, using an Inverse Distance Weighted algorithm (Figures 3 & 4). Thickness of the combined Silt-clay & Made Ground (Figures 5 & 9) were also modelled (also using an Inverse Distance Weighted algorithm). No attempt was made to model the sand as its distribution was very patchy; and no attempt was made to model the surface of the Silt-clay units because their distribution was patchy and their surface elevation is largely dictated by their truncation, both during their exploitation for brick-making and during the construction of industrial plant in the 19th and 20th centuries. The detailed accuracy of the models of the stratigraphic surfaces is also affected by the lack of OD heights on some of the borehole and test pit logs (see below).

Because the boreholes are not uniformly distributed over the area of investigation, the reliability of the models generated using RockWorks is variable. In general, reliability improves from outlying areas where the models are largely supported by scattered archival records towards the core area of boreholes. Because of the 'smoothing' effect of the modelling procedure, the modelled levels of stratigraphic contacts may differ slightly from the levels recorded in borehole logs and section drawings. As a consequence of this the modelling procedure has been manually adjusted so that only those areas for which sufficient stratigraphic data is present will be modelled. In order to achieve this, a maximum distance cut-off filter equivalent to a 50m radius around each record is applied to both the London Clay, Lynch Hill Gravel and Made Ground models; a much smaller radius of 10m is applied to the Silt-clay model. In addition, it is important to recognise that multiple sets of boreholes are represented, put down at different times and recorded using different descriptive terms and subject to differing technical constraints in terms of recorded detail including the exact levels of the stratigraphic boundaries.

4. RESULTS & INTERPRETATION OF THE GEOARCHAEOLOGICAL DEPOSIT MODELLING

The results of the deposit modelling are displayed in Figures 3 to 9. Figures 3 to 5 and 9 are select surface elevation and thickness models for each of the main stratigraphic units. Figures 6 to 8 highlight different features of the Silt-clay stratigraphic unit.

The full sequence of sediments recorded in the boreholes and test pits comprises:

Made Ground - Recorded in the sediment logs of all the boreholes and test pits
Soil - Recorded immediately underlying the Made Ground in a small number of sediment logs
Silt-clay – Alluvium - Present at the west end of the site, associated with the Holocene floodplain of the Yeading Brook
Silt-clay – Langley Silt - Recorded in many sediment logs across the central and eastern parts of the site, but patchy in its distribution
Sand - Patchily present immediately overlying the Lynch Hill Gravel
Lynch Hill Gravel - Present underlying the whole site
London Clay - Bedrock

4.1 London Clay

The London Clay bedrock was penetrated in 119 boreholes mainly at levels between 24m OD and 27m OD (Figure 3). There is no obvious indication that the inequalities of the London Clay Surface are reflected in the form of the overlying Lynch Hill Gravel surface or in the thickness of the overlying Silt/Clay unit.

4.2 Lynch Hill Gravel

The Lynch Hill Gravel was penetrated in 357 boreholes. The surface of the gravel was recorded almost everywhere at levels between 27m OD and 30m OD (Figure 4), but there is no obvious relationship between the elevation of the gravel surface and the presence or thickness of the overlying Silt/Clay, either the Langley Silt or the alluvium of the Yeading Brook. The deeper surface recorded in Area 7 is an anomaly.

4.3 Sand

Sand units were recognized in 63 of the recorded sediment sequences (Figure 4). Of these, 15 were in the area mapped as alluvium and the remaining 48 were scattered quite widely across the site. Just over half these sand units (34) were less than 1.0m in thickness, with the majority of the remaining 17 being less than 2.0m thick (overall mean: 0.99m σ : 0.77 n = 63). These figures include logs in which the sand unit was not bottomed, so they represent minimum values.

4.4 Silt-clay – Langley Silt

This unit was present in 76 boreholes or test pits in the central and eastern part of the site but there is a large area in the central part of the site, formerly occupied by gas production and storage facilities, where very few logs record anything apart from Made Ground overlying the Lynch Hill Gravel. Because of the scattered and uneven distribution of the Langley Silt records, it has not been possible to present either the thickness of the unit or its surface elevation as continuous contoured models. However, the relationship between the thickness of the Made Ground and the surface elevation of the Lynch Hill Gravel suggests that the surface of the Langley Silt followed quite closely the contours of the gravel surface. The surviving Langley Silt is generally thin (mean thickness: 0.72m n = 209) whereas undisturbed deposits are commonly 1.5m to 2.0m in thickness (Gibbard 1987). Only 28 boreholes/test pits in the Southall Gasworks site recorded thicknesses of Langley Silt greater than 1.0m (Figure 5). Twelve of these records of thicker Langley Silt preservation are very close to the boundary of the site, particularly in Areas 4B and 7. The remaining 16 records are widely scattered across the site with loose clusters in Area 1A and the adjoining part of Area 5, and in the western part of Area 6. More than half the Langley Silt units were described as gravelly but 34 stoneless units were identified and their distribution is shown in Figure 6. They are scattered quite widely but include some of the thicker (>1.0m) Langley Silt units, e.g. in Areas 4B and 7. Where the Langley Silt within the Gasworks site has been dated (Blinkhorn, 2016b) the result indicates an age of 80.6k BP, close to the MIS 5/4 boundary.

4.5 Silt/Clay – Alluvium

At the western end of the site in Areas 2, 3A, 3B and 3C in part, the sediment overlying the Lynch Hill Gravel is mapped as Alluvium of the Yeading Brook (Figure 7). Alluvial deposits have previously been recognized in this area by MOLA (2011, Fig. 2). The boundary of this alluvial area has been drawn to enclose the cluster of 14 records where the sediment sequences includes fine-grained organic deposits (Figure 8). Overall this area at the west end of the site has been subject to fairly intensive sub-surface investigation represented by 168 boreholes and test pits of which 97 recorded fine-grained sediment overlying the Lynch Hill Gravel.

4.6 Soil

Palaeosols were recorded immediately beneath the Made Ground in only nine sediment logs. It is likely however that buried soils were present elsewhere in this position but were not recorded as such.

4.7 Made Ground

Made Ground is present across the whole site but is generally less than 2.0m thick, with only small areas more than 3.0m thick. In 307 boreholes/test pits (52.4%), Made Ground is the only material recorded above the Lynch Hill Gravel, including 141 sites where the Made Ground rests directly on the gravel. In the remaining boreholes/test pits (166) the Made Ground was not bottomed (Figure 7). There is a clear relationship between Made Ground thickness (Figure 9) and the level of the top of the Lynch Hill Gravel (Figure 3), with greater thicknesses of Made Ground in areas where the gravel surface is lower (below 29.0m OD).

Figure 3: Top of the London Clay (m OD)

Figure 4: Top of the Lynch Hill Gravel (m OD); sequences including the presence of sand are highlighted in yellow

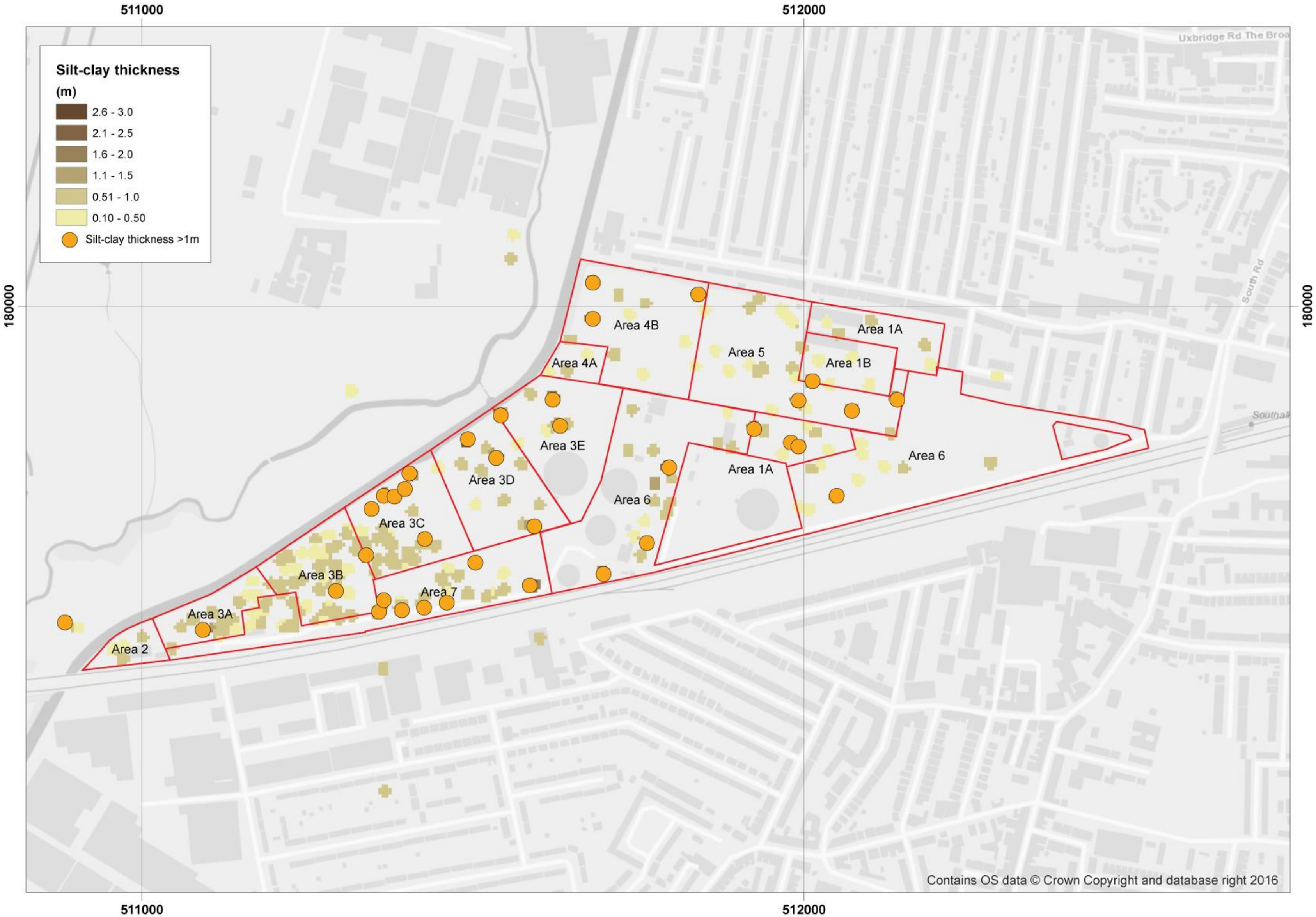

Figure 5: Thickness of Silt-clay (m); sequences of Langley Silt >1m thick are highlighted in orange

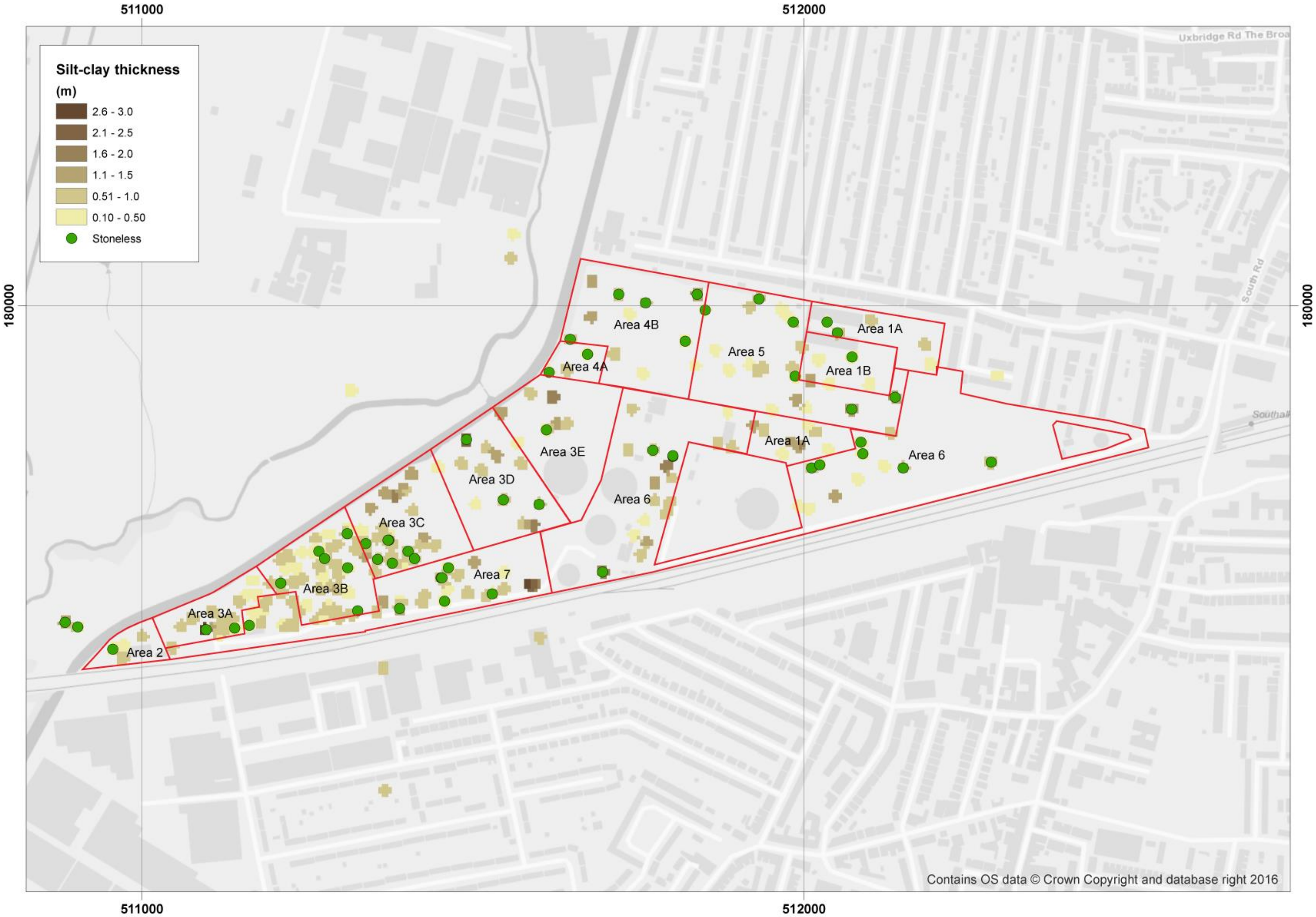

Figure 6: Thickness of Silt-clay (m); sequences with a stoneless Langley Silt are highlighted in green

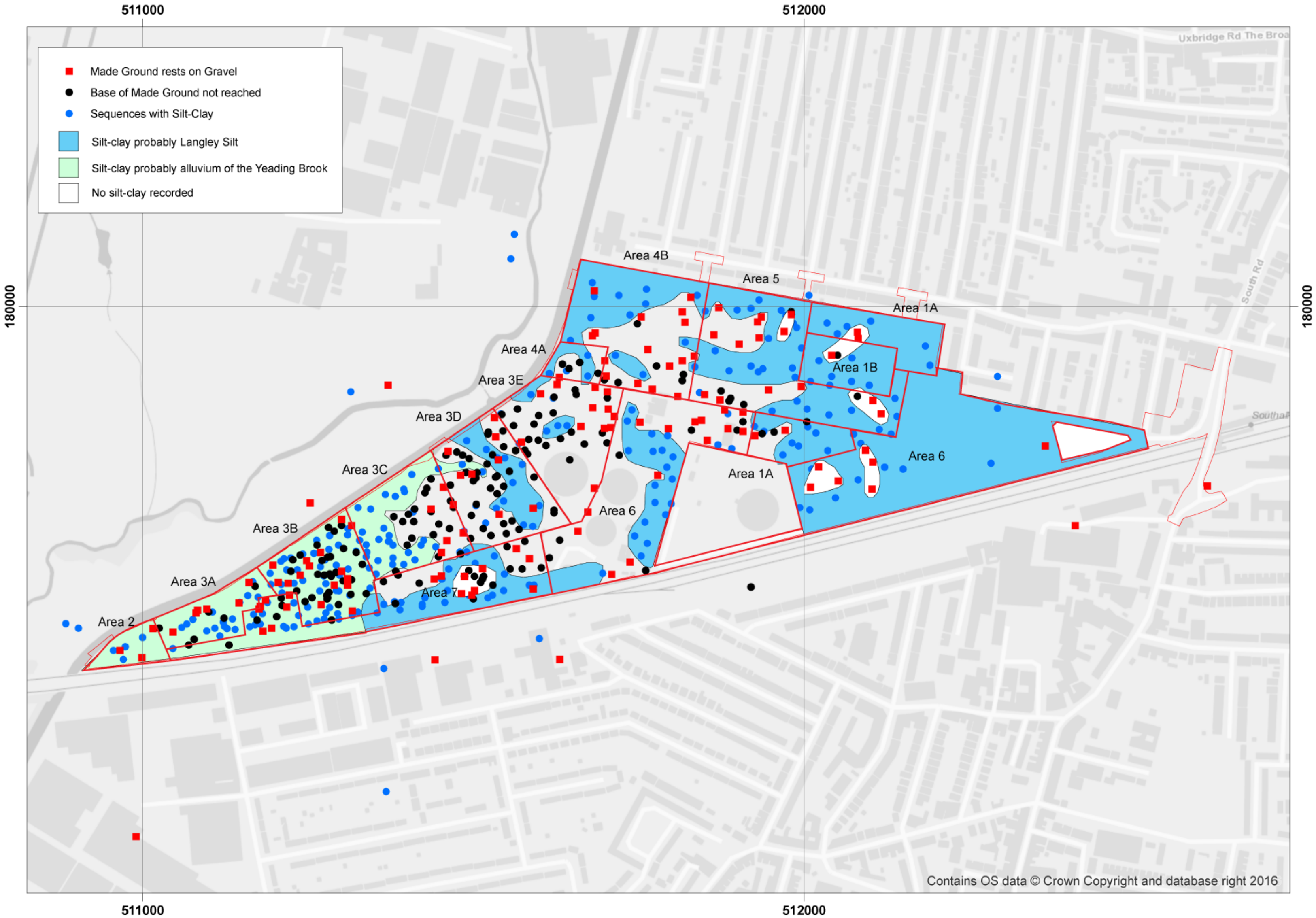

Figure 7: Plan plotting those areas of the site containing Silt-clay – Langley Silt (east) and Silt-clay – Alluvium (west). Those sequences in which no Silt-clay is present are also indicated

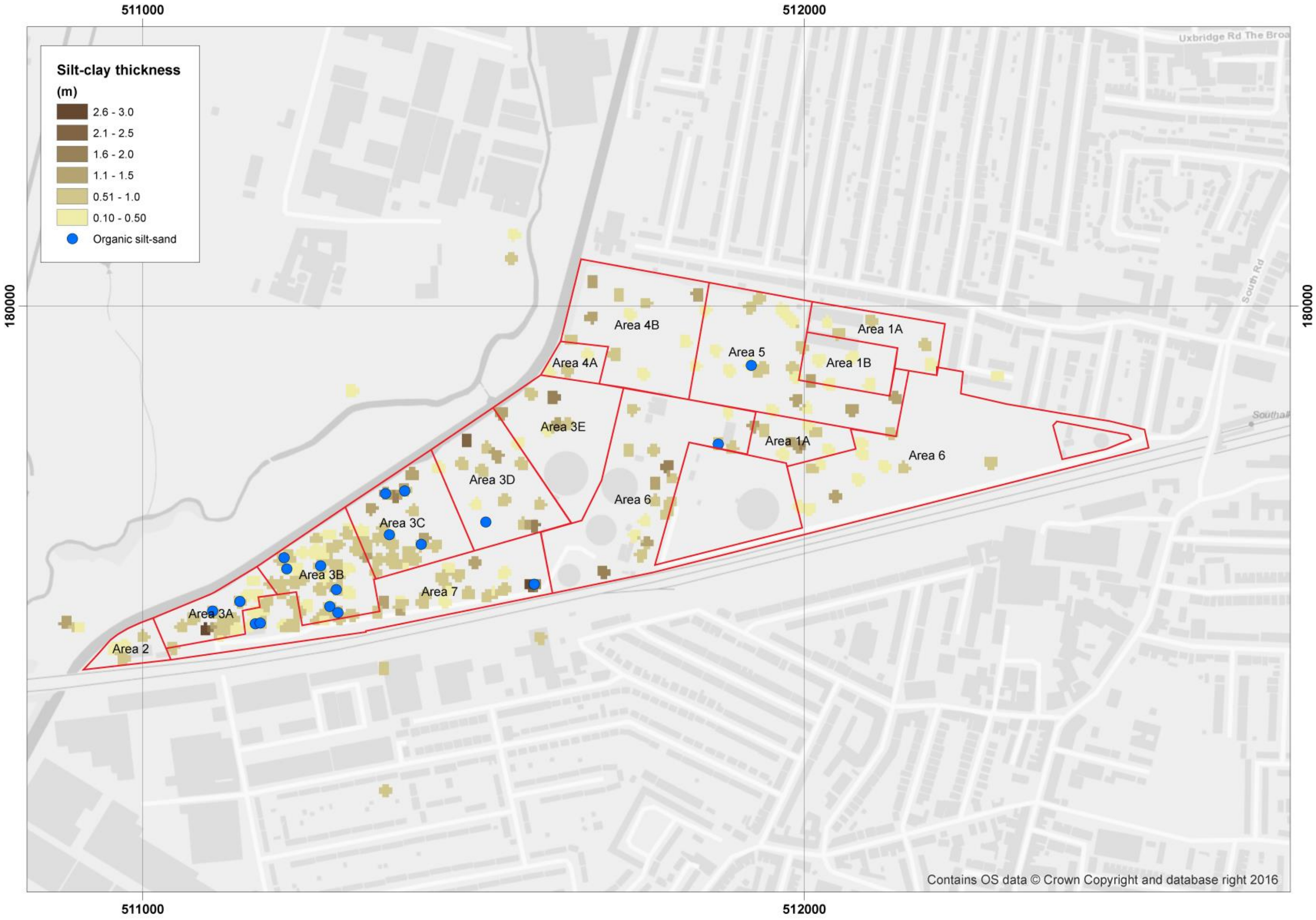

Figure 8: Thickness of Silt-clay (m); sequences with organic-silt clay (Alluvium) are highlighted in blue

Figure 9: Thickness of Made Ground (m)

5. DISCUSSION & CONCLUSIONS

The main purpose of this investigation has been to identify those areas within the site where the natural sediment sequences overlying the London Clay bedrock are most likely to be preserved with the least disturbance or truncation. Of particular interest is the preservation of the Langley Silt which, overlying the Lynch Hill Gravel elsewhere to the west of London has been a significant source of Middle Palaeolithic, Levallois artefacts in unrolled condition, and at Creffield Road in Ealing, probably in primary context.

It will be evident from the foregoing account that the Langley Silt at the Southall Gasworks site is in general thin, patchily preserved and often gravelly. In addition at the western end of the site, in Areas 2, 3A, 3B and 3C in part, the development of the Holocene floodplain of the Yeading Brook has led to the removal of the Langley Silt and its replacement by Holocene Alluvium. In the central part of the site, west of the NGR Easting 1200, in a substantial part of Areas 3C, 3D, 3E, 4A, 4B, 5, 6 and 7, records of the Langley Silt are almost completely absent. This area largely coincides with the historic location of the Gasworks production and storage facilities. The Langley Silt appears to be best preserved close to the site boundary, especially in Areas 3D, 3E, 4A, 5 and 7. These areas close to the site boundary also include some of the sequences in which thick (>1.0m) and stoneless units have been recorded, possibly indicating the presence of relatively undisturbed Langley Silt. Elsewhere the results of the present investigation indicate a complex spatial pattern of disturbed and relatively undisturbed ground juxtaposed in small areas of indeterminate size and shape, making the planning of a realistic programme to monitor groundwork difficult or impossible.

To the east of NGR Easting TQ1200, the extent of disturbance appears to be less significant, but it must be remembered that here, as elsewhere across much of the site, the ground was occupied in the 19th century by brickpits in which the Langley Silt, then known as 'brickearth' was very actively exploited and largely removed. This explains why the surviving Langley Silt is thin relative to its thickness in the few places where it survives undisturbed to the west of London. It probably also explains why much of the surviving Langley Silt is gravelly – too gravelly to be of commercial use for brick-making and therefore not economical to extract.

As well as providing an opportunity to investigate the Langley Silt, the Southall Gasworks site includes the large area occupied by the Holocene alluvium of the Yeading Brook comprising Areas 2, 3A, 3B and 3C in part. Subsurface conditions have been explored here in a large number of boreholes and test pits (168) and as Figure 8 shows, these interventions reveal a complex pattern of closely juxtaposed disturbed and relatively undisturbed ground. There are however at least three areas, in Area 3A, along the southern margin of Area 3B and in the western part of Area 3C, where continuous areas of relatively undisturbed alluvium may be present.

6. RECOMMENDATIONS

Figure 10 shows those areas within the Southall Gasworks site where conditions appear to be most favourable for the preservation of the deposits that overlie the Lynch Hill Gravel. The areas outlined in Figure 10 represent ground in which there are clusters of boreholes/test pits that record the presence of fine-grained units overlying the Lynch Hill Gravel, and in which there are no records of boreholes/test pits from which these deposits are missing. These areas also include a significant proportion of the sediment sequences in which thicker (>1.0m) units of fine-grained sediment are present, and some of the sequences in which stoneless units of fine-grained sediment are recorded, i.e. those that are most likely to represent undisturbed Langley Silt or at the western end of the site, the alluvium of the Yeading Brook.

The areas of greatest preservation potential can be narrowed with reference to both known services and maps of the historic use of the site. Figure 11 plots the location of works progression, and more importantly, gas easements, which rule out monitoring along the southern margin of the western part of the site in particular. Figure 12 plots the location of: (1) historic site construction works; (2) former 19th century brick fields (ascertained from the 1864/5 OS map), and (3) shallow gravel workings (ascertained from the 1912/13 OS map). Completed groundworks consequent of contamination also rule out investigation of Areas 3C. As a result of this information it is recommended that eight locations are targeted for further geoarchaeological/archaeological investigation across the site. Three of these are probably in the area underlain by alluvium of the Yeading Brook; the remaining five are probably underlain by Langley Silt (Figure 11).

In the first instance, test-pits should be dug enabling recording of the sedimentary sequence, with this data integrated into the existing deposit model. Should this exercise indicate undisturbed sedimentary sequences of Langley Silt, it is recommended that more detailed geoarchaeological/archaeological investigations are carried out. This might include the opening of larger stepped trenches, and the collection of samples, for comparison with those collected from Area 6.

No further works are recommended in Area 6, which has already undergone extensive archaeological excavation (Blinkhorn, 2016a, 2016b, forthcoming). Excavation is not possible in the eastern part of Area 6 due to the position of a substantial gas main.

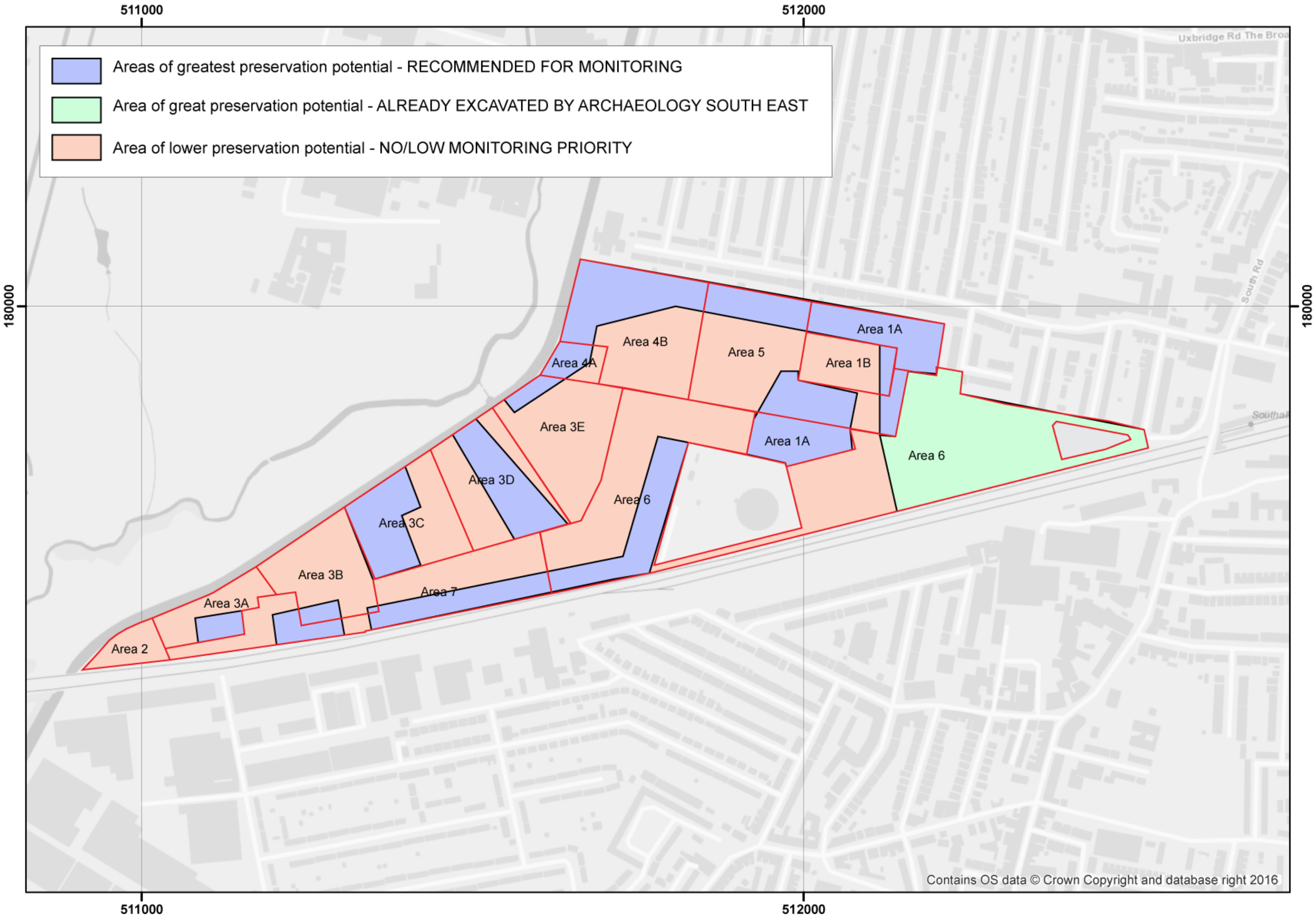

Figure 10: Areas of archaeological monitoring priority, Southall Gasworks, Southall, London Borough of Ealing

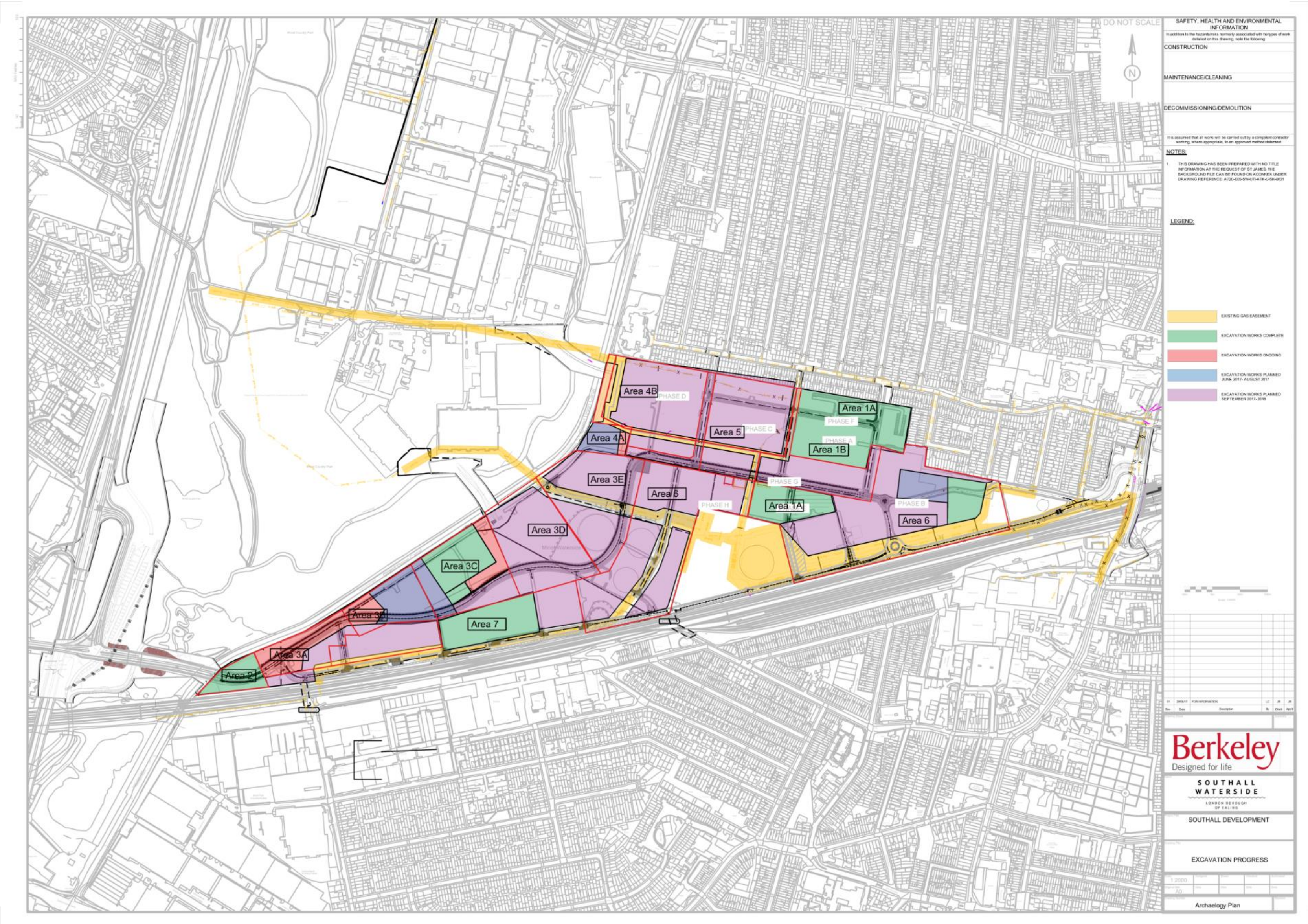

Figure 11: Works progression and gas easement locations (highlighted in yellow), Southall Gasworks, Southall, London Borough of Ealing

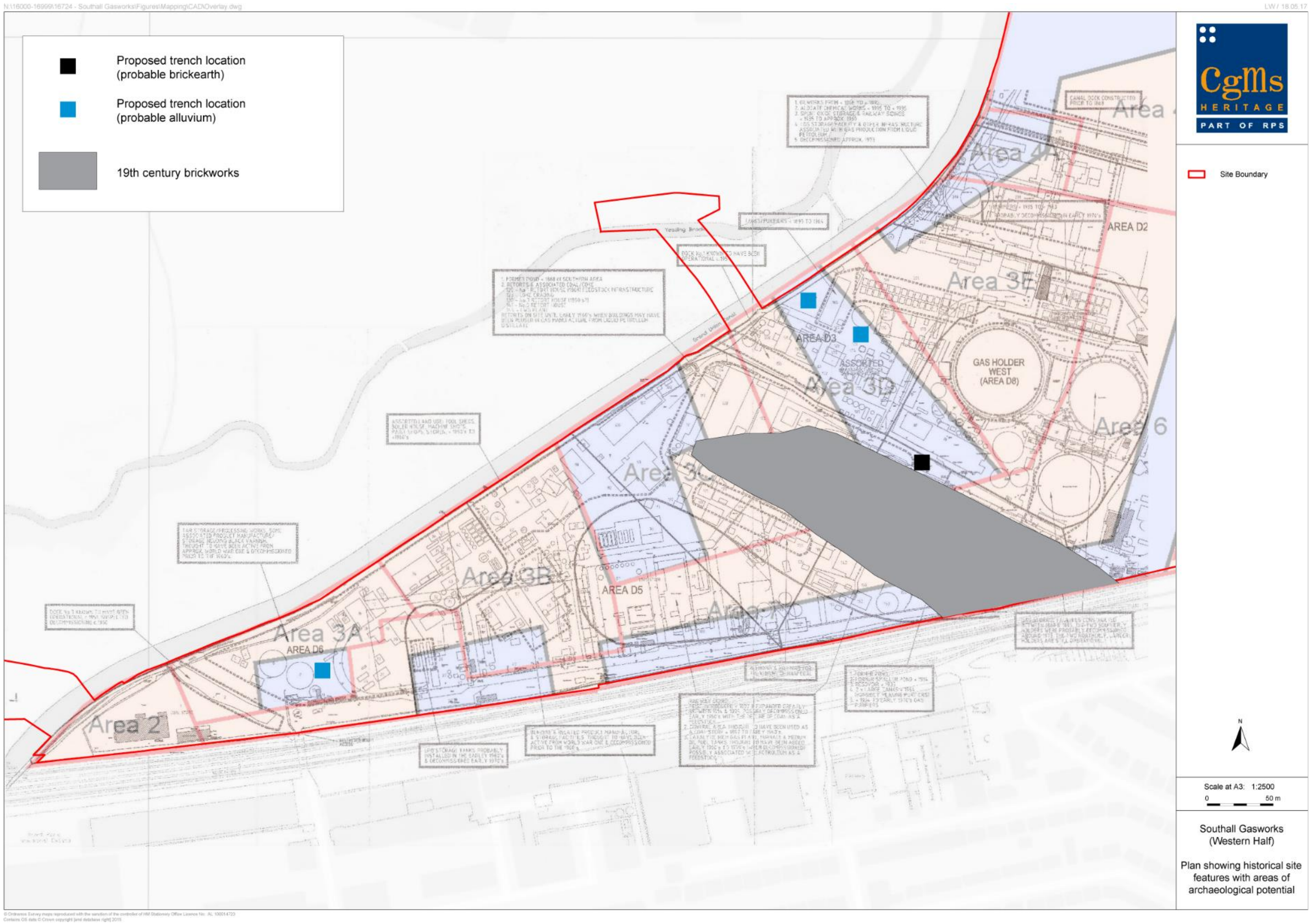

Figure 12: Recommended test-pit locations, (west) Southall Gasworks, Southall, London Borough of Ealing

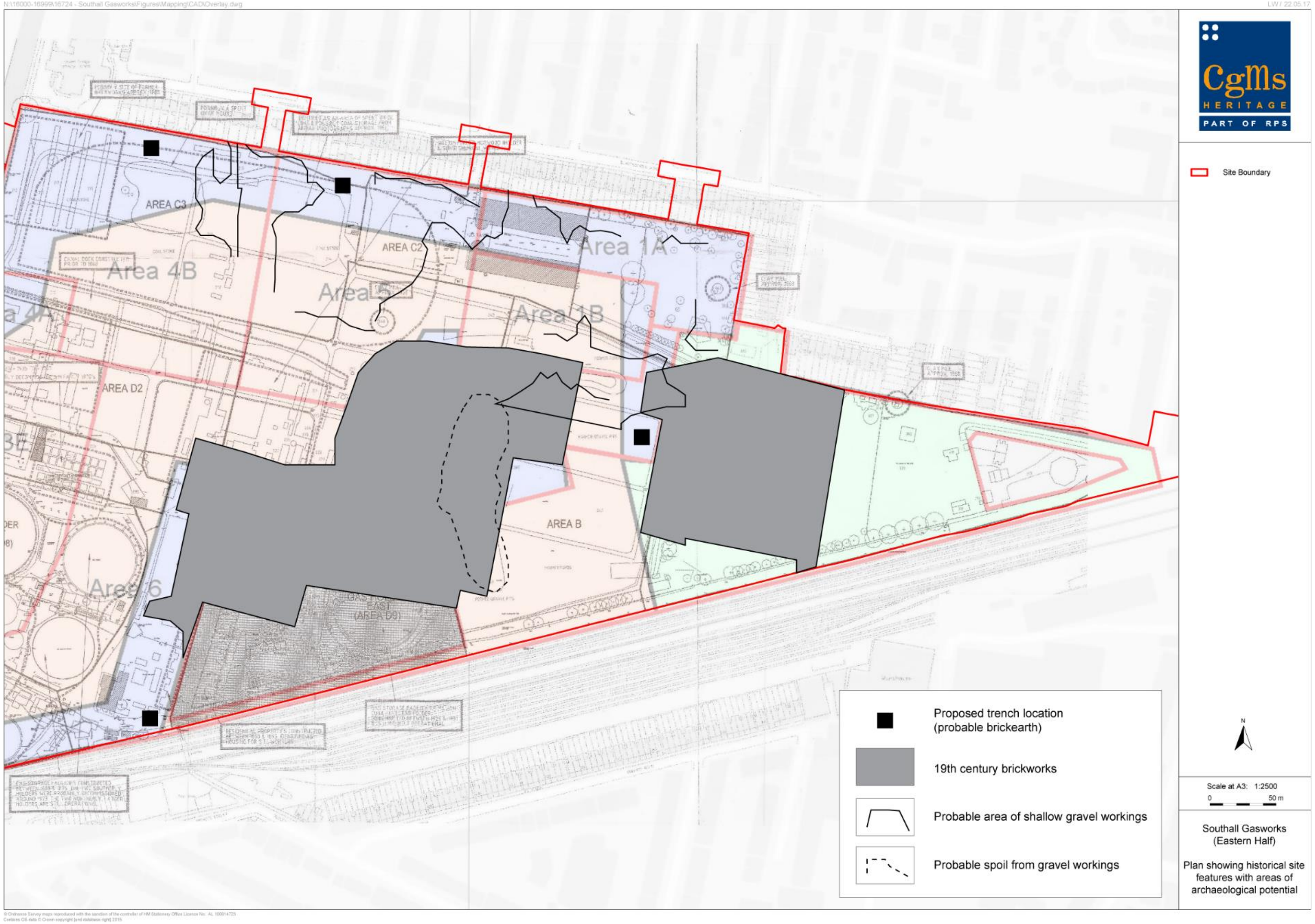

Figure 12: Recommended test-pit locations, (east) Southall Gasworks, Southall, London Borough of Ealing

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