Phase 500 Riverside Way Uxbridge

Archaeological Evaluation Report

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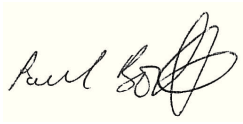
1	Elisabeth Stafford Head of Geoarchaeology	Steve Lawrence Senior Project Manager	Paul Booth Senior Project Manager	

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Phase 500, Riverside Way, Uxbridge

Archaeological Evaluation Report

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Summary

Between July and September 2014 Oxford Archaeology completed an archaeological field evaluation at Riverside Way, Uxbridge, in the London Borough of Hillingdon. The fieldwork comprised the excavation of 76 test pits arranged on a 10m grid designed to assess the potential for the presence of lithic artefact scatters. The test pits were excavated through a Holocene sediment sequence to the surface of the underlying Pleistocene sand and gravel. No features or artefact concentrations of archaeological significance were encountered. Three pieces of prehistoric worked flint were recovered along with a small assemblage of 19th-20th century pottery, glass and metal.

The site is located on the floodplain of the River Colne and a relatively shallow, sequence of waterlogged Holocene alluvial and peat deposits lay preserved beneath c 0.5-1.0m of brick rubble made ground capped by a concrete slab. At the base of the sequence a possible buried land surface was recorded over Pleistocene sand and gravel. Geoarchaeological and palaeoenvironmental sampling was undertaken in several test pits and two representative sequences were chosen for laboratory assessment and radiocarbon dating. Four radiocarbon dates from two test pits confirmed much of the lower part of the sequence was deposited during the early Holocene at c 9150-7980 cal. BC. Pollen was shown to be well preserved and correlations can be made with other sites in the region. However, macroscopic plant remains were poorly preserved and molluscs were generally only well-preserved in association with an eroded calcareous tufa deposit present within the north-western part of the site.

The earliest Holocene deposits and paleoenvironmental remains demonstrate the primary development of a soil horizon within a landscape represented by the pollen of grass, sedge and pine with rare hazel and willow. These deposits also produced fungal spores that typically established in association with tundra vegetation following glacial retreat. This was followed by wetter local conditions and the development of the peat horizon recording an increase in the broad-leaved tree species in the surrounding environment otherwise dominated by pine. The organic clay deposits overlying the peat represent wetter and regularly inundated site conditions. Again, the surrounding habitat appears to be dominated by pine pollen but with increasing amounts of broad-leaved species and herbs present. The wet site conditions are reflected by the presence of a variety of aquatic species. A radiocarbon date of c 8700-8460 cal. BC was obtained at this level. Above this, tree species declined being replaced by sedges, grasses and aquatic plants.

The sequence of deposits, date of deposition and palaeoenvironmental results are similar, though perhaps less well preserved, than other sequences analysed in greater detail in the surrounding area. The Riverside Way sequences frequently appeared conflated and affected by post-depositional processes along with areas of modern disturbance associated with the previous development at the site. Similarly, deposits recorded during an evaluation immediately to the north of the site in 2005 produced comparable sequences with no direct evidence present for prehistoric activity other than a single worked flint. Contrasts to this area can be drawn with sites such as Three Ways Wharf, the Sanderson site and William King Flour Mill c 1km to the north and sites around Denham, which have produced well-preserved palaeoenvironmental, lithic and faunal assemblages providing substantial evidence of Mesolithic activity within the valley.

1 INTRODUCTION

1.1 Project details and planning background

1.1.1 Oxford Archaeology (OA) was commissioned by R Collard Ltd on behalf of Bilton Plc to undertake an archaeological evaluation prior to redevelopment of a site known as Phase 500 at Riverside Way, Uxbridge, within the London Borough of Hillingdon. The site is situated within an existing industrial estate in the Colne Valley. The current development comprised the demolition of existing structures and the removal of the concrete slab followed by the construction of a new industrial building on the site, together with a restaurant and hotel, covering an area of 1.69 hectares.

1.1.2 The archaeological evaluation was undertaken as a condition of Planning Permission (planning ref: 56862/APP/2014/170, Condition 9) as quoted below:

> *A) No development shall take place until the applicant (or their heirs and successors in title) has secured the implementation of a programme of archaeological evaluation in accordance with a written scheme which has been submitted by the applicant and approved by the local planning authority in writing and a report on that evaluation has been submitted to the local planning authority.*
>
> *B) If heritage assets of archaeological interest are identified by the evaluation under Part A, then details of the foundation and groundworks design and methodology must be submitted by the applicant and approved in writing by the planning authority before development commences and the applicant (or their heirs and successors in title) shall secure the implementation of a programme of archaeological investigation in accordance with a Written Scheme of Investigation which has been submitted by the applicant and approved by the local planning authority in writing.*
>
> *C) No development shall take place other that in accordance with the foundation and groundworks design and Written Scheme of Investigation approved under Part (B).*
>
> *D) The development shall not be occupied until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the Written Scheme of Investigation approved under Part (B), and the provision for analysis, publication and dissemination of the results and archive deposition has been secured.*

1.1.3 Prior to the evaluation OA produced a method statement that was approved by Sandy Kidd of the Greater London Archaeological Advisory Service (GLASS) detailing how the concrete slab would be removed to avoid any significant impact to the buried sediment sequences and potential archaeological remains (OA 2014a). Following this OA agreed a scope of works to fulfil the evaluation requirements with Sandy Kidd and issued a Written Scheme of Investigation (WSI) to GLASS detailing how the works would be completed (OA 2014b).

1.1.4 The fieldwork was completed in two phases from 7th July to 5th August and 18th August to 3rd September. Two progress reports were produced by OA during the course of the fieldwork and issued to GLASS (OA 2014c and 2014d). These were required to inform the removal of existing foundations alongside the evaluation fieldwork within areas demonstrated to be lacking in archaeological remains. An interim statement was submitted following the completion of the fieldwork to inform GLAAS and

the Planning Authority of the summary results prior to the issue of this detailed report. This was due to the elongated timetable required to assess the palaeoenvironmental and scientific dating evidence (OA 2014e).

1.2 Location, topography and geology

1.2.1 The site is centred on National Grid Reference TQ 0476 8370 and located on the southern tip of an 'island' in the River Colne, *c* 900 metres south-west of the historic core of Uxbridge, and in the historic parish of Hillingdon. The island is formed by the natural route of the river to the west, and a canalised course of the river to the east, and had previously been developed as an industrial estate in the 1960s (Fig. 1).

1.2.2 At the outset of the field attendances the site was flat, lying at a height of *c* 31 metres OD, and largely comprised an arrangement of large concrete slabs at the surface level following the removal of the previous (1980s) industrial building. The north-western part of the site was covered with a tarmac surface used as a car-park. Spoil heaps of crushed and partly crushed materials resulting from the removal of the structures were present in the western and south-eastern parts of the site.

1.2.3 The local geology comprises alluvium overlying river gravels, which lie over London Clay (BGS 1974). The local geology has been closely examined through an archaeological field evaluation undertaken in 2005 (WA 2006) and by a programme of geotechnical site investigation undertaken by WSP Environmental Ltd in 2007 (WSP 2007). The complexities of the local sediment sequences are described in the following background section.

1.3 Geoarchaeological and palaeoenvironmental background

2005 evaluation

1.3.1 Archaeological evaluation of Units 300/305, 310/315/320/325 and 400, located immediately to the north of the site, was undertaken in 2005 (WA 2006). Four trial trenches were excavated at locations between *c* 10m and 220m north of the site (Fig. 2, no. 26). No archaeological deposits derived from human activity were recorded in the trenches, although a single piece of redeposited worked flint of possible Neolithic origin was recovered from Trench 3.

1.3.2 The trenches recorded substantial, although varying, thicknesses of alluvial and peat deposits, overlying Pleistocene fluvial gravel and sealed by modern made ground. Superficially the sedimentary sequence appears to be fairly typical of this part of the Colne Valley, (eg. Three Ways Wharf (Lewis with Rackham 2011); the Sanderson Site (Halsey 2006); William King Flour Mill (Grant *et al*. 2014); and Denham (WA 2005); Fig 2). Closer examination of the deposits, however, in Trenches 1 and 2, revealed much complexity, both laterally and with depth, reflecting a dynamic floodplain environment of shifting channels and channel edge environments prior to a main phase of peat formation. In summary:

- The basal deposits overlying gravel comprised fine organic sandy silts overlain by laminated tufa, organic alluvium and lenses of peat;
- Subsequently lower energy deposition is indicated by the accumulation of an overlying silty peat that probably formed in wet terrestrial marshland conditions, possibly within a former cut-off channel or away from the main active channel;
- The peat in Trenches 1 and 2 was overlain by a further deposit of organic silty clay alluvium suggesting increased flooding;

- The sequences in Trenches 3 and 4 further to the south and immediately adjacent to the current site, were shallower and more disturbed, exhibiting increased levels of post-depositional drying and pedogenesis.
- Overall the thickness of alluvium ranged from 0.47m in Trench 4, to 1.07-1.41m thick in Trenches 1-3;
- The surface of the Pleistocene gravels in Trench 4 was recorded at higher elevations (29.8m OD) than in Trenches 1-3 (*c* 29m OD) suggesting the possible location of a topographic high interpreted as an island or 'eyot'.

1.3.3 Assessment of pollen, coupled with a programme of radiocarbon dating, suggested that the earliest part of the sequence above the gravel dated from the late Glacial and early Holocene period and was therefore likely to be contemporary with the late Upper Palaeolithic and early Mesolithic sites recorded elsewhere in the region. The onset of peat accumulation was dated in Trench 2 to 8340-8040 cal. BC (Mesolithic), and was accompanied by high levels of macroscopic charcoal, possibly reflecting human activity in the catchment during this period. The top of the peat in Trench 2 was dated to 5700-5590 cal. BC, also Mesolithic.

Site deposit model

1.3.4 In July 2007 WSP Environmental Ltd conducted a geotechnical borehole and test pit survey across the site (WSP 2007). The geotechnical data were latterly used to develop a sub-surface geoarchaeological deposit model by OA to inform a Desk Based Assessment of the site and the potential construction impact (OA 2009 and OA 2014f). The model indicated that a similar sequence of alluvial and peat deposits was preserved within the site boundary when compared to the results of the adjacent 2005 evaluation. Mapping of the surface of the Pleistocene gravels across the site revealed a varied basal topography (Fig. 3). The highest elevations occurred in the north and north-western part of the site, approaching similar levels to those recorded in 2005 evaluation Trench 4. In the southern part of the site, elevations were much reduced indicating the location of a relict channel possibly dating to the late Glacial or early Holocene period.

1.3.5 The sequence overlying the gravel was variously described in the geotechnical logs as a grey to black amorphous clayey peat or fibrous peat, occasionally laminated. The thickness ranged from 0.10m to 1.65m probably reflecting differences in the underlying topography. There was no indication from the geotechnical logs of a remnant palaeosol or landsurface at the interface between the gravel and alluvium, although such interface deposits are unlikely to have been identified by a geotechnical assessment alone.

1.3.6 The alluvial/peat sequence was overlain by mixed organic silty clays in turn sealed by modern made ground comprising rubble and topsoil, concrete or tarmac areas. The thickest deposits of the organic silt clay occurred in the southern part of the site, whereas deposits were relatively thin in the northern part.

1.4 Archaeological and historical background

1.4.1 The archaeological and historical background to the site has been described in detail in the desk-based assessment (DBA) first issued in July 2009 and subsequently updated and reissued in January 2014 (OA 2009 and 2014f). The reissued document should be consulted for greatest detail although the main points are repeated and summarised below.

Palaeolithic and Mesolithic

1.4.2 There are no recorded sites or finds of lower or middle Palaeolithic date within 1km of the site, and only 17 are recorded within Hillingdon Parish. It is apparent that the majority of the evidence for activity in the region comprises redeposited flint artefacts, recovered from gravel deposits associated with the Thames and its tributaries. Evidence for upper Palaeolithic and early Mesolithic (*c* 12,000-8,500 BC) activity along this part of the Thames Valley is focused in riverine contexts, most notably in the Colne Valley. Nationally important *in situ* flint scatters and faunal remains of terminal upper Palaeolithic and early Mesolithic date were excavated at Three Ways Wharf, Uxbridge, just over 1km to the north-east of the site (Lewis with Rackham 2011; Fig. 2). A cluster of flint scatter sites also occurs around Denham to the north-east (WA 2005). Overall, 18 sites or find spots of upper Palaeolithic or Mesolithic date are recorded in Hillingdon Parish, 11 of which occur within 1km of the site (Fig. 2).

Later prehistoric

1.4.3 The Colne Valley has not produced extensive evidence for early Neolithic activity (*c* 4000-3000 BC), such evidence being limited to the Yeoveney Lodge causewayed enclosure near Staines, and a double ring-ditch at Horton. Evidence for late Neolithic (*c* 3000-2400 BC) settlement includes pottery, flintwork and cattle bones at West Drayton. Regionally Bronze Age (*c* 2400-700 BC) activity appears more common. A number of Beakers have been recovered from the Thames, particularly in West London, and ring ditches appear to be concentrated on the gravels of West London and north-west Surrey. Middle to late Bronze Age ditched field systems have been found in the Colne Valley, at the Lea, Denham and settlement evidence is common, including a possible settlement at Harefield Road Uxbridge. Late Bronze Age and Iron Age finds in the London area are dominated by metalwork from the Thames. Early and late Iron Age settlement is rare, although extensive middle Iron Age open settlements are located at Caesar's Camp and Perry Oaks, Heathrow.

1.4.4 A single redeposited piece of worked flint of possible Neolithic date was recovered during the WA evaluation in 2005. Within the 1km radius of the site there are seven sites or find spots of Neolithic date comprising flint artefacts or scatters and pits. There are four Bronze Age sites recorded within 1km of the site. These comprise a probable ring ditch visible as a cropmark, two possible Late Bronze Age settlements and part of a Bronze Age field system. Three areas of Iron Age settlement are recorded and seven cropmark complexes may also date to the Iron Age or Roman period (Fig. 2).

Historical period

1.4.5 The gravel terraces to the west of London were intensively settled during the mid-1st to mid-2nd centuries AD; however, there is a near absence of rural settlement in the Lower Colne Valley. There are three find spots of Roman date within 1km of the site, along with a pit containing cremated human bone which may be Roman in date (Fig. 2).

1.4.6 Early Anglo-Saxon settlement is present in the Colne Valley, particularly at Harmondsworth, although middle Saxon rural settlement is rare. Early medieval settlement in Hillingdon Parish was concentrated at Hillingdon and around Colham and Yiewsley in the south-west of the parish. By the 14th century Uxbridge had become a major settlement, along with other small towns supplying corn, fuel and other basics to London. Apart from the medieval core of Uxbridge *c* 900m to the north-east, there are no recorded medieval sites or find spots within 1km of the site. A complex at Mansfield Farm to the west of the site may have constituted a manorial centre on the west side of the Colne Valley.

1.4.7 During the post-medieval period the landscape in which the site sits was common land, known as Uxbridge Moor, and probably remained little changed from the medieval period. The Grand Union Canal, *c* 100m to the east of the site, was constructed between 1793 and 1796. By 1934 electricity pylons had been built at the east and west ends of the site and by 1963 the site had been partly built upon with industrial units in the north-east part of the site. The 1960s buildings had been removed by the mid-1980s, and replaced with a substantial industrial unit covering much of the site. This structure was demolished in 2009, leaving a large concrete slab *in situ*.

1.4.8 Overall the DBA suggested that the site had a high potential to contain well-preserved palaeoenvironmental remains within the alluvial sequence dating from the late Glacial and early Holocene period (OA 2014f). Such deposits provide important regional landscape data and have been investigated within the adjacent evaluation areas that preceded earlier phases of development. This deposit sequence would be significantly impacted upon by the construction.

1.5 Acknowledgements

1.5.1 The evaluation was commissioned by R Collard Ltd on behalf of Bilton Plc and monitored by Sandy Kidd (GLASS). The fieldwork was supervised for OA by Ben Attfield and the surveying by Olaf Bayer. The Project Geoarchaeologist was Elizabeth Stafford, supported onsite by Christof Heistermann and Julia Meen. The OA Project Manager was Steve Lawrence.

2 Evaluation Aims and Methodology

2.1 Aims

2.1.1 The evaluation aimed to inform on the presence/absence and significance of any archaeological and/or palaeoenvironmental remains within the site that may be impacted upon by the development. The specific aims and objectives of the evaluation were to:

(i) Investigate and characterise any below ground archaeological remains that may have been impacted by the development,

(ii) Investigate and characterise the sedimentary sequence and site formation processes and consider how this might have affected archaeological preservation,

(iii) Identify the presence of any buried land surfaces that may have potential to preserve *in situ* archaeological remains,

(iv) Establish the presence/ absence of associated cultural material, and whether this represented *in situ* activity,

(v) Investigate evidence of channel activity and its implications for archaeological activity and preservation,

(vi) Obtain samples suitable for palaeoenvironmental assessment and scientific dating from archaeological features, layers and the alluvial/peat sequence,

(vii) Update the preliminary site deposit model presented in the DBA and compare the results with those from other recently investigated sites in the vicinity.

2.2 Scope

2.2.1 As part of the evaluation OA initially advised on and observed the removal of the existing concrete slab immediately ahead of and then alongside the evaluation fieldwork. This was undertaken following a method designed to avoid any impact to the buried sediment sequence. The evaluation itself was intended to comprise the excavation of 76 test pits arranged on a staggered grid at 10m intervals (Fig. 3). Three of these were abandoned during the course of the works due to the presence of large modern obstructions and truncation. Each test pit measured 4m by 4m at the existing ground level with a minimum 2m by 2m area exposed at the surface of the Pleistocene gravel. The grid arrangement of test pits was specifically designed to maximise the potential to encounter and identify artefact scatters should they be present; particularly lithics and faunal remains. This approach was based upon the size of the artefact scatters recorded at Three Ways Wharf.

2.3 Methodology

2.3.1 In the first instance the existing concrete slab was removed by a mechanical excavator fitted with a toothed bucket working from the hard standing and progressively removing this back from an exposed edge. Buried obstructions such as foundations and services were not removed as part of this primary slab removal. The slab removal revealed a thick blanket of mixed rubble made ground which provided added protection to the buried sediment sequence.

2.3.2 Following removal of the concrete slab each test pit was excavated using a mechanical excavator fitted with a toothless bucket under direct archaeological observation and instruction. Machining continued in spits down to the top of the undisturbed natural gravel or the first archaeological horizon depending upon which was encountered first.

Once archaeological deposits or those with the potential to contain artefacts were exposed, further excavation proceed by hand with the appropriate additional use of machine excavation.

2.3.3 The sediment sequences were regularly assessed by OA's Senior Geoarchaeologist (Elizabeth Stafford) and recorded and sampled under the supervision of an OA geoarchaeologist who was present on site at all times. Samples for assessment of a range of palaeoenvironmental remains (eg. pollen, charred and waterlogged plant remains, insects, molluscs) and radiocarbon dating were obtained from representative sequences through the alluvial/peat sequence. These comprised both monoliths and bulk samples and included as a minimum a sequence from a test pit over the 'high' ground where the sequence was shallowest and another where the deepest sequence was encountered.

2.3.4 The fieldwork programme commenced 7th July 2014 with the removal of the concrete slab across the western part of the site. Arisings were stored over the remaining concrete slab within the eastern part of the site. Test pit excavation began on 9th July with the evaluation of the western half of the site covered by 47 test pits completed by 5th August, at which point works ceased until the stockpiled arisings had been crushed and moved to expose the remaining slab and evaluation area. OA did not monitor the removal of the slab over the eastern half of the site due to the presence of the demonstrable modern thick made ground layer that was present consistently across the site, effectively protecting the buried alluvial sequence from the minimal intrusions caused by the slab removal. OA staff returned and completed the test pit evaluation within the eastern part of the site between 18th August and 3rd September 2014.

2.3.5 Two progress reports were produced by OA during the course of the fieldwork and issued to GLASS (OA 2014c and 2014d). These provided interim clarification of the field results for the completed test pits within each area. Once clarified with GLAAS, the buried obstructions comprising strip and pad foundations and services were removed and the material stockpiles were relocated to allow the remaining test pits to be excavated.

2.3.6 A site meeting was held between Sandy Kidd (GLASS), Steve Lawrence (OA Senior Project Manager), Elizabeth Stafford and the site Supervisor on the 17th July to review the initial results and sediment sequence at that point.

3 RESULTS

3.1 Introduction and presentation of results

3.1.1 The following sections outline the general conditions encountered during the evaluation and a description of the sediment sequence both vertically and horizontally. Each test pit was recorded as a unique sequence resulting in the generation of approximately 500 context numbers. However, this quantity only represents a handful of deposits that could be broadly correlated across the site. Therefore, the following descriptions does not refer to individual equated context numbers although individual test pits are referenced where relevant. The artefact, scientific dating and palaeoenvironmetal results follow the site sediment description.

3.1.2 Recording logs of the test pits that were assessed in detail for palaeoenvironemtnal remains are presented in Appendix A along with images of the accompanying sample monoliths in Appendix B. The appendices provide an illustrative example of the sediment sequence. A series of plates at the rear of this document provide an accurate representation of the sediment sequence encountered across the site, and appear more useful to help comprehend the sequence than a collated section drawing that is otherwise difficult to produce at a useful scale. A full context inventory has not been produced here as this would be repetitive and uninformative. This information can be viewed as part of the digital and paper archive.

3.2 General ground conditions

3.2.1 Ground conditions and archaeological visibility were good throughout the evaluation although high ground water levels were obstructive where encountered in the southern, north-western, and south-eastern parts of the site. This coincided, not unexpectedly, with the area where the alluvial sequences and test pits were deeper. However, flooding was largely confined to the lower steps of the excavations and a pump was used where necessary to remove excess water to allow access for recording and sample recovery.

3.2.2 In addition to weather and ground water levels, significant obstructions were frequently encountered in the form of concrete strip and/or pad foundations. These had been left *in situ* for the evaluation phase to avoid disturbance to potential buried archaeological horizons. TP18, TP54, and TP60 were abandoned due to the presence of a combination of services, concrete footings, and where modern intrusions had truncated the underlying gravel surfaces making effective evaluation impossible. TP59 and TP27 suffered from similar difficulties although it proved possible to relocate and excavate these immediately adjacent to the intended locations.

3.3 Site sediment stratigraphy

3.3.1 The removal of the concrete slab revealed *c* 0.5-1m of mixed rubble over a geotextile membrane extending over most of the site. Beneath the geotextile lay a dark brown mixed peaty loam or organic clay silt that may represent the remains of the original floodplain/landsurface prior to modern development. In places this deposit was very mixed and disturbed with discrete areas of dumped deposits related to levelling of the ground surface prior to placement of the geotextile.

3.3.2 Beneath the modern deposits lay an intact alluvial/peat complex overlying Pleistocene gravel. The encountered deposits were consistent with the original deposit modelling presented in the DBA and described above. This sequence was also similar in nature to those recorded during the limited evaluation undertaken by Wessex Archaeology for the

previous development phase immediately to the north (WA 2006). In the areas where the elevation of the underlying gravel was highest, the sediment sequence was either absent or very thin and conflated, subject to significant rooting and post-depositional soil processes. In places the sequence appeared subsumed within the upper peaty loam which lay directly over Pleistocene gravel. This is consistent with the results from the WA evaluation which suggested that sequences in Trenches 3 and 4, the closest to the current site, were shallower and more disturbed, exhibiting increased levels of post-depositional drying and pedogensis.

3.3.3 As the gravel surface dipped in elevation to the south, north-west, and south-east, the alluvial/peat sequence became thicker and demonstrated greater complexity with interbedded grey silty clay, black organic clay, and peat.

3.3.4 Discrete calcareous tufa deposits were noted in the test pits in the northern and north-western part of the site (eg TP01, Plate 3 and TP40, Plate 14). In TP01 this 0.06m thick deposit comprised both pea-grit sized oncoids and aggregates, within a micritic calcareous silt, perhaps suggesting, in part, a riverine origin (see mollusc assessment below) along with small clasts of reworked peat. The deposit was much disturbed by rooting from above, exhibited vertical cracking suggestive of surface drying and in places the upper contact was clearly eroded and truncated. Deposits overlying the tufa in TP01 also contained reworked tufa granules. In TP40 the tufa appeared clearly as redeposited clasts within a grey alluvial unit.

3.3.5 Broadly more organic peaty deposits occurred towards the base of the profiles, although there was a notably high silt content suggesting sedimentation concurrent with deposit formation. The complexity of the sequence between test pits, where only a small number were open at any one time in different areas of site, together with limited radiocarbon dating, hindered correlation on a context by context basis. Such complexity reflects the range of shifting micro-environments likely to have been present on the floodplain, comprising minor channels, ephemeral pools, bodies of more permanent water and episodes of overbank alluviation.

3.3.6 Overall the fine grained organic nature of much of the deposit sequence exposed suggests relatively low energy deposition. However, in a number of test pits thin silt and sandy silt units were recorded directly above the gravels beneath the peat suggesting higher energy deposition thickening in the eastern and southern limits of the test pit arrangement. The upper surfaces of these deposits appeared weathered and rooted, which could indicate the presence of a remnant palaeosol. In places, however, the contact with the overlying deposits appeared abrupt with rooting superimposed from above, which could indicate that some erosion occurred prior to the formation of the overlying organic sequence.

3.3.7 The basal Pleistocene gravels were generally poorly sorted, clast supported and very loose within a coarse sandy matrix, although lenses and beds of sand and clayey silt and sand were also present, consistent with deposits formed in high energy braided stream systems of the late Devensian. The upper surface of the gravel was frequently stained dark grey with root disturbance from above.

3.3.8 Samples from two test pits (TP01 and TP32, Plates 3-5, 12 and 13, Appendix A) considered generally representative of the thicker, better defined sequences, were selected for palaeoenvironmental assessment and radiocarbon dating (see below). The Holocene sequence beneath the made ground in TP01 was 0.85m thick, and in TP32 0.93m (Appendix A). This compares with the WA evaluation trenches to the north where sequences measured up to 1.41m thick. The conflated nature of the shallower

sequences was not considered suitable for detailed palaeoenvironmental assessment and dating work in the absence of archaeological remains.

3.4 General distribution of archaeological deposits

3.4.1 No features of archaeological significance were identified during the evaluation. A small assemblage of three worked flints was recovered from three test pits.

3.4.2 In TP30 the precise level that the flint derived from is uncertain as it was identified out of context following the removal of a concrete foundation, although it was thought possible that it derived from the base of excavation from a thin 5cm fine sand unit (3003) directly over the gravel. The flint was given a finds reference number (3005). Subsequently a 1m² area was carefully hand excavated but no further flint was encountered (Plate 10).

3.4.3 A single worked flint was recovered from a silty sand deposit (3502) over the gravel in TP35, this appeared to be a very heavily rolled flake and is not thought to be *in situ*.

3.4.4 TP48 yielded a single worked flint from the top of the Pleistocene gravels (4807) which appeared weathered. A 1m² hand-excavated pit was dug through the basal sequence, but this did not produce any further convincing artefacts. A further 100 litres of the gravel was sieved on site, using a 10mm sieve, to ascertain the presence or absence of further artefactual material, but no further items were encountered.

3.4.5 Hand excavated 1m² squares were also completed through the basal deposits in the several other test pits where silt and sand layers were identified between the underlying gravel and the organic sequences, although no further flint artefacts were encountered in these deposits (eg. TP01, Plate 5; TP31, Plate 11 and TP32, Plate 13).

3.4.6 In TP13 a single bone (bovine femur fragment, R Nicholson pers comm.) was recovered from the sandy fill of a possible feature (1309) originating from directly beneath the made ground indicating a relatively recent date. The bone is in relatively good condition with little sign of wear from river erosion, but does exhibit signs of some mineralization. Feature 1309 was an east-west aligned linear, 2.30m wide and 0.40m deep, filled with light brown to coarse sand and gravel (Plates 7 and 8).

3.4.7 TP46 produced a small quantity of late 19th - early 20th century pottery and a small number of glass bottles, glass bottle fragments, and metalwork fragments, also dating to the same period. These were recovered from a dumped deposit (4607) which appeared to be infilling the upper levels of a small linear feature (4606) partially exposed at the edge of the test pit, directly beneath the made ground (Plate 15). Feature 4606 was aligned NE-SW and measured 0.9m deep. It was filled with a series of dump deposits. Fill 4607 consisted of a firm dark grey sandy clay with coal, brick fragments and mortar and may represent the levelling fill of a small extant channel. The lower fills (4608-4611) consisted of a series of black and greenish grey peaty clays.

3.4.8 A small shallow channel-like linear feature, *c* 2.5m wide, was also recorded in TP03 (Plate 6), although not traced in adjacent test pits. The fill (0302), *c* 0.30m thick, did not produce any finds.

3.5 Finds summary

3.5.1 A summary of all artefactual evidence is presented in Table 1.

Test pit	Worked flint	Bone	Post-med pottery	Post-med glass	Post-med metal
TP13		1			
TP30	1				
TP35	1				
TP46			3	7	2
TP48	1				
Total	**3**	**1**	**3**	**7**	**2**

Table 1 Finds summary (object/fragment counts)

3.6 Prehistoric worked flint

Mike Donnelly

Introduction

3.6.1 A very small assemblage of flint was recovered from the test pits at Riverside Way (Table 2). This area has long been known for its rich early prehistoric heritage (Lacaille 1963) and has again been brought to the forefront of early prehistoric discussions by the recently published sites of Three Ways Wharf (Lewis & Rackham 2011), Jewsons Yard, Uxbridge (Barclay *et al*. 1995) and Sanderson Factory site, Denham (Halsey 2006). However, the test pits excavated by OA produced very little in the way of struck flint despite encountering an apparently comparable sequence of sediments that had previously yielded up important flint and animal bone assemblages to the north.

Catalogue no.	TP	Context	Sf	Category type	Category	Sub type	No.	Damage	Cortication	Flaking pattern	Hammer	Butt	Prep	Terminal	Cortex	Notes
1	30	3005	1	2	Blade	inner	1	2	4	1				fine		Worn edges but clearly post-depositional damage
2	48	4807	2	1	Flake	inner	1	4	2	1	S	P	No	step		Heavily rolled but genuine
3	35	3502	3	1	Flake	Side trim-ming	1	6	3	1		P	Indet.	fine	Thin indet.	Very heavily rolled
4	48	4806	4	66	Nat.		1									
5	48	4806	5	66	Nat.		1									Very probably natural but very heavily rolled so not 100% clear
6	36	3603		66	Nat.		1									

Table 2 Worked flint catalogue

Methodology

3.6.2 The artefacts were catalogued according to OA South's standard system of broad artefact/debitage type (Bradley 1999), general condition noted and dating was attempted where possible. The assemblage was catalogued directly onto an Open Office spreadsheet. During the initial analysis additional information on condition (rolled, abraded, fresh and degree of cortication), and state of the artefact (burnt, broken, or visibly utilised) was also recorded. Retouched pieces were classified according to standard morphological descriptions (e.g. Bamford 1985, 72-77; Healy 1988, 48-9; Bradley 1999). Technological attribute analysis included the recording of butt type (Inizan *et al.* 1992), termination type, flake type (Harding 1990), hammer mode (Onhuma and Bergman 1982), and the presence of platform edge abrasion.

Discussion

3.6.3 This very small assemblage consisted of a single distal blade segment, one inner soft hammer flake and another side trimming flake. All three showed a unidirectional flaking pattern where previous removals were struck from the same platform and in the same direction as the recovered pieces. All of this could be seen as indicative of early prehistoric knapping, but the assemblage is so small and scattered that such a conclusion should be viewed with caution. Early prehistoric activity is known from the locality and such material was expected. However, the size of the assemblage is limiting and may reinforce just how rare *in situ* early Prehistoric sites are; they do not cover every contemporary land surface that we are lucky enough to discover. Mapping of areas of activity and comparing them to other 'blank' areas on that same surviving surface will allow us a far better understanding of early prehistoric settlement, land use and landscapes. Such a pattern can already be inferred for parts of the Thames basin where dense scatters are known from the Beam (Champness *et al.* forthcoming) but the corresponding Lea Valley mapping project yielded very little (Corcoran *et al.* 2011). For the Colne, the river is already known to be very important with many rich flint and faunal assemblages (Barclay *et al.* 1995; Halsey 2006; Lacaille 1963; Lewis and Rackham 2011). However, along its banks there are blank areas that were avoided, at least as far as flint use is concerned, for one reason or another, and examination of these areas in conjunction with the richer sites will lead to a more fully realised vision of early prehistoric life in south-eastern England. No further work is required with this assemblage.

3.7 Post-medieval finds

John Cotter and Ian Scott

Pottery

3.7.1 A total of three sherds of pottery weighing 263g was recovered from a single context (4607). This is all of late post-medieval date. Given the small size of the assemblage a separate catalogue has not been constructed and instead the pottery is simply described and spot-dated below. Pottery fabric codes used are those of the Museum of London (MoLA).

3.7.2 Context 4607 produced three sherds (263g) with a spot-date of *c* 1850-1900. They comprise one large rim sherd from a cylindrical preserve jar in pale grey modern English stoneware with a Bristol-type clear glaze (ENGS BRST); the sides are impressed with widely-spaced vertical lines or ‘corduroy’ decoration. One large body sherd from the shoulder of a large rounded spirits flagon in pale grey English stoneware with an external brown salt glaze (ENGS or LONS) and the scar of a broad strap handle. One smaller body sherd from a curved vessel or pipe in yellow ware (YELL) or

yellow stoneware - probably from an item of sanitary ware (eg water closet). All three vessels are of mid to later 19th-century date and are types commonly found in the London area and beyond.

Glass

3.7.3 There are 7 pieces of vessel glass including 3 complete vessels and a complete glass stopper. All the glass is from context 4607. Much of the glass is datable to the late 19th or early 20th century, the fish paste jar (6) dates to the 20th century. Only one vessel - a small bottle moulded in two-piece mould (1) might be of earlier date.

1) Bottle: Small square section bottle with chamfered corners. Made in a two-piece mould with separate base plate. The base of the bottle is not square to its sides but rather at slight angle making the bottle lean. Vertical neck with mould lines and hand finished square profile rim. Dark blue green metal. Ht: 102mm; W: 40mm x 40mm. Late 18th- to late 19th-century.
2) Jar or bottle: Base of moulded large jar or bottle embossed on the base in large letters: 'C & B' , probably for Crosse and Blackwell. Also small upper case 'D' which is probably a mould mark. Light green metal. D: 105mm. Late 19th- or early 20th-century date.
3) Bottle: Large sherd from the face of a rectangular section bottle. The sherd has deep vertical ribbing. Cobalt blue metal. 65mm x 52mm. Of late 19th- or 20th-century date.
4) Medicine bottle: Moulded bottle or jar with flat front and back with rounded sides, rounded shoulders and short wide vertical neck. There are vertical mould lines on the neck, but the square profile rim is hand finished. Embossed ‘KEPLER' on the front, back and sides at shoulder level. Embossed on base: 'BW & Co / LONDON'. ‘Kepler’ was brand name used by Burroughs, Wellcome and Co Ltd. The company was founded by two American pharmacists in 1880 in London. The 'Kepler' name was used for the company’s cod liver oil and malt preparations. Brown or amber glass. Ht: 188mm; W: 76mm. Late 19th- or early 20th-century date.
5) Bottle: Base of a small cylindrical bottle, probably machine moulded. Light green glass. D: 49mm; Extant Ht: 25mm. Probably of 20th-century date.
6) Fishpaste jar: small barrel-shaped jar with vertical ribbing, short vertical neck and square rim for a metal cap and seal. Machine moulded. Colourless metal. Ht: 94mm; max D: 52mm. 20th century or later.
7) Stopper: Complete glass stopper with slightly domed circular top with central hole. Tapered stopper. Moulded. Blue green metal. Ht: 37mm; D of top: 28mm.

Metal

3.7.4 There are just 2 pieces of iron, both almost certainly from the same cast iron saucepan and both from context 4607. Likely to be of later 19th- or early 20th-century date.

3.7.5 Saucepan: Two large sherds probably both from the same cast iron saucepan which had curved sides and probably a single long handle. The two pieces do not refit, but both are broken at the junction with the flat base of the pan and one piece has part of the rim of pan. D: 230mm; Ht: 160mm.

3.8 Sample summary

3.8.1 A summary of all samples collected is presented in Table 3. Following a rapid examination of the monoliths, palaeoenvironmental assessment and radiocarbon dating was carried out on samples from TP01 and TP32 considered to be representative of the site sequences. The sample logs along with sediment descriptions are included as Appendix A, along with photographs of the sub-sampled monoliths, Appendix B.

Test pit	Monolith	Incremental	Bulk
TP01	3	26	8
TP07	1		
TP30	1	8	5
TP32	3	15	8
TP41	1		
TP45	1		
TP48	1	2	
TP59			1
TP63			1
TP71	1		
Total	**12**	**51**	**23**

Table 3 Sample summary

3.9 Radiocarbon dating

3.9.1 Four radiocarbon samples were processed from TP01 and TP32 and submitted to the Scottish Universities Environmental Research Centre, East Kilbride, for AMS dating. The conventional radiocarbon dates BP (before 1950 AD) have been calibrated using the Oxford Radiocarbon Accelerator Unit calibration program OxCal4 (Bronk and Ramsey 2010; atmospheric data from Reimer *et al.* 2013). The calibrated date ranges are quoted to 2σ rounded by 10 years. The results are shown in Tables 4 and 5 and plotted on the sediment logs in Appendix A.

3.9.2 The four dates indicate that the lower parts of the deposit sequence in TP01 and TP32 date to the Early Holocene/Early Mesolithic period. SUERC-55846 is a little earlier than anticipated in the context of the younger underlying date SUERC-55848, and it is possible that the waterlogged wood selected for dating may have been reworked material.

3.9.3 The radiocarbon dates are similar to that from the base of the peat in Trench 2 in the WA evaluation at 9140±40 BP (NZA-24079, 8340-8040 cal. BC) (WA 2006).

Test pit	Context / Sample	Lab code	Material	Age BP	δ13C (‰)	Calibrated date BC (2σ)
TP01	(106) <102> 1.18m Organic silt	SUERC-55845	Waterlogged wood *Betula* sp.	9576±36	-27.7	9150-8800
TP32	(3203) <140> 1.41m Organic clay	SUERC-55846	Waterlogged wood Pomoideae type	9314±33	-26.7	8700-8460
TP32	(3204) <140> 1.50m Silty peat	SUERC-55848	Bulk sediment (56g) Humic acid	8967±34	-27.5	8280-7980
TP32	(3205) <140> 1.62m Organic silt	SUERC-55847	Bulk sediment (40g) Humic acid	9512±34	-28.3	9120-8740

Table 4 Radiocarbon dating results

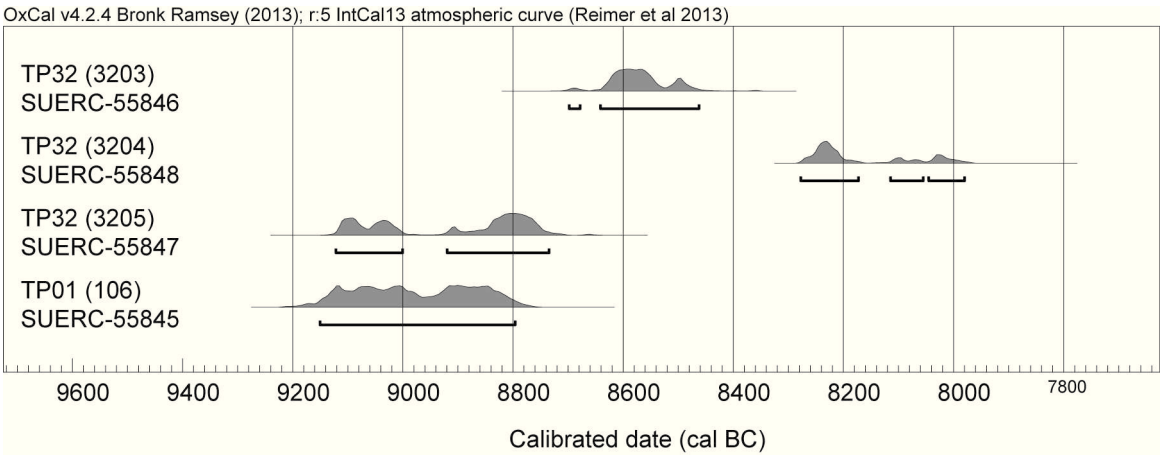


Table 5 Plot of calibrated radiocarbon dates

3.10 Pollen

Mairead Rutherford

Introduction

3.10.1 Twelve sub-samples from peat and alluvial deposits were submitted by OA South for palynological assessment. The sub-samples were extracted from monoliths retrieved from TP01 and TP32 (Table 6).

Test pit	Context	Lithology	Radiocarbon dates	Depth (m BGL)
TP01	102	Organic clay silt		0.73
TP01	103	Tufa		0.82
TP01	104	Organic clay		0.97
TP01	105	Silty peat		1.09
TP01	106	Lower organic silt	9576 ±36 BP	1.20
TP01	106	Lower organic silt		1.27
TP32	3201	Organic clay silt		1.12
TP32	3203	Organic clay		1.28
TP32	3203	Organic clay	9314 ±33 BP	1.41
TP32	3204	Silty peat	8967 ±34 BP	1.50
TP32	3205	Lower organic silt	9512 ±34 BP	1.62
TP32	3206	Organic silt lens in sand		1.72

Table 6 Pollen samples

Method

3.10.2 Volumetric samples were taken from twelve sub-samples and one tablet containing a known number of *Lycopodium* spores was added so that pollen concentrations could be calculated (Stockmarr 1972). The samples were prepared using a standard chemical procedure (method B of Berglund and Ralska-Jasiewiczowa 1986), using HCl, NaOH, sieving, HF, and Erdtman's acetolysis, to remove carbonates, humic acids, particles > 170 microns, silicates, and cellulose, respectively. The samples were then stained with safranin, dehydrated in tertiary butyl alcohol, and the residues mounted in 2000cs silicone oil. Slides were examined at a magnification of 400x by ten equally-spaced traverses across at least two slides to reduce the possible effects of differential dispersal on the slides (Brooks and Thomas 1967) or at least until 100 total land pollen grains were counted. Pollen identification was made following the keys of Moore *et al* (1991), Faegri and Iversen (1989), and a small modern reference collection. Plant nomenclature follows Stace (2010). The preservation of the pollen was noted and an assessment was made of the potential for further analysis. Fungal spore identification and interpretation followed van Geel (1978).

Results

3.10.3 All of the assessed sub-samples contained pollen, the pollen concentration ranging from 1610 to 233,917 pollen grains per ml of sediment, details of the raw counts are presented in Table 7.

3.10.4 TP01: The lower organic silt deposit (106) did not yield statistically viable pollen assemblages. The deepest sample at 1.27m contained only a few grass (Poaceae) and sedge (Cyperaceae) pollen grains as well as some pine (*Pinus*) pollen. The sample at 1.20m contains slightly higher counts for pollen of pine, a single grain each of hazel-type (*Corylus avellana*-type) and willow (*Salix*) and a few herb taxa including pollen of

bedstraw (Rubiaceae), daisy family (Asteraceae) and dandelion-type (*Taraxacum*-type). Both samples are distinguished by relatively high counts for the fungal spore *Glomus* (HdV-207). This fungal spore is known to become established with tundra vegetation on newly developing soils after deglaciation (van Geel 1978). A radiocarbon date at 1.18-1.19m of 9576±36 BP (SUERC-55845, 9150-8800 cal. BC) confirms an early Holocene, early Mesolithic age.

3.10.5 Moving up through the stratigraphy, silty peat deposits (105) at 1.09m yield a rich pollen assemblage, dominated by tree pollen of pine and willow, with fewer counts for birch (*Betula*) and hazel-type, and a single grain of ivy (*Hedera*). Pollen of herbs is rare, comprising only a few grains of meadowsweet (*Filipendula*) as well as single occurrences of grass and sedge pollen. Values for the fungal spore, *Glomus* (HdV-207) are much reduced relative to values recorded for the two deeper samples. This may be as a result of a decrease in the rate of soil erosion after the establishment of trees in the Holocene (van Geel 1998).

3.10.6 The overlying black organic clay (104) yielded a very rich pollen assemblage at 0.97m, tree pollen representing almost 80% of the pollen counted and approximately 20% consisting of herb pollen. The tree assemblage shows a significant apparent rise for values of hazel-type pollen, with elements of a more mixed woodland assemblage also present, including occurrence of elm (*Ulmus*) and several specimens of oak (*Quercus*). A rise in hazel-type has previously been dated at Riverside Way, to 9140±40 BP (NZA-24079, 8470-8270 cal. BC) (WA 2006).

3.10.7 A distinct tufa deposit (103), overlying the organic clay, did not yield sufficient pollen but the dominance of hazel-type pollen is confirmed in the uppermost sample from organic clay silt deposit (102), at 0.73m. The arboreal assemblage at this depth shows a relative decline in values for pine and presence of birch, alder and oak pollen. The herb pollen assemblage is dominated by dandelion-type pollen with some sedges, grasses and a single grain of ribwort plantain (*Plantago lanceolata*). Fern spores are recorded as well as a few taxa indicative of wetter environments, for example, lesser bulrush (*Typha angustifolia*). Micro-charcoal particles are present in low to moderate numbers in the assessed samples.

3.10.8 TP32: The organic silt lens within sand (3206) and the organic silt (3205) yielded sparse pollen assemblages at 1.72m and 1.62m. The fungal spore *Glomus* (HdV-207) is present in significant numbers, suggesting a possible correlation with the fungal spore assemblage present in the organic silt in TP01. This organic silt unit has been dated using a humic acid fraction, to 9512±34 BP (SUERC-55847, 9120-8740 cal. BC) at 1.62-1.63m, supporting the potential correlation.

3.10.9 The overlying peat deposit (3204) yields a marginally richer pollen assemblage at 1.50m, dominated by pollen of pine, with some willow, birch and hazel-type. Herb pollen includes sedges, grass pollen, meadowsweet, dandelion-type and pollen of the bedstraw family. Fern spores are present in relative abundance. Pollen of aquatic plants is also recorded, including both bulrush (*Typha latifolia*) and lesser bulrush. A radiocarbon date (humic acid fraction) of 8967±34 BP (SUERC-55848, 8280-7980 cal. BC) available at 1.50-1.51m, appears possibly a little too young for the peat deposit, relative to a date obtained from the overlying black clay. Moderate quantities of micro-charcoal are present in the sample from the peat.

3.10.10 Organic clay overlies the peat deposit directly in TP32; there is no tufa deposit. Two samples assessed for pollen from the black clay (3203) at this location yield rich, abundant pollen assemblages. The deeper sample, at 1.41m, comprises approximately

70% tree pollen and 30% herb pollen. The arboreal assemblage comprises predominantly pine, hazel-type, willow and birch pollen with occurrences of elm, oak and alder. Within the herb assemblage, pollen of sedges and grasses occurs most frequently, as well as pollen of the daisy family, mugworts (*Artemisia*), dandelion-types and meadowsweet. A radiocarbon date of 9314±33 BP (SUERC-55846, 8700-8460 cal. BC), based on a plant macrofossil, is available at 1.41-1.42m. At 1.28-1.29m, the pollen assemblage changes in character, with an abundance of sedge and grass pollen comprising more than 60% of the pollen, and tree pollen representing less than 40% of the pollen counted. Pollen of aquatic plants, including bulrush, lesser bulrush and pondweed (*Potamogeton*), is also more commonly recorded at this depth.

3.10.11 The uppermost sample, from the upper alluvial deposit (3201), at 1.12m, yields a less rich pollen assemblage which appears to show a similar trend of increasing herbs and reduced tree pollen.

Test pit		**TP01**						**TP32**					
Context		102	103	104	105	106	106	3201	3203	3203	3204	3205	3206
Preservation		G	-	G	G	G	-	M	M	G	M	-	-
Potential		yes	no	yes	yes	no	no	no	yes	yes	Poss	no	no
Depth (m)		0.73	0.82	0.97	1.09	1.20	1.27	1.12	1.28	1.41	1.50	1.62	1.72
Trees/Shrubs													
Alnus	Alder	1								1			
Betula	Birch	1		1	3			1		7	4		
Corylus avellana-type	Hazel-type	39	1	35	4	1		4	14	19	4		
Hedera	Ivy	1	1		1								
Pinus	Pine	21	2	20	48	16	3	9	18	41	49	6	3
Quercus	Oak	2	1	11					1	1			
Rosaceae	Rose family										1		
Salix	Willow	2		21	39	1		3	2	13	9		1
Ulmus	Elm			2						1			
Herbs													
Apiaceae	Carrot family									1			
Artemisia	Mugwort									1			
Asteraceae	Daisy family					1				5			
Brassicaceae	Cabbage family												
Cyperaceae	Sedge family	4	3	21	1		2	9	53	9	6		4
Cirsium-type	Thistles			1									
Filipendula	Meadowsweet			1	3					1	2	1	
Plantago lanceolata	Ribwort plantain	1											
Poaceae	Grass family	5		1	1		3	8	12	20	3		3
Rubiaceae	Bedstraw family					1					1		
Taraxacum-type	Dandelion-type	24	1			1		15		1	1	4	
Urtica-type	Nettle-type										1		
Unknown herbs		1		1	2	2	2	3			3		2
Total land pollen		**102**	**9**	**115**	**102**	**23**	**10**	**52**	**100**	**121**	**84**	**11**	**13**
No. of traverses		7	10	2	6	10	10	10	7	2	10	10	10
Lycopodium spores	Exotic	61	54	8	28	54	43	42	14	5	40	30	62
Ferns & Mosses													
Osmunda regalis	Royal fern								1				
Polypodium	Polypodies	3						3					
Pteridium	Bracken	3		1				3	2	1			1

Test pit		TP01						TP32					
Context		102	103	104	105	106	106	3201	3203	3203	3204	3205	3206
Preservation		G	-	G	G	G	-	M	M	G	M	-	-
Potential		yes	no	yes	yes	no	no	no	yes	yes	Poss	no	no
Depth (m)		0.73	0.82	0.97	1.09	1.20	1.27	1.12	1.28	1.41	1.50	1.62	1.72
Pteropsida (monolete)	Fern spores	7	1	5	8	4		13	14	4	18	1	
Sphagnum	Bog moss spores	1				1							
Aquatics													
Nuphar	Yellow water lilies							1					
Nymphaea	White water lilies											1	
Potamogeton	Pondweed			1					1				
Typha angustifolia	Lesser bulrush	1							2		1		
Typha latifolia	Bulrush								2	1	1		
Broken grains		8		4			4	7	8	3	4	1	
Concealed grains		11	1	5	2		1	15	4	6	5	4	1
Corroded grains		1			2								
Crumpled grains		5		4			2	10	11	3	3		2
Micro-charcoal		48	5	7	14	72	28	100	77	26	170	8	18
Fungal spores													
Chaetomium HdV-7A									1				
Podospora HdV-368										1			
Sordaria HdV-55A/B		3						1	1				
Glomus HdV-207		6			3	17	45	6	1		11	30	14
Sporomiella HdV-113		1						1	2				
Mougeotia HdV-313											1		

Table 7 Pollen counts

Interpretation

3.10.12 The pollen and fungal spore data from the two test pits suggest interesting palaeoenvironmental histories. It may be that the lower organic silts represent the initial development of soils within the early part of the Mesolithic, followed by a more stable period during which peat accumulated. Pollen from the peat is predominantly arboreal, characterised by high values for pine pollen, with willow apparently locally important, especially at TP01.

3.10.13 At both sites, the peat is then overlain by organic clays. The palynological record at TP32 (1.41m) within the organic clays overlying the peat, suggests woodland and shrub taxa represent almost 70% of the pollen counted, including dominantly pine but with increasing values for hazel-type, relatively commonly occurring birch and willow and rare occurrences of elm, oak and alder. Wet conditions may be interpreted from the increase in sedge and grass pollen and occurrence of pollen of aquatic plants. The pollen from organic clays at TP01 (0.97m) suggests development of hazel-scrub with locally growing willow and sedges and a possible regional woodland signal including oak, elm and pine. A similar rise in hazel-type coincident with declining values for pine, has previously been dated at Riverside Way, to 9140 ±40 BP (NZA-24079, 8470-8270 cal. BC) (WA 2006).

3.10.14 A tufa deposit at TP01 is virtually barren of palynomorphs but the overlying organic silt reveals an assemblage (at 0.73m) dominated by hazel scrub and dandelion-type pollen as well as pollen of some wetland plants and possibly regionally derived pine pollen.

The dominance of sedges, accounting for more than 50% of the pollen counted within the upper organic clays overlying the peat at TP32 (1.28m), may suggest the development of swamp conditions across parts of the floodplain, similar to palaeoenvironments interpreted from deposits at sites such as Three Ways Wharf (Grant *et al.* 2014). Fluctuations in the numbers of microscopic charcoal particles show potentially relatively higher counts in the lower organic silt in TP01 and within the peat deposits in TP32, perhaps suggesting episodes of burning.

3.10.15 This part of the River Colne valley has been subjected to previous pollen assessment work (WA 2006) and data are available also for nearby areas such as Denham (Lewis *et al.* 1992) and Three Ways Wharf (Grant *et al.* 2014). The current assessment appears to show a correlation with pollen profiles obtained from Trench 2 at Riverside Way (WA 2006), in that an initial dominance of pine pollen appears to decline in response to expansion of hazel-type pollen, this is particularly clear in the pollen samples assessed from TP01. Pollen assemblages described by Wessex Archaeology (2006) from Riverside Way, Trench 2, pollen zone 3, show a sharp expansion of sedges and monolete fern spores, suggesting potential correlation with the upper part of TP32 (1.28m) in the current assessment. Palaeoenvironmental data from Three Ways Wharf (Grant *et al.* 2014) suggest that by the late Mesolithic, a reed-sedge swamp had developed over much of the floodplain, microcharcoal evidence suggesting repeated burning of vegetation.

3.11 Macroscopic plant remains

Kath Hunter

3.11.1 Nine samples were assessed from TP01 and TP32. One-litre samples were bucket floated, recovering the flots on a 250µm mesh and the residue on a 500µm mesh. The resulting material was kept wet. Each sample was scanned using a Leica EZ4D stereo microscope at between x8 and x35 magnification. The frequency of plant macrofossils with other environmental remains was recorded (Table 8). Where seeds were sufficiently well preserved identification was undertaken. Identifications were made by the author. A reference text (Cappers *et al*. 2006) and modern reference material were consulted as required. Nomenclature and habitat preferences follow Stace (2010).

3.11.2 Whilst waterlogged plant remains were present in all of the samples assessed, the majority were unidentifiable root fragments. Very few identifiable remains appear to have survived. With the exception of three species, *Urtica dioica* (common nettle), *Sambucus ebulus* (dwarf elder) and *Eupatoria cannabinum* (hemp-agrimony), the remaining seeds were only identifiable to genus level.

3.11.3 The relatively large number of hemp agrimony seeds in contexts 104 and 105 (TP01) represent a species associated with a shaded environment, such as a woodland margin, often close to water. It is a seed that appears to be fairly resistant to decay so may survive in sediments where other more delicate remains have decayed away. This might suggest a preservation bias in these samples.

3.11.4 The poor preservation from this site contrasts with the relatively rich assemblages recovered from Three Ways Wharf (WA 2006) and William King Mill (Grant *et al.* 2014) excavated close by.

Test pit	Sample	Context	roots	monocot stem/leaf	wild/weed	fruit/nut	other	wood	charcoal	Comments
TP01	106	103	**	*			*	*		WPR - moss, molluscs
TP01	107	104	*		***		*	*		WPR - frequent fragments of *Eupatoria cannabinum* (hemp-agrimony), moss
TP01	125	105	**	*	*			**		*WPR - Eupatoria cannabinum*
TP01	114	105/106	****	**	*		*			WPR - frequent fine root fragments, cf. *Thalictrum* sp., moss
TP01	115	106	****	*						WPR - frequent fine root fragments cf. *Thalictrum* sp., *Urtica dioica* (common nettle)
TP32	144	3201	**						*	Amorphous charred fragments, ?coal, clinker, WPR - ? modern roots, moss
TP32	148	3202	**			*			**	WPR - *Sambucus ebulus*,moss,
TP32	151	3204	****	*	*			**		WPR- abundant roots,small wood fragments. Cf. *Galeopsis* sp.,(hemp nettle type)
TP32	153	3205	****	**	*			*		WPR - cf. *Thalictrum* sp (meadow rue type)., *Carex* sp.

Table 8 Macroscopic plant remains

3.12 Land and freshwater snails

Elizabeth Stafford

3.12.1 Two samples from TP01 were assessed for preservation of molluscs. These were the same samples that were examined for waterlogged plant remains where the initial assessment noted the presence of shell. Both flots and residues were scanned under a low power binocular microscope at magnifications up to x40. A sliding scale was used to indicate the abundance of taxa, and an estimate of the total number of identifiable individuals per sample (whole shells and apical fragments) was also given. The results are presented in Table 9. Nomenclature follows Kerney (1999) and ecological information is from Boycott (1936) and Evans (1972). Taxa have been divided into broad ecological groups.

Freshwater molluscs can be divided into four groups:

F - Flowing water species, which require a clean stream with a current.

D - Ditch species, which require clean slowly moving water often with abundant aquatic plants.

C - Catholic species, which tolerate a wide range of conditions except the worst slums.

Sl - Slum species. These are those able to live in water subject to stagnation, drying up and large temperature variation

For the terrestrial fauna habitat preferences consist of:

M - Obligate marsh species

(M) - Terrestrial species that can tolerate wet conditions

O - Open country

C – Catholic

S - Shade-demanding

3.12.2 Shell was found to be abundant in only one sample assessed, the calcareous tufa deposit (103) from TP01. The sample produced more than 300 identifiable individuals, although generally the assemblage was of low diversity and a little mixed.

3.12.3 The assemblage was dominated by freshwater taxa of the flowing water group, *Bithynia tentaculata* and *Valvata piscinalis* with smaller numbers of the river limpet *Ancylus fluviatilis.* The ditch species *Valvata cristata* was also abundant along with some catholic species. Freshwater slum species were notably absent.

3.12.4 The terrestrial component of the assemblage was much smaller and although many species identified can tolerate damp ground and are often found in floodplain assemblages there is a notable absence of obligate marsh species, suggesting that these examples derive from an environment at the drier end of the scale. The most numerous species were the open country grass snails *Vallonia* spp. and *Pupilla muscorum,* with only occasional occurrences of catholic species and shade-demanding species that can inhabit either woodland, scrub or rank grassland.

3.12.5 The assemblage is of mixed character. The predominantly freshwater element indicates that the tufa originally formed in-channel, although it may have been latterly redeposited or disturbed by overbank flooding. Close examination of the deposit in the field revealed it to be truncated with an irregular upper contact and much disturbed by vertical rooting and cracks filled with the deposit overlying (Plate 4). There are similarities in the composition of the assemblages with channel tufa deposits examined in the Colne Valley at Terminal 5 Heathrow.

3.12.6 The assemblage from the underlying deposit (104) was small with only 25 individuals identified. However, it was of a similar character to that described above. Given the level of disturbance it is considered likely that these shells are intrusive.

Test pit		**TP01**	**TP01**
Context		**103**	**104**
Sample	**Habitat**	**106**	**107**
TAXA			
Freshwater			
Ancylus fluviatilis	F	++	+
Bithynia tentaculata	F	+++++	+
Valvata piscinalis	F	+++++	+
Valvata cristata	D	++++	
Lymnaea spp.	C	++	+
Gyraulus albus	C	+	
Bathyomphalus contortus	C	+++	
Terrestrial			
Carychium sp.	(M) S	+	
Vallonia spp.	O (M)	++	++
Pupilla muscorum	O (M)	++	++
Trichia hispida	C	+	
Cochlicopa sp.	C (M)	+	+
Cochlodina laminata	S	+	
Clausillia cf. *bidentata*	S		+

Test pit		TP01	TP01
Context		103	104
Sample	Habitat	106	107
TAXA			
Discus cf. *rotundatus*	S	+	
Aegopinella sp.	S (M)	+	
Punctum pygmaeum	C (M)	+	
Vertigo pygmaea	O (M)	+	+
Estimated total		**>300**	**25**
Bivalves *(Pisidium* spp.*)*		++++	++
Slug plates			+
Calcite granules			+

+=1-3, ++=4-12, +++=13-25, ++++=26-50, +++++=51-100, ++++++=>100

Table 9 Molluscs from TP01

4 Discussion

4.1 Reliability of field investigation

4.1.1 The results of the field evaluation are considered reliable with reference to the paucity of archaeological features and the very limited artefact assemblages recovered. These strongly suggest that the area was not a focus for human occupation or any activities that would leave tangible traces in the past. The excavation of test pits on a 10m grid arrangement across the site was intended to locate discrete areas of occupation characterised by artefact scatters that may have been missed with more traditional trenching arrays spaced at wider intervals. Selective hand excavation of the basal deposits along with on-site sieving was also carried out and also produced negative results. All test pits (excluding the three abandoned test pits) were excavated until Pleistocene gravel had been proven, which was mostly within the 2m depth range predicted by the deposit modelling presented in the DBA (OA 2014f). The deeper channel deposits predicted in the deposit model are located to the south of the current test pit array, beyond the impact of the current development, and as such these were not investigated. Visibility during the fieldwork was considered good. Although flooding of the lower parts of the test pits occurred, on-site pumping allowed the test pits to be recorded and sampled with no significant issues.

4.2 Evaluation results

4.2.1 No significant archaeological features or finds assemblages were identified during the evaluation. Features were restricted to modern intrusion deriving directly from the base of the made ground, or occasional small ephemeral channel-like features. Only three worked flints were recovered, two in worn or rolled condition suggesting they may not be *in situ*. The remaining finds date to the 19th-20th century from a single feature in TP46 directly beneath the made ground.

4.2.2 Indirect evidence of human activity may be suggested from the pollen assemblages where fluctuations in the numbers of microscopic charcoal particles show potentially relatively higher counts in the lower organic silt in TP01 and within the peat deposits in TP32, perhaps suggesting episodes of burning during the Mesolithic period.

4.2.3 The sedimentary sequence is consistent with that presented in the original deposit model (OA 2014f) and similar in nature to those recorded during the limited evaluation undertaken by Wessex Archaeology for the previous development phase to the immediate north (WA 2006). The removal of the concrete slab revealed much of the site to be covered by 0.5-1.0m of brick rubble over geotextile. Beneath this lay an intact waterlogged alluvial and peat sequence over Pleistocene gravel. The upper part of this sequence frequently comprised a mixed peaty loam exhibiting varying degrees of disturbance that may represent the original ground surface prior to ground raising. The deepest floodplain sequences occurred to the south, north-west and south-east, coinciding with lower elevations in the underlying Pleistocene gravels. The sequences comprised interbedded grey silty clay, black organic clay, and peat with discrete units of calcareous tufa. Such complexity reflects the range of shifting microenvironments likely to have been present on the floodplain, with minor channels, ephemeral pools, bodies of more permanent water and episodes of overbank alluviation.

4.2.4 The fine grained organic nature of much of the Holocene deposit sequence exposed suggests relatively low energy deposition. However, silt and sandy silt units recorded directly above the gravels suggest an earlier episode of higher energy deposition, thickening in the eastern and southern limits of the test pit arrangement. The original

deposit model suggested that a deeper channel system was located to the south of the investigation area and these deposits may be related.

4.2.5 The upper surface of the silts and sandy silts appeared weathered, which could indicate the presence of a remnant palaeosol. In places the contact with the overlying deposits appeared abrupt, with rooting superimposed from above. This could indicate that some erosion has occurred prior to the formation of the overlying organic sequence.

4.2.6 Samples were retrieved from the floodplain sequence in several test pits. Samples from two test pits (TP01 and TP32), considered generally representative of the thicker, less conflated, sequences, were selected for palaeoenvironmental assessment and radiocarbon dating. The four radiocarbon dates confirm the early date of the deposits at *c* 9150-7980 cal. BC, placing deposition within the Early Holocene/ Mesolithic. These dates are similar to those from the WA evaluation (WA 2006) and other sites within the wider area (Grant *et al.* 2014). Assessment of the pollen samples suggested that preservation was generally good. However, plant remains were poorly preserved and mollusc preservation was restricted to the tufa unit in TP01.

4.2.7 Pollen from the organic silt overlying the Pleistocene gravel in TP01 was quite poor, possibly due to weathering and soil processes in the Early Holocene. The assemblage comprised grasses, sedge with pine, hazel and willow. Herbs included bedstraw, daisy and dandelion. High numbers of fungal spores from the organic silt in both TP01 and TP32 are indicative of newly developing soils following glacial retreat.

4.2.8 In both test pits the organic silt is overlain by a very silty peat and then organic clay. Pollen from the peat was dominantly arboreal, characterised by high values for pine pollen, with willow apparently locally important, especially in TP01. The overlying organic clay produced woodland and shrub taxa representing almost 70% of the pollen counted in TP32 (1.41m). Pine dominated, but with increasing values for hazel, with birch, willow and occasional elm, oak and alder. Wet conditions may be interpreted from the increase in sedge and grass pollen and occurrence of pollen of aquatic plants. The pollen from TP01 (0.97m) also suggests development of hazel-scrub with locally growing willow and sedges and a possible regional woodland signal including oak, elm and pine. A similar rise in hazel-type coincident with declining values for pine, has previously been dated at Riverside Way, to 9140±40 BP (NZA-24079, 8470-8270 cal. BC) (WA 2006).

4.2.9 The tufa deposit in TP01 was virtually barren of pollen, although the mollusc assemblage is dominated by flowing water taxa perhaps suggesting a riverine source.

4.2.10 Deposits above the tufa produced a pollen assemblage dominated by hazel scrub and dandelion-type pollen as well as pollen of some wetland plants and possibly regionally derived pine pollen. The dominance of sedges, accounting for more than 50% of the pollen counted within the upper organic clays overlying the peat at TP32 (1.28m), may suggest the development of swamp conditions across parts of the floodplain, similar to palaeoenvironments interpreted from deposits at sites such as Three Ways Wharf (Grant *et al.* 2014).

4.2.11 This part of the River Colne valley has been subjected to previous pollen assessment work (WA 2006) and data are available also for nearby areas such as Denham, Three Ways Wharf, William King Mill and the Sanderson Site (Grant *et al.* 2014). The current evaluation suggests a correlation with the pollen profiles obtained from Trench 2 at Riverside Way (WA 2006), in that initially dominant pine pollen appears to decline in response to expansion of hazel-type pollen. This is particularly clear in the pollen samples assessed from TP01. Pollen assemblages described by Wessex Archaeology

(2006) from Riverside Way, Trench 2, pollen zone 3, show a sharp expansion of sedges and monolete fern spores, suggesting potential correlation with the upper part of TP32 (1.28m) in the current assessment. Palaeoenvironmental data from Three Ways Wharf (Grant *et al.* 2014) suggest that by the late Mesolithic, a reed-sedge swamp had developed over much of the floodplain, micro-charcoal evidence suggesting repeated burning of vegetation.

4.3 Significance and further potential

4.3.1 The results of the evaluation and general paucity of archaeological remains demonstrate that the site was not a focus for occupation or activity in the past. Indeed, it is possible that the site was generally too wet from an early point in the postglacial chronology. In addition the snail and plant macrofossil remains were relatively poorly preserved whilst the pollen appeared to be well preserved. However, the results demonstrate many similarities with better-preserved sequences previously investigated in the region that are of similar date. In the absence of any associated human activity the sediment sequence and palaeoenvironmental remains from this site offer little further potential for analysis.

4.4 Planning Condition 9

4.4.1 This evaluation report specifically fulfils Part A of Condition 9. The evaluation effectively demonstrated an absence of heritage assets of archaeological interest within the development boundary and this fact has been confirmed with GLAAS through the production and issue of progress and interim reports prior to this final report. Therefore Parts B, C and D of Condition 9 have not been implemented and are obsolete.

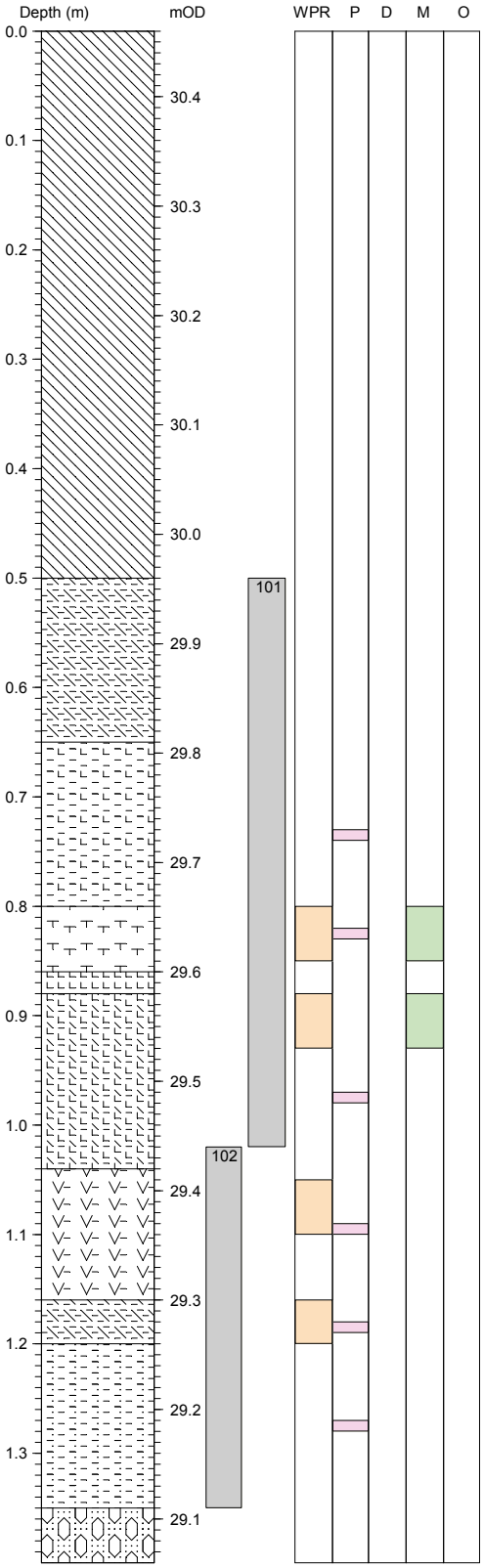
APPENDIX A. SEDIMENT LOGS

GEOARCHAEOLOGICAL SERVICES

SUMMARY TEST PIT RECORD

Oxford Archaeology

SITE NAME:	Site name	SITE CODE:	RVW14	NG EASTING:	504707.4808	DATE:	23.09.14
BH NO:	TP01	ELEVATION:	30.46	NG NORTHING:	183737.115	LOGGER:	ES



(0.00- 0.50) MADE GROUND: (100) Modern building rubble, coarse sand and brick

(0.50- 0.65) ORGANIC SILT: (101) Firm dark greyish brown organic slightly clayey silt, friable with occasional flint clasts

(0.65- 0.80) CLAYEY SILT: (102) Dense greyish brown clay silt, soft and crumby with occassional tufa flecks. Lower contact irregular but clear.

(0.80- 0.86) TUFA: (103) Pale yellow tufaceous deposit comprising pea grit sized clasts of oncoidal tufa and aggregates within a mictritic calcarous silt. Contacts diffuse and irregular with rooting from above and gracks filled with dark grey silt and silty clay. Heavily eroded in places.

(0.86- 0.88) CLAY: (104) Lens of very dense, plastic bluish grey clay

(0.88- 1.04) ORGANIC CLAY: (104) Very dark grey to black, very dense, firm, greasy clay Massive. Dark brown and increasingly silty below 0.95m. Diffuse lower contact

(1.04- 1.16) PEATY SILT: (105) Soft, dense, very dark greyish brown to black, humified, very silty, becoming peatier down profile. Roundwood fragments with bark.

(1.16- 1.20) ORGANIC SILT: (105/106) Soft, dark brown organic silt. Interface deposit

Radiocarbon date:
1.18-1.19 Betula sp.: 9576 ± 36BP, 9150-8800 cal BC

(1.20- 1.35) SANDY SILT: (106) Soft brownish grey sandy silt with frequent rounded to subangular clasts

(1.35- 1.40) SANDY GRAVEL: (107) Loose sandy gravel, rounded to subangular, poorly sorted, upto cobble sized clasts. Sone grey silty clay within matrix below water table

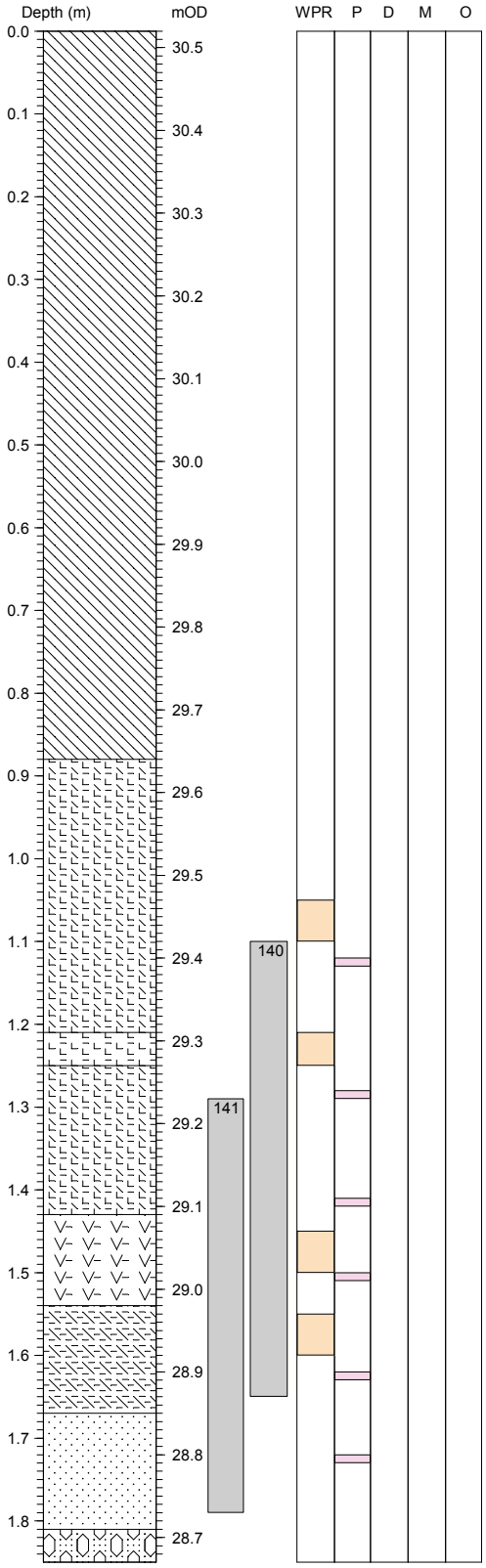
Notes:

GEOARCHAEOLOGICAL SERVICES

SUMMARY TEST PIT RECORD

Oxford Archaeology

SITE NAME:	Riverside Way	SITE CODE:	RVW14	NG EASTING:	504747.4746	DATE:	23.09.14
BH NO:	TP32	ELEVATION:	30.52	NG NORTHING:	183667.6691	LOGGER:	ES



(0.00- 0.88) MADE GROUND: (3200) Mixed modern building rubble

(0.88- 1.21) ORGANIC CLAY SILT: (3201) Dark greyish brown, crumby clay silt with occasional tufa flecks

(1.21- 1.25) SILTY CLAY: (3202) Firm mid brown mottled silty clay with common small tufaceous clasts/flecks. Some evidence of rooting

(1.25- 1.43) ORGANIC CLAY: (3203) Very firm, dense very dark grey greasy plastic clay. Massive

Radiocarbon date:
1.41-1.42 Pomoideae type: 9314 ± 33BP, 8700-8460 cal BC

9314+33

(1.43- 1.54) SILTY PEAT: (3204) Moderately firm dark greyish brown peaty silt

Radiocarbon date:
1.50-1.51 Humic acid: 8967 ± 34BP, 8280-7980 cal BC

8967+34

(1.54- 1.67) ORGANIC SILT: (3205) Soft mid brown organic rich silt

Radiocarbon date:
1.62-1.63 Humic acid: 9512 ± 34BP, 9120-8740 cal BC

9512+34

(1.67- 1.81) SAND: (3206) Soft light brownish grey medium sand with lenses of silt

(1.81- 1.85) SANDY GRAVEL: (3207) Loose mid grey sandy gravel, rounded to subangular, poorly sorted, upto cobble sized clasts

Notes:

APPENDIX B. MONOLITH PHOTOGRAPHS

Monoliths <101> and <102>, TP01

Monoliths <140> and <141>, TP32

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Appendix D. Summary of Site Details

Site name: Phase 500, Riverside Way, Uxbridge

Site code: RVW14

Grid reference: TQ 0476 8370

Type: Evaluation

Date and duration: 7th July- 3rd Sept 2014

Area of site: 1.69 hectares.

Summary of results:

Between July and September 2014 Oxford Archaeology completed an archaeological field evaluation at Riverside Way, Uxbridge, in the London Borough of Hillingdon. The fieldwork comprised the excavation of 76 test pits arranged on a 10m grid designed to assess the potential for the presence of lithic artefact scatters. The test pits were excavated through a Holocene sediment sequence to the surface of the underlying Pleistocene sand and gravel. No features or artefact concentrations of archaeological significance were encountered. Three pieces of prehistoric worked flint were recovered along with a small assemblage of 19th-20th century pottery, glass and metal.

The site is located on the floodplain of the River Colne and a relatively shallow, sequence of waterlogged Holocene alluvial and peat deposits lay preserved beneath c 0.5-1.0m of brick rubble made ground capped by a concrete slab. At the base of the sequence a possible buried land surface was recorded over Pleistocene sand and gravel. Geoarchaeological and palaeoenvironmental sampling was undertaken in several test pits and two representative sequences were chosen for laboratory assessment and radiocarbon dating. Four radiocarbon dates from two test pits confirmed much of the lower part of the sequence was deposited during the early Holocene at c 9150-7980 cal. BC. Pollen was shown to be well preserved and correlations can be made with other sites in the region. However, macroscopic plant remains were poorly preserved and molluscs were generally only well-preserved in association with an eroded calcareous tufa deposit present within the north-western part of the site.

The earliest Holocene deposits and paleoenvironmental remains demonstrate the primary development of a soil horizon within a landscape represented by the pollen of grass, sedge and pine with rare hazel and willow. These deposits also produced fungal spores that typically established in association with tundra vegetation following glacial retreat. This was followed by wetter local conditions and the development of the peat horizon recording an increase in the broad-leaved tree species in the surrounding environment otherwise dominated by pine. The organic clay deposits overlying the peat represent wetter and regularly inundated site conditions. Again, the surrounding habitat appears to be dominated by pine pollen but with increasing amounts of broad-leaved species and herbs present. The wet site conditions are reflected by the presence of a variety of aquatic species. A radiocarbon date of c 8700-8460 cal. BC was obtained at this level. Above this, tree species declined being replaced by sedges, grasses and aquatic plants.

The sequence of deposits, date of deposition and palaeoenvironmental results are similar, though perhaps less well preserved, than other sequences analysed in greater detail in the surrounding area. The Riverside Way sequences frequently appeared conflated and affected by post-depositional processes along with areas of modern disturbance associated with the previous development at the site. Similarly, deposits recorded during an evaluation immediately to the north of the site in 2005 produced comparable sequences with no direct evidence present

for prehistoric activity other than a single worked flint. Contrasts to this area can be drawn with sites such as Three Ways Wharf, the Sanderson site and William King Flour Mill c 1km to the north and sites around Denham, which have produced well-preserved palaeoenvironmental, lithic and faunal assemblages providing substantial evidence of Mesolithic activity within the valley.

Location of archive: The archive is currently held at the head office of Oxford Archaeology, Janus House, Osney Mead, Oxford, OX2 0ES. This will be deposited with the Museum of London in course under the accession code RVW14

Servergo:/oaupubs1/UXRIVCO/Riverside Way Industrail Estate, Uxbridge/jm/13.07.09

Figure 1: Site location

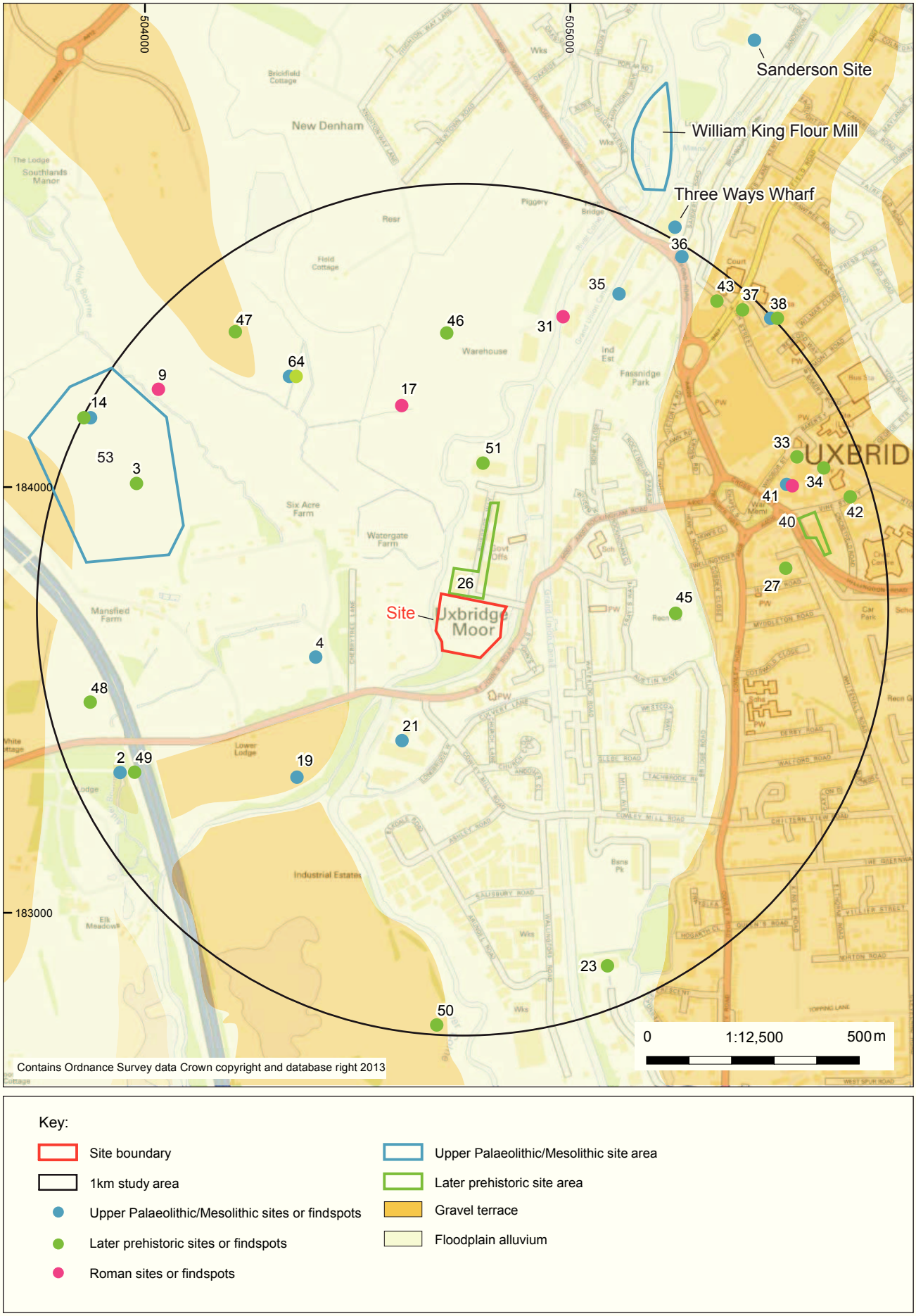

Figure 2: Prehistoric and Roman sites and findspots within 1km of the site (modified from OA 2014, Fig. 2)

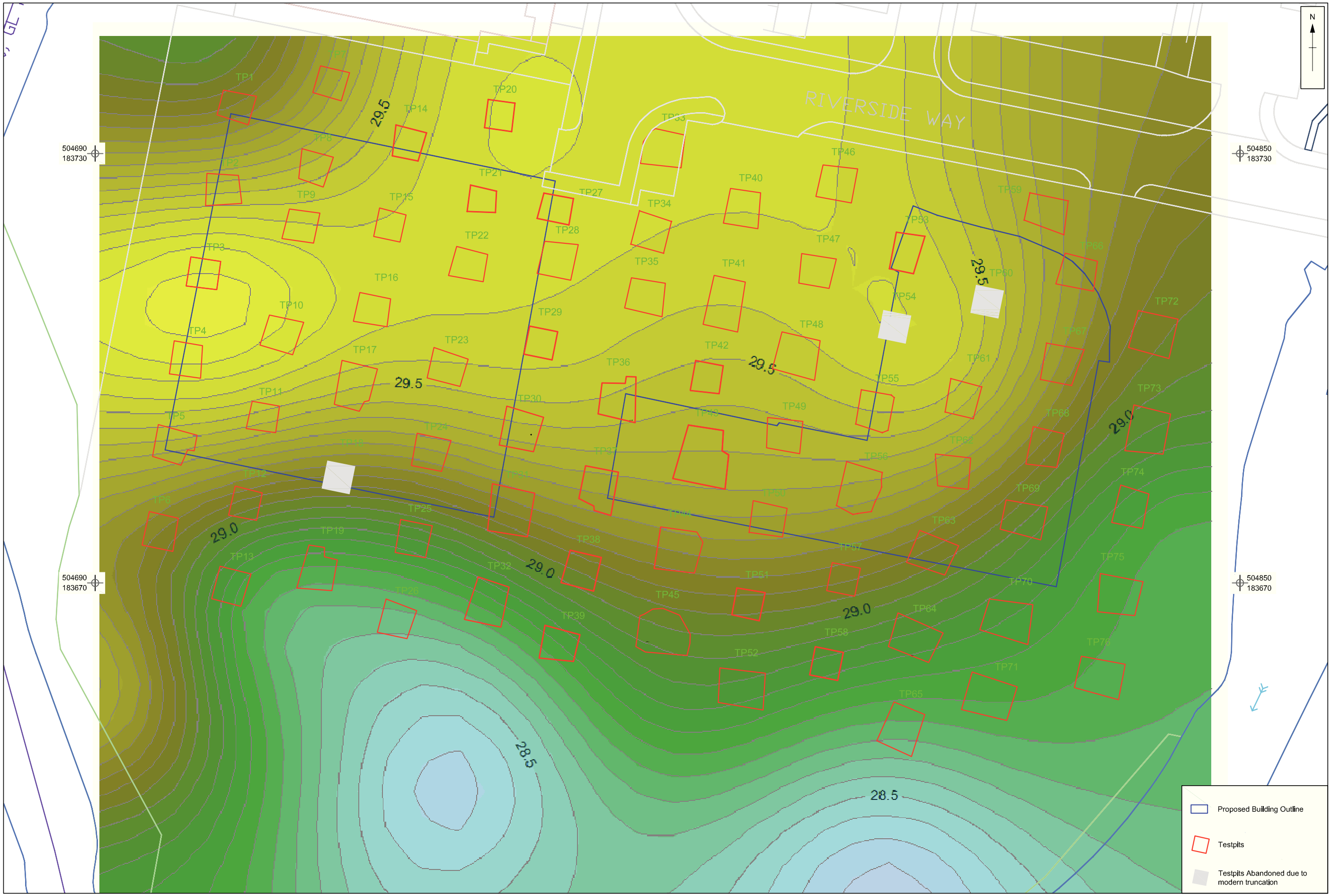

Figure 3: Test pit locations in relation to the modelled surface of Pleistocene gravel

Plate 1: General shot, pre-concrete removal

Plate 2: Removal of concrete slab

Plate 3: White tufa deposit over black clay and peat in TP01

Plate 4: Monolith sampling of alluvial/peat sequence, TP01

Plate 5: Hand excavated sondage with white tufa deposits in section, TP01

Plate 6: Channel feature, TP03

Plate 7: Sediments exposed in TP13

Plate 8: Bone recovered from TP13

Plate 9: Sediments exposed in TP29

Plate 10: Hand excavated sondage, TP30

Plate 11: Hand excavated sondage, TP31

Plate 12: Sediments exposed in TP32

Plate 13: Hand excavated sondage and monolith sampling, TP32

Plate 14: White tufa deposit over black clay and peat in TP40

Plate 15: Feature 4606 in TP40

Plate 16: Sediments exposed in TP56

Plate 17: Sediments exposed in TP74

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