

PP13

Planning Conditions: Discharge submission

Planning Permission: 14387/APP2020/4128
& Associated
Listed Building Consent: 14387/APP2020/4126

For Barn type extension at:

The Six Bells
Duck Hill Road
Ruislip
HA4 7TP

Condition 13 Written Scheme of Investigation

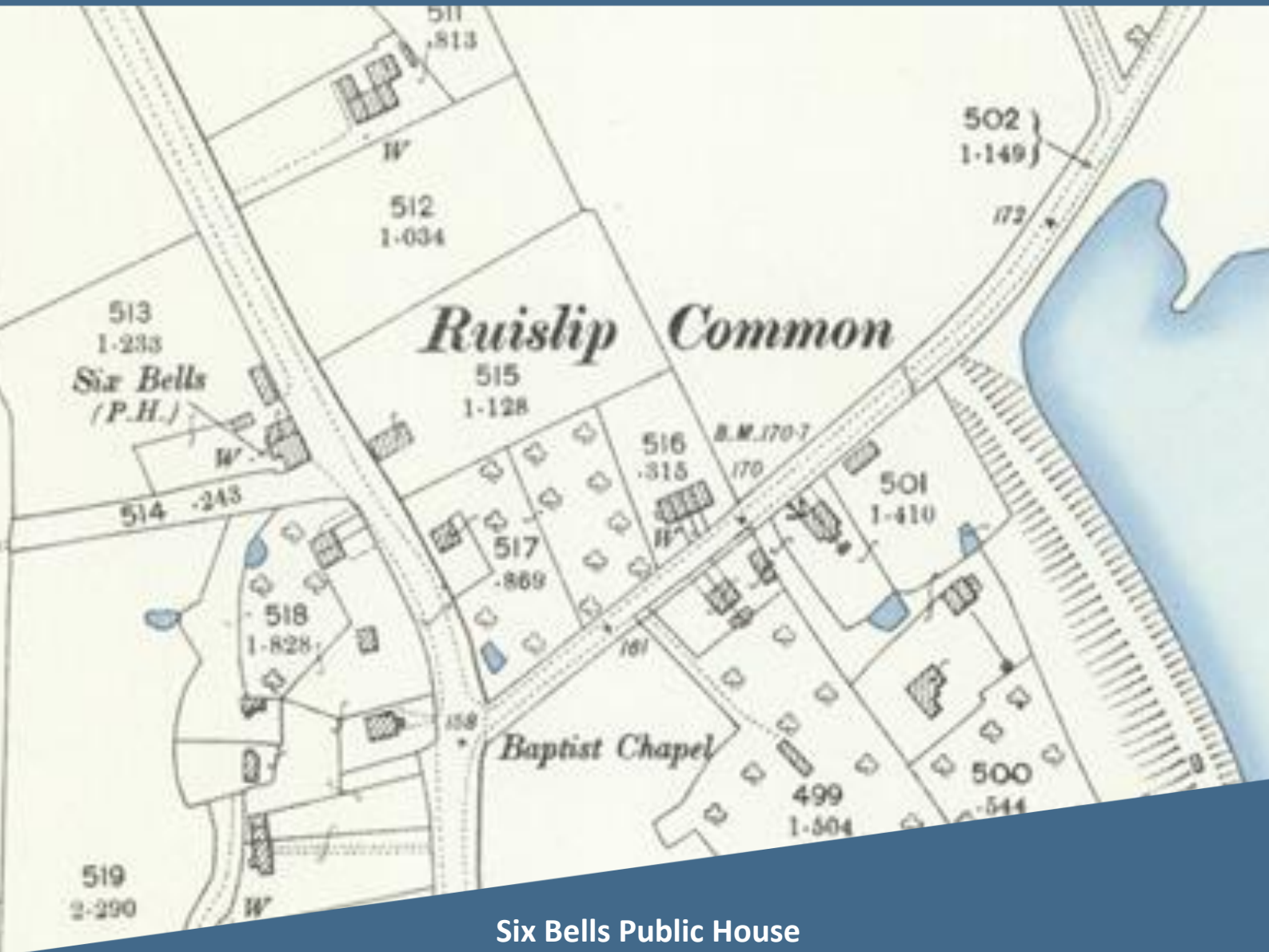
30th March 2021

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**Written Scheme of Investigation for
Archaeological Observation**



**Six Bells Public House
Ducks Hill Road
Ruislip
London Borough of Hillingdon
HA4 7TP**

On behalf of

Mr Richard Arens

April 2021

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Cover: Extract from the Ordnance Survey 2nd Edition 25-inch Map of 1896

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Contents:

1	Introduction.....	1
2	Site Description.....	1
2.1	Soils and Geology.....	2
2.2	Previous Archaeological/Geoarchaeological Investigations.....	2
3	Aims	5
3.1	Site-Specific	5
4	Historical & Archaeological Background	6
4.1	Prehistoric.....	6
4.2	Romano-British.....	6
4.3	Medieval	7
4.4	Post-Medieval.....	9
5	Scheme of Works.....	13
5.1	General	13
5.2	Scheme of works	13
5.3	Human Remains.....	14
5.4	Treasure.....	14
5.5	Recording.....	15
5.6	Recovery, processing & curation of artefactual data.....	15
5.7	Conservation requirements.....	16
5.8	Recovery & assessment of palaeoenvironmental/palaeoeconomic data.....	16
5.8.1	Other environmental sampling.....	17
5.8.2	Sampling for scientific purposes.....	17
5.8.3	Building materials	17
6	Processing & Post-Excavation Assessment.....	17
7	Archive Preparation.....	18
8	Reporting	19
9	Staff & Timescales	21
10	Border Archaeology Ltd. Operating Standards.....	21
11	Monitoring.....	21
12	Copyright	21
13	References	22
14	Appendix 1: Specialists	26

1 Introduction

Border Archaeology Ltd (BA) has been instructed by Mark Vernon Smith of Vernon Smith Associates on behalf of Mr Richard Arens to carry out Archaeological Observation (AO) of groundworks at the Six Bells Public House (PH) Ducks Hill Road Ruislip HA4 7TP in connection with a proposed 'barn' extension to provide an extended dining area at ground-floor and eight guest rooms at first-floor level, together with associated works and landscaping (Planning Ref. 14387/APP/2020/4126) (NGR TQ 08372 89046) (*fig. 1*).

The Site does not lie within a Conservation Area but is located within the NW extent of the Ruislip Motte and Bailey Archaeological Priority Area (APA 9), as developed in the Stage 2 *London Borough of Hillingdon Archaeological Assessment* (Butler & Meager 2014, 40-2), which is in turn based on the results of the Stage 1 *Archaeological Assessment* (CgMS 2013) and the *London Borough of Hillingdon: Archaeology Assessment* (Drysdale 2003). A plan showing the extent of the APA is available on the Hillingdon Council website (www.hillingdon.gov.uk/media/33348/Ruislip-Motte-and-Bailey-APA/pdf/Ruislip_Motte_and_Bailey_APA_1_.pdf).

This Written Scheme of Investigation (WSI) has been compiled for submission to Hillingdon Borough Council and Historic England for their approval as a methodology for the proposed programme of archaeological work.

2 Site Description

- The Six Bells Public House (GLHER MLO85064) is a two-storey Grade II Listed Building (List Entry Number 1080240) (NGR TQ 08372 89046), possibly of late 18th Century construction but more likely built at some point between 1806 and 1811, based on available cartographic evidence, with later 19th Century alterations. The property is constructed in painted brick with brick dentil cornice and a high-pitched tiled roof, half-hipped at right, and stands within a roadside plot on the W side of Ducks Hill Road Ruislip Common;
 - The footprint of the proposed barn extension measures 20.5m x 9.15m and will be set back from the original building, connecting to the main complex via a glazed link;
 - The 1868 Ordnance Survey map shows the Six Bells PH in its present location set within a broadly rectangular plot, with a central outshot extension to the rear, possibly representing a brewhouse, and two small outbuilding to the NNW, one a square structure placed centrally within the plot the other a rectangular building standing on the roadside. A small rectangular, possible garden plot with a tree-lined boundary is shown to the rear, which also abuts the remains of the embanked manorial boundary of St Catherine's or Little Manor, evidence of which was encountered nearby during pipeline observations (see below);
 - The Site lies on the northern outskirts of Ruislip within a well-wooded landscape comprising four tracts of ancient woodland, namely, Mad Bess Wood, Bayhurst Wood, Park Wood and Copse Wood, these being collectively designated as the Ruislip Woods SSSI, one of the most extensive surviving areas of broadleaved
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woodland in the London area. Ruislip Lido, a 60-acre lake, formerly a reservoir and feeder system in the ownership of the Grand Union Canal Company but now a public amenity managed by Hillingdon Council, lies roughly 230m to the E at its closest point;

- To the SSE is the main focus of medieval occupation at Ruislip represented by the Scheduled Monument of Ruislip Motte and Bailey (List Entry Number 1002045) comprising a motte and bailey castle, the remains of a Benedictine priory and a curvilinear earthwork, 280m NNW of St Martin's Church. The Scheduled remains of a pre-Norman Park Pale (List Entry Number: 1021402) lie to the SE of the Site representing the N side of Ruislip Park, one of only two 'Parks for Woodland Beasts' (principally deer) in Middlesex mentioned in the Domesday Survey. The Park originally enclosed an area of about 340 acres (138ha) centred to the N of St Martin's Church at the junction of the roads now known as Bury Street and Eastcote Road. It was oval in plan and the River Pinn crossed it from W to E. About half of the original Park is still open space, partly in Park Wood with the remainder along the edge of the River Pinn. About two thirds of the original park boundary pale have been lost under modern development but this section from just N of Broadwood Avenue in the W through Park Wood survives as a clearly visible earthwork of varying height. The park is known to have been 're-paled' in 1436 by the then owners King's College. This shows a continued use of the park for containing deer and other animals 400 years after it was originally built. The Park is believed by some to have been established by the Anglo-Saxon Manor of Wlward Wit at the time of Edward the Confessor, and to be associated with an Anglo-Saxon manor which was possibly on the site of the later motte and bailey.

2.1 Soils and Geology

The Site lies within an area of typical stagnogley soils of the WICKHAM 4 series (711h) consisting of slowly permeable seasonally waterlogged fine loamy over clayey and fine silty of clayey soils associated with similar clayey soils, often with brown subsoils. The underlying geology is recorded as drift over tertiary clay (Soil Survey of England & Wales 1983). The British Geological Survey (BGS) records the Site as overlying sedimentary bedrock geology of the Lambeth Group, formed c. 48-59 million years ago in the Palaeogene Period in a local environment previously dominated by swamps, estuaries and deltas; no superficial deposits are recorded (BGS 2021).

2.2 Previous Archaeological/Geoarchaeological Investigations

Relatively few detailed archaeological investigations have been undertaken within and around Ruislip and where work has taken place, results have generally either been negative or somewhat limited. The most relevant fieldwork results are those relating to pipeline observations carried out in 1992 in connection with Phase 3 of the Iver to Arkley Water Pipeline (Mad Bess Wood) (GLHER ELO9545). Among the finds were the following:

- A section of bank and ditch (GLHER MLO59311) forming part of a boundary features demarking the E extent of St Catherine's Manor was recorded on Ducks Hill Road to the N of the Site (NGR TQ 083 891) standing to a height of 0.3m, with a ditch measuring 4.5m wide and 1m deep. No finds were recovered from the ditch fills but the depth of the ditch suggested regular maintenance prior to disuse. The boundary is shown on
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an enclosure map of 1806 running to the rear of the plot boundaries adjacent to Ducks Hill Road, turning SW along Breakspear Road and then N along Breakspear Road South and back around to the N of West Wood (Mad Bess Wood) to reconnect with Ducks Hill Road - the rear of the Site is thus shown as coterminous with the E boundary embankment;

- Heavily truncated remnants of ridge and furrow cultivation (GLHER MLO59311; MLO4593) (NGR TQ 083 891; TQ 078 888) shown on aerial photography but almost imperceptible on the ground, even in optimum conditions;
- An artefact scatter (GLHER MLO59317) including tile was found spread across the pipeline route between Breakspear Road and Ducks Hill Road (NGR TQ 079 888) and interpreted as late 19th Century demolition material relating to the former Fine Bush House, as shown on a map of 1754;
- An unstratified prehistoric flint flake (GLHER MLO59314) was recovered near to Fine Bush Lane (NGR TQ 075 883).

The following were undertaken within the wider vicinity of the Site:

- Archaeological monitoring of basement excavations and service runs (GLHER ELO11454) carried out by Thames Valley Archaeological Services at No. 5 Reservoir Road (NGR TQ 084 890) in 2010 recorded no archaeological features or finds;
 - An evaluation (GLHER MLO72295) undertaken by Archaeological Services and Consultancy Limited in 1998 at Nos. 170-174 Bury Street (NGR TQ 086 885) encountered a deposit of silty grey loam containing a substantial assemblage of medieval pottery thought to derive from a cluster of irregular pits and a possible ditch. A post-medieval structure and associated features (GLHER MLO72296) were also found consisting of two linear deposits orientated NE-SW interpreted as a bank and ditch feature (GLHER MLO72297e), possibly a former property boundary, parallel to which was a single course of handmade brick (GLHER MLO72296) interpreted as a foundation or sill for a timber-framed building. The associated occupation debris indicated this building to have been a dwelling rather than an agricultural building such as a barn. Located to the SE were the 20th Century infill deposits of a large post-medieval pond (Archaeological Services and Consultancy Ltd 1998a & b);
 - An excavation at Bury Farm (GLHER 050964/00/00) (NGR TQ 087 882) by the West London Archaeological Field Group and RNHS in 1986 recorded features of 14th–18th Century date, including the flint rubble footings of what was thought to be a medieval solar bay;
 - Two evaluation trenches (GLHER ELO570) opened by MOLA in 2001 at No. 184 Bury Street (NGR TQ 086 885) ahead of redevelopment revealed a deposit of light brown silty clay containing moderate brick inclusions overlying a brownish-yellow natural clay. The only features encountered were modern drainage channels;
 - Two trial trenches (GLHER ELO2927) opened by MOLA at No. 182 Bury Street (NGR TQ086885) in 2000 revealed no archaeological features, although seven 12th-13th Century sherds were recovered from unstratified contexts;
 - Sherds of late 13th Century pottery (GLHER 052927/00/00) were recovered during the construction of houses near Woodman's Farm in Bury Street (NGR TQ 087 884) in the 1980s.
-



3 Aims

The main aim of the AO is to locate and record any archaeological finds, features or deposits within the groundworks area and to confirm that no impact on the archaeological resource occurs without the implementation of this proposed programme of archaeological work.

3.1 Site-Specific

- 1) To identify evidence of early human exploitation of the wooded slopes overlooking the Pinn valley;
- 2) To identify any evidence relating to occupation of the Site during the medieval and early post-medieval periods when it appears to have formed part of a small settlement named 'Cheapside', one of several hamlets established on Ruislip Common;
- 4) To identify any evidence for the construction of the Grand Junction Canal Company's Ruislip Reservoir and Feeder located close to the Site on the opposite side of Ducks Hill Road;
- 5) To implement a comprehensive sampling strategy, where possible, as directed by Amy Bunce BSc MA ACIfA Director: UK Operations & Palaeoenvironmental Sciences Border Archaeology Ltd, for the recovery of any palaeoenvironmental evidence providing an environmental context to complement any evidence of archaeological activity; it is noted that the Site lies on the upper slopes, well away from the valley floor, but is close to Ruislip Lido, formerly a reservoir, and any waterlogged deposits encountered will be sampled for the recovery of preserved artefactual material (including any preserved wood or other organic material) and to address questions relating to the specific nature of the local palaeoenvironment;
- 6) To recover samples for radiocarbon dating, where appropriate;
- 7) To produce a report detailing the assessment results and summarising their potential;
- 8) To undertake a programme of full analysis where suggested by the assessment results and as advised by Archaeology Advisor GLAAS.

Results will wherever possible be related to national and regional themes and objectives, including *Thematic Research Strategy for Prehistory* (Historic England 2010) and *A Strategy for Researching the Historic Environment of Greater London*, which represents the final stage of a three-part research framework for London, building upon a Resource Assessment (*Archaeology of Greater London* MOLA 2000) and a Research Agenda (*Research Framework for London Archaeology* MOLA 2002). The Strategy examines the historic environment in terms of four 'nested or inter-related structural elements', the widest being the whole landscape, with its patterns of prehistoric and historic habitation, and is intended to complement strategies developed by Historic England, particularly NHPP with its focus on key priorities (Rowsome & Baker 2015).

4 Historical & Archaeological Background

4.1 Prehistoric

The earliest find recovered within the Ruislip area is a probable Middle/Late Acheulian flint handaxe (GLHER 052882/00/00) found at the N end of Ruislip Lido (NGR TQ 090 899). It is not known precisely when the item was recovered, only that it was 'several years prior to 1983'.

Later prehistoric material includes an assemblage of 33 residual Mesolithic/Neolithic flints, mostly made up of waste flakes but also including a core, recovered from the curvilinear earthwork forming part of the Ruislip Motte and Bailey Scheduled Monument (List Entry Number 1002045) (Bedford & Bowlt 1977, 14). Other finds include a Neolithic arrowhead from Haste Hill to the NE of the Site (GLHER 050161/00/00) (NGR TQ 092 896) and a several scrapers and knives and a few Bronze Age implements recovered more widely within the Pinn valley and in Park Wood. Specific evidence of late Bronze Age occupation includes a barbed spearhead manufactured in the 'Broadward' tradition which was found by a metal detectorist in Park Wood (GLHER 050207/01/00; 050207/00/00) (NGR TQ 092 892) dating to the 9th -8th Century BC and which had apparently been deposited in a small pit/scoop, together with domestic refuse and several fragments of coarse domestic ware (Steele 1998, 5). A fragment of a socketed axe (GLHER 050848/00/00) is also recorded as having been found on Ruislip Common to the S of Reservoir Road (NGR TQ 085 890) by a Mr. C. Morris.

4.2 Romano-British

Two ceramic sherds (GLHER MLO59316) were recovered during observations carried out in Fine Bush Lane c. 800m to the SW of the Site (NGR TQ 076 884) in connection with the Iver to Arkley Pipeline, Phase 3, Mad Bess Wood, in 1992. Pottery was also recovered during the excavations on the site of the scheduled earthwork feature mentioned above, which included small fragments of grey ware dated AD 90-130, a *mortarium* rim fragment; sherds of white ware produced in the kilns from at Brockley Hill, Stanmore, and fragments of burnt daub exhibiting wattle grooves (Bedford & Bowlt 1977, 14).

Local antiquarian Hugh Braun writing in 1933 reported the discovery of walls of flint and Roman brick, together with fragments of Roman pottery during building work adjacent to the medieval earthwork at Ruislip Manor, with further pottery finds made nearby more recently, while Roman tile was reportedly recovered from St Martin's Church. These discoveries can be placed alongside reports of burials found on the Breakspear Estate and several stray finds, including a fragment of a blue glass pillar-moulded bowl of Mediterranean origin found in a garden at No. 6 Sharp's Lane in 1976 (Bedford & Bowlt 1977, 15) and an enamelled brooch thought to have been found on Ruislip Common (Steele 1998, 5).

4.3 Medieval

The name 'Ruislip' is of Saxon origin deriving from the Old English place-name elements *rysc and hlyp, probably meaning 'leaping-place' (across the river) (Mills 2001, 398). The pre-Conquest manor was held by Wlward Wit, a thegn of King Edward the Confessor and substantial landowner, but by 1086, the Domesday survey records *Rislepe* as being held by Ernulf of Hesdin, stating:

ERNULF de Hesdin holds RUISLIP. It is assessed at 30 hides. There is land for 20 ploughs. In demesne [are] 11 hides, and there are 3 ploughs. Among the Frenchmen and the villans are 12 ploughs, and there could be 5 more. There a priest [has] half a hide, and [there are] 2 villans on 1 hide, and 17 villans each [on] 1 virgate, and 10 villans each [on] half a virgate, and 7 bordars each [on] 4 acres, and 8 cottars and 4 slaves, and 4 Frenchmen on 3 hides and 1 virgate. [There is] pasture for the livestock of all the vill. There is a park for wild beasts, [and] woodland for 1,500 pigs and [rendering] 20d. In all it is worth £20; when received £12; TRE £30. Wulfweard White, a thegn of King Edward, held this manor. He could sell it to whom he would.

Of the 30 hides, recorded in 1086, 11 were in demesne, lying partly in the N of the parish in an area potentially including the Site that was farmed from a grange at Northwood, one of the three early settlement foci, which together with Ruislip and Eastcote, constituted the 11th Century parish. Evidence of agricultural activity in the form of heavily truncated ridge and furrow cultivation was recorded to the W of the Site (GLHER MLO59311) (NGR TQ 083 891) during the Iver to Arkley pipeline monitoring works in 1992 (GLHER ELO9545). These cultivation features were first seen on an aerial photography but as recorded on the ground during the watching brief were noted as being almost invisible, even in optimum conditions.

The 'park for wild beasts' mentioned in 1086 referred to a Saxon deer park, one of only two in Middlesex mentioned in Domesday. The park was defined by a pale, the northern third of which survives as a Scheduled Monument (List Entry Number 1021402) (NGR TQ 09524 88964) but which, until the widening of Bury Street and Eastcote Road in the 1930s, was observed to be complete except for a small portion on its W side. At that time, the bank and ditch reportedly survived to a height of 'more than 6ft and up to 30ft wide' and enclosed an internal oval-shaped area of some 340 acres (Braun 1933, 99-123; Bowlt 2000, 18-21); the park was later (prior to the 16th Century) extended to the N.

A motte-and-bailey castle was established at Ruislip during the Conquest period, the remains of which, now a Scheduled Monument (List Entry Number 1002045) (NGR TQ 08966 87907), survive in fairly good condition at the junction of two ancient routeways, namely, Bury Street and Eastcote Road, and N of the Grade I Listed Church of St Martin of Tours (List Entry Number 1285697) established in the 12th Century, probably on the site of an 11th Century church mentioned in Domesday (although not in the section reproduced above). A section of curvilinear earthwork of unknown function forms part of the scheduled area and its partial excavation yielded evidence of occupation.

In around 1087, Ernulf gifted the manor of Ruislip to the Benedictine Abbey of Bec in Normandy, which, in the 12th Century, established an 'alien priory' consisting of a small monastic cell built on the site of the bailey after this had

fallen out of use. Little is known of the original buildings but during the 13th Century, a substantial complex appears to have developed which became an important administrative centre for all of the abbey's English properties and which at its height included a manor house incorporating a chapel in existence by 1294, together with a guest house and three barns, one of which, the Grade II* Listed Great Barn (List Entry Number 1358359) (NGR TQ 08977 87755), constructed c. 1300, survives intact from that period and is regarded as probably the earliest surviving timber-framed building in the Greater London area.

The abbey retained possession of the manor until its sequestration by King John in 1211 as part of a general policy towards the properties of alien priories, although William de Guineville, the Prior of Ogbourne and Bec's proctor in England, was allowed to retain the abbey's properties, albeit at a heavy price. The Crown took full possession of the manor in 1404 and in 1437 Henry VI leased it, together with Northwood, to his chancellor John Somerset. By 1451, however, it had passed to King's College Cambridge, who retained possession until a break-up of the college estates in the early 20th Century.

Although the Site lies within the principal manor of Ruislip, it abuts the boundary of a second, smaller manor named St Catherine's or Little Manor. The separate status of St Catherine's is recognized in a charter of c. 1087 confirming Ernulf of Hesdin's gift to the Abbey of Bec of the whole of Ruislip manor apart from a single hide of land then held by the Abbey of the Holy Trinity - or St Catherine's - at Rouen, which had probably passed to the abbey as a sub-manor of Harmondsworth in 1069. The boundary of the manor appears to have been defined either wholly or partially by a distinct bank and ditch (GLHER MLO59311), a section of which was recorded by RPS during the pipeline works on Ducks Hill Road, to the N of the Site (NGR TQ 083 891) in 1992, standing to a height of 0.3m, with a ditch measuring 4.5m wide and 1m deep. No finds were recovered from the ditch but it had clearly been subject to regular maintenance during its active life. The boundary of 'St Catherine's or the Little Manor' is shown clearly marked in red on an enclosure map of 1806 running to the rear of the plot boundaries adjacent to Ducks Hill Road, turning SW along Breakspear Road and then N along Breakspear Road South and back around to the N of West Wood (now Mad Bess Wood) to reconnect with Ducks Hill Road - the rear of the Site is thus shown as coterminous with the E boundary embankment.

St Catherine's was acquired by William of Wykeham, Bishop of Winchester, in 1391, together with Harmondsworth, and formed part of the endowment of Winchester College. By 1587, the manor comprised roughly 300 acres, of which 160 acres consisted of commons, supporting nine free and 15 copyhold tenants and valued at 100 marks, exclusive of West Wood (Mad Bess Wood). An undated document of c. 1740 lists 20 free and 18 copyhold tenants. By 1769, St. Catherine's manor had been merged with the Southcote estate and their respective areas are thereafter uncertain. the manor Included and some 200 acres of commons called West Wood.

Ducks Hill Road appears to be part of a routeway of some considerable antiquity, which ran S through Ruislip as Bury Street and continued on through open fields to the S of Ruislip as Downs Barns Road, now West End Road, to West End, Northolt. The Site lies within an area of common wasteland consisting of Ruislip Common and Poor's Field, which was first recorded as in 1295 amid the Great Common Wood or Outwood on the higher ground to the N of Ruislip and S of the medieval hamlet of Northwood.

During the medieval and earlier post-medieval periods, these heavily wooded slopes supported three minor settlements shown on Doherty's Map of 1750 as consisting of small clusters of cottages named Cheapside, Park Hearne (later submerged – despite vigorous opposition from some of the residents - beneath the waters of the Grand Junction Canal Company reservoir) and Cannons Bridge (GLHER 052957/00/00) (NGR TQ 083 889), respectively. Of these, Cheapside (which is not shown on Doherty's Map - *fig. 2* - but is depicted on a later plan of 1789 delineating the site of the proposed parish workhouse - *fig. 3*) seems the most likely to have contained the Site location, comprising as it appears to have done a narrow roadside strip between the boundary embankment of St Catherine's Manor, Ducks Hill Road and Withy Lane, which, before the 19th Century, was itself known as 'Cheapside' and is first recorded as such in 1678; before this date, the land may have formed an unnamed portion of Cannons Bridge. Records relating to Cannons Bridge itself appear somewhat earlier, from 1434, while the name Park Hearne is first recorded in a terrier made for King's College Cambridge, then the lords of the manor, in 1565 (Bowl 2004, 1-19).

4.4 Post-Medieval

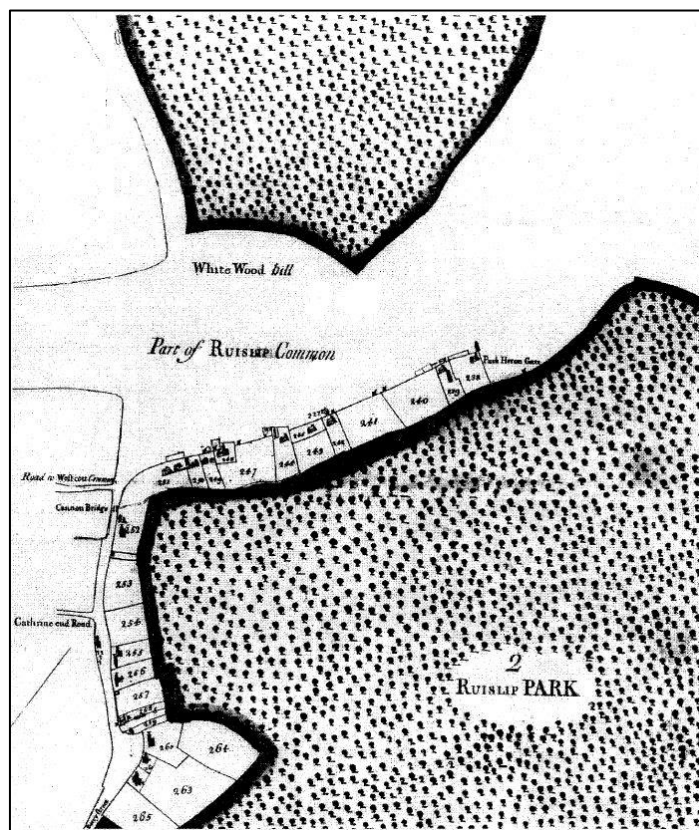


Fig. 2: Extract from Doherty's Map of 1750 showing the settlements of Park Hearne and Cannons Bridge

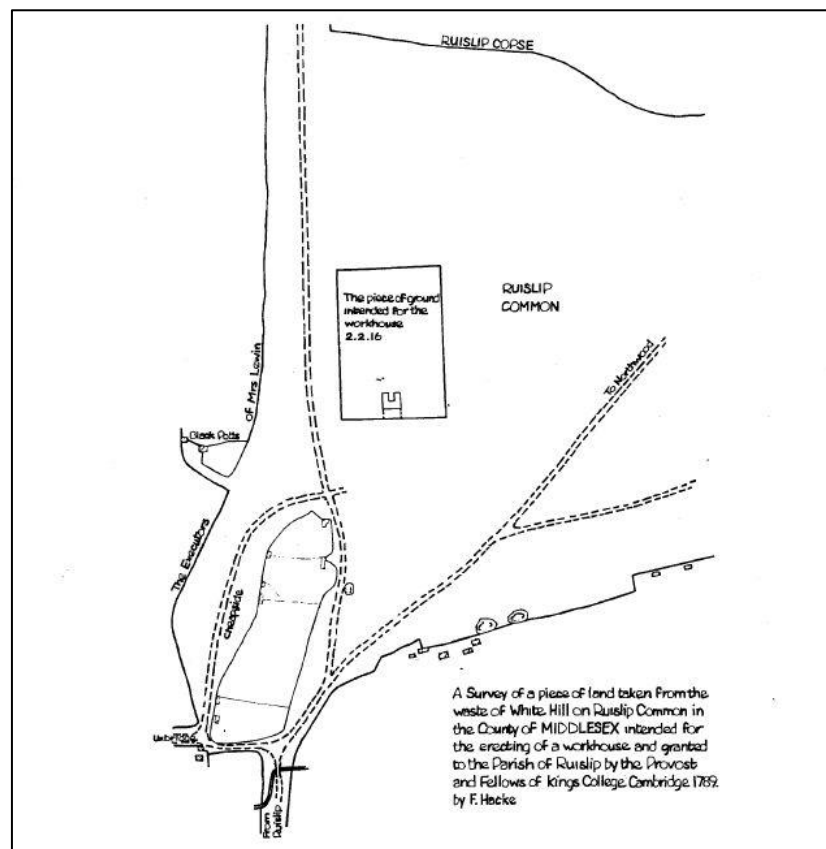


Fig. 3: Plan showing the site of the parish workhouse 1789

The topography of the parish altered little between the 16th and 19th Century. Throughout this period, Ruislip comprised several clusters of houses forming the hamlets of Westcote (modern Ruislip, containing the Church and Manor House); Silver Street Green (GLHER 052926/00/00) (NGR TQ 087 884) in Bury Street and, further to N in the vicinity of the Site, Cheapside, Cannons Bridge and Park Hearne (figs. 2 & 3). These settlements and the associated road layout are shown on the 1750 maps made by Doherty (fig. 2) and Rocque, respectively, these being first cartographic sources to show the area in any appreciable detail.

By 1754, Ruislip Common had further encroached on Park Wood and Copse Wood and around 350 acres of land in St. Catherine's Manor were enclosed under the first Middlesex Inclosure Act in 1769. The Inclosure Map of 1806 shows the area in considerable detail (fig. 4) whilst the 1811 OS Surveyor's Drawing is rather more schematic in its depiction of Ruislip and surroundings (fig. 5).

A tavern is recorded at Ruislip in 1636, which had been demolished by 1865, while the 'Black Horse' and the 'Bells' are mentioned in 1732 and 1741, respectively. Others establishments included the 'Sun', 'Red Lion', 'White Hart' and 'Leather Bottle'. Apparently, the 'Black Pots' stood just to the N of the present 'Six Bells', although it had been demolished by 1865.

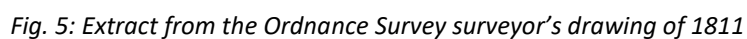
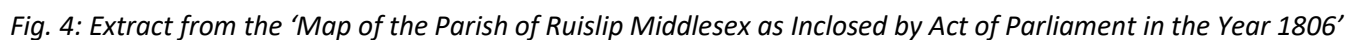




Fig. 6: Extract from the Ordnance Survey 1st Edition 6-inch map of 1868

The date of construction of the Six Bells (GLHER MLO85064) is not clear but it does not appear to be shown on the Ruislip enclosure map of 1806 the relevant plot, shown as Plot 59 on the plan, shown at this time to be under the ownership or tenancy of one S. Salter (*fig. 4*) but a structure is shown in this location by 1811 (*fig. 3*) suggesting it was built at some point between these two dates. The establishment is first named as 'The Six Bells (P.H.)' on the 1st Edition 6-inch OS map of 1868 (*fig. 6*).

The Grade II Listed Old Workhouse (GLHER MLO85063) is located c. 100m to N of the Site on the E side of Ducks Hill Road (NGR TQ 08396 89148) (*fig. 3*) A stone plaque above door commemorates its opening in 1789.

The most substantial engineering project of the period undertaken within the vicinity of the Site began with negotiations in 1802 for the purchase of land in Ruislip and it was resolved on the 12th June 1804 by the General Committee of the Grand Junction Canal Company 'that the solicitors be directed to make application to the Commissioners for inclosing Riselep Common to allot a sufficient quantity of land... to make a reservoir...' and, by 1807, the properties in Park Hearne were bought up, despite some local opposition. The Regent's Canal Company took over Ruislip Reservoir in 1827 and in 1927 the two merged to form the Grand Union Canal Company, which developed the reservoir as a Lido with 'Moderne' style buildings in 1936; the Lido eventually became the responsibility of the Borough of Hillingdon in 1964 (Bowl 2011, 1-13).

Neither the 1st Edition Ordnance Survey map of 1866 nor the 1896 Ordnance Survey plan show any appreciable change and Ruislip and the surrounding district remained largely undeveloped until the beginning of the 20th Century with the opening of Ruislip Station in 1904 and by 1945 development had begun within the former Park area. Thereafter, development was slow and sporadic and Ruislip remains one of the best examples of a medieval

rural settlement within the Greater London area (Butler & Meager 2013, 41) suggesting significant potential for the recovery of buried archaeology.

5 Scheme of Works

5.1 General

The archaeological programme of work will be carried out in accordance with *Standard and guidance for archaeological and archaeological watching brief* (ClfA 2020a), *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (ClfA 2020b) and within the *Guidelines for Archaeological Projects in Greater London* (GLAAS April 2015). BA is cognisant of the *ClfA Code of Conduct* (2019a) and *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Lee 2015).

The definition of an archaeological watching brief (archaeological observation) is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons (ClfA 2020a).

ClfA states (2020a, 4) that the purpose of a watching brief (Archaeological Observation) is:

- a. *To allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works;*
- b. *To provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard.*

5.2 Scheme of works

All groundworks associated with the proposed development will be carried out by a machine, and wherever possible a toothless bucket, operating under strict and continuous archaeological supervision, with topsoil and subsoil routinely checked for significant finds.

Where necessary, work will be halted to define, examine and record any areas of archaeological interest and to record these both in plan and section, provided such deposits are safely accessible. Adequate time will be allowed for the supervising archaeologist to do so.

If significant archaeological remains are identified, BA will inform Historic England, Hillingdon Borough Council and Mr Arens immediately and any such areas of identified archaeology will be cordoned-off from plant movement pending archaeological investigation.

Where archaeological deposits are identified for further investigation, exposed surfaces will be cleaned by hand and planned using a Survey Grade Global Positioning System (GPS) and/or Total Station Theodolite (TST), where appropriate and practicable, prior to investigation and recording.

Within significant archaeological levels, excavation would proceed by hand to establish the date and character of any archaeological deposits or features and to undertake palaeoenvironmental sampling. The partial excavation or half-sectioning of features and deposits, sampling, the recovery of material for dating and in order to determine function and the cleaning and recording of structures is considered preferable to full excavation. The full excavation and/or removal of deposits will be agreed with Historic England during a site monitoring meeting, as will the treatment of any archaeological deposits considered worthy of preservation *in situ* so as to agree a strategy for preserving or recording them.

Naturally occurring layers and features, such as peat, alluvium, geoarchaeological deposits and palaeochannels, will be investigated. This is particularly likely when the deposits contain well-preserved biological remains and/or were laid down during periods of archaeological interest.

A metal detector may be used throughout the programme as considered necessary. No unauthorised metal detecting will be permitted anywhere within the site area and all such activity will be carried out in accordance with BA's *Metal Detecting Policy* (2018) incorporating Historic England and Portable Antiquities Scheme guidance.

5.3 Human Remains

The company is cognisant of the deliberations by the Ministry of Justice and also the requirements of Section 25 of the Burial Act 1857 and thus any arrangements regarding the discovery of human remains will be at the discretion of HM Coroner, who will be informed.

Any human remains encountered during the course of the evaluation will be left *in situ*, covered and protected. If removal is essential, such remains and the treatment thereof will be the subject of an Updated Project Design.

5.4 Treasure

All finds identified in the Treasure Act (1996) and the Treasure (Designation) Order (2002) as being treasure will be recorded, removed to a safe place and reported to the local Finds Liaison Officer and Coroner. If the finds cannot be removed from site the same day as discovery, provision against theft will be made.

5.5 Recording

A GLHER event number will be obtained prior to project commencement.

Full written, graphic and photographic records will be made in accordance with BA's *Field Recording Manual* (2017). A written record will be compiled using standard numbered context record sheets.

The drawn record will be produced on gridded, archive -stable polyester film at scales of 1:50, 1:20 and 1:10, as appropriate. Measured sections will be prepared as appropriate and practicable strictly within established safety parameters. A temporary benchmark (TBM) will be established at an appropriate location and plans and sections will contain grid and level information relative to OS data. All drawings will be numbered and listed in a drawing register, these drawing numbers being cross-referenced to written site records.

A high-resolution digital photographic record will be made comprising photographs of archaeological features and appropriate groups of features and structures. An appropriate scale will be included in each photograph and all photographic records will be indexed and cross-referenced to written site records. Details concerning subject and direction of view will be maintained in a photographic register, indexed by frame number. X-ray photographs of archaeological metalwork, should these be required, will be produced off-site by York Archaeological Trust or other suitably qualified conservator.

The progress of the works will be recorded and assessed using the Company's ISO 9001 procedures.

5.6 Recovery, processing & curation of artefactual data

Finds are herein defined in accordance with ClfA *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* as 'all artefacts, building materials, industrial residues, environmental material, biological remains (including human remains) and decay products' (ClfA 2020b, 3). All artefacts will be bagged and labelled with the site code and context number before being removed off-site and each assemblage will be examined according to typological or chronological criteria and conservation needs identified. Finds will be packaged and stored under the direction of an on-site conservation specialist only where significant preserved organic artefactual material is discovered.

All registered finds (coins, individual objects etc.) will be packaged as appropriate. Requirements for remedial conservation will be ascertained and carried out in order to stabilise objects. Site specific numbers will be assigned to each registered find for identification purposes.

Kate Smith Post-Excavation Manager: Performance Delivery will contact Dan Nesbitt Curatorial Assistant (Archaeological Archive) London Archaeological Archive and Research Centre (LAARC) for any specific guidance requirements in respect of the collection and subsequent archiving of finds. The process of selection and retention of archaeological materials will be informed by principles set out by Brown (2011, 23), which in essence specify

that this process should be sufficient 'to produce a project archive that allows a full re-examination and interpretation of all the results of the project whilst avoiding replication, repetition or the retention of materials not germane to future analysis', decisions regarding retention generally being made at the pre-analysis stage of the project.

5.7 Conservation requirements

The London Archaeological Archive and Research Centre (LAARC) will be contacted in advance of site work and instruction sought as to appropriate conservation requirements. Conservation work, including the cleaning of sensitive finds, will be carried out by Janice McLeish MA Director: Post-Excavation Services Border Archaeology. X-ray photographs of archaeological metalwork, where required, will be carried out off-site by York Archaeological Trust.

5.8 Recovery & assessment of palaeoenvironmental/palaeoeconomic data

Palaeoenvironmental/palaeoeconomic data will be recovered based on the potential of deposits to address issues identified in *A Research Framework for London Archaeology* (MoLAS 2002) and *A Strategy for Researching the Historic Environment of Greater London* (Rowsome & Baker 2015).

Samples will be collected according to guidance set out in *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation* (2nd Edition) (Campbell, Moffet & Straker 2011).

Processing will be undertaken by BA at its Milton Keynes Palaeoenvironmental Processing Facility under the supervision and direction of Amy Bunce BSc MA ACIfA.

Wherever practicable, at least 40% or 100% of each sample (both dry and waterlogged) will be processed by flotation using Siraf-style tanks with a 500µm retent mesh and 250µm flot sieve as standard, with smaller retent meshes to 250µm considered where carbonised material is less likely to float. Heavily waterlogged samples will be considered for analysis without prior processing by flotation.

Retents will be initially scanned by magnet to retrieve archaeometallurgical debris and a sieve bank used to facilitate visual sorting, with the smaller fractions sorted by means of magnifying lamp and/or illuminated stereo zoom microscopy ($\leq \times 10$). Non-archaeological, archaeobotanical, - archaeoosteological and -archaeometallurgical material will be disposed of on site. Retents that are particularly rich in carbonised material may be refloated once dry to assist the separation of archaeobotanical material.

Flots will be sorted entirely by means of illuminated stereo zoom microscopy ($\leq \times 10$), which will have a trinocular head for digital microscopic photography where necessary. Charcoal will be subjected to species identification.

Archaeological, archaeobotanical, archaeoosteological and archaeometallurgical material from flots and retents will be retained as part of the site assemblage.

Sorting and identification of macro-botanical remains will use an in-house reference collection of botanical material, in conjunction with the consultation of academic, specialist reference books.

5.8.1 Other environmental sampling

Other environmental sampling, e.g. coring and monoliths for pollen, foraminifera, testate amoeba, diatoms etc., may be undertaken under the guidance of the specialist carrying out the further analysis.

Residue analysis on materials such as ceramics will be advised by the finds department.

Further investigation of environmental material, e.g. isotope analysis on bone or teeth, will be dependent on national research strategies; this will be considered as part of the post-excavation analysis stage.

5.8.2 Sampling for scientific purposes

A range of scientific dating methods may be employed, as appropriate. In addition to techniques such as C¹⁴, should unexpected remains be encountered provision for other types of scientific analysis will be discussed with the Archaeology Advisor GLAAS and the Historic England Science Advisor in conjunction with and on the advice of Amy Bunce BSc MA ACIfA Director: UK Operations & Palaeoenvironmental Sciences and Janice McLeish MA Director: Post-Excavation Services Border Archaeology.

5.8.3 Building materials

Samples of construction materials including masonry, brick, roof tile, floor tile, wall-tile and hypocaust elements will be recovered for assessment of their potential to assist in the analysis of building palaeotechnology.

6 Processing & Post-Excavation Assessment

The purpose and value of compiling a Post-Excavation Assessment (PXA) will demonstrably depend upon discovery.

Where required, the PXA will be consistent with principles set out in *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Lee 2015), *Advice Note for Post-excavation Assessment* (ALGAO 2015) and Section 3.4 of *Standard and guidance for an archaeological watching brief* (ClfA 2020a, 11), with assessment of the nature, date and significance of the stratigraphic, artefactual and palaeoenvironmental evidence being undertaken by BA's nominated specialists, as detailed in the Appendix to this

document. Results will be placed in a local and regional context and address, where possible, specific research themes and priorities.

Bulk finds will be counted and weighed with quantification presented on a context-by-context basis for each material group. Ceramic building material and burnt flint may be discarded after recording and quantification in line with established guidelines. Samples will be retained as appropriate.

Discussion of the data will include:

- A clear and concise assessment of the archaeological value and significance of the results;
- Appraisal of the extent to which the site archive might enable the data to meet the research aims of the project;
- A statement of the potential of the data in developing new research aims, to contribute to other projects and to advance methodologies;

Sufficient supporting data, tabulated or in appendices, will also be provided to permit interrogation of the stated conclusions.

Data identified as appropriate for analysis in the Assessment Report will potentially form the basis of an Updated Project Design, which will define the objectives of the Analysis stage and the strategies and resources necessary to achieve them. The Analysis stage will result in new data comprising the Research Archive.

7 Archive Preparation

The archive will be assembled in accordance with specifications set out in *General Standards for the Preparation of Archaeological Archives Deposited with the Museum of London* (MoL 2009) and *Management of Research Projects in the Historic Environment: The Project Managers' Guide* (Lee 2015, 21) and consistent with guidance issued in *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (ClfA 2020c), *Guidelines for the preparation of excavation archives for long-term storage* (Walker 1990), *Standards in the museum care of archaeological collections* (Paine 1992), *Selection, Retention and Dispersal of Archaeological Collections. Guidelines for use in England, Wales and Northern Ireland* (Society of Museum Archaeologists 1993), *Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation* (Brown 2011a), *Safeguarding Archaeological Information: Procedures for minimizing risk to undeposited archaeological archives* (Brown 2011b) and *Toolkit for Selecting Archaeological Archives* (ClfA 2019b).

All field data collected, including records, photographs, finds and environmental sample records, will be checked for consistency and accuracy, and will comprise the Site Archive. The archive will be quantified, ordered and internally consistent. Indexing will include a plan showing the location and reference number of sections and photograph locations or directions of view. Table 1.2.4 of the Museum of London's *General Standards* details the specific components that may or must be included in the Site Archive and BA undertakes to abide by this specification (MoL 2009, 9-10), where relevant.

The Assessment Archive will conform to the specification set out in Table 1.3.3 (MoL 2009, 16-17) such that it will serve its primary function, this being 'to document and support the interpretation and recommendations that have been proposed in the report [Assessment Report]' (MoL 2009, 15).

The Research Archive will be checked and ordered according to MoRPHE and Museum of London criteria, specifically, those set out in Table 1.4.3 of the museum's General Standards document (MoL 2009, 18-19).

Site and Research Archives will be deposited with the London Archaeological Archive and Research Centre (LAARC).

8 Reporting

The Full Technical Report (FTR) will incorporate clearly and accurately information on the results obtained from the fieldwork. This will incorporate the following elements:

- Non-technical Summary;
- Introduction;
- Site Background;
- Aims & Objectives;
- Methodology;
- Results & Discussion;
- Conclusions (considering, where appropriate, the results of archaeological projects undertaken in the wider area);
- Archive location;
- Appendices providing detailed context records & the results of all specialist assessment and analysis undertaken;
- Location plans based on the current Ordnance Survey at an appropriate scale (reproduced with the permission of the Controller of HMSO);
- Plans showing; the Ordnance Survey Grid; site survey stations; the location of the Ordnance Survey Benchmarks used during the fieldwork and the site Temporary Bench Marks;
- Plans showing the extent of identified archaeology;
- Illustrations including plans and sections of features recorded;
- Photographs of principal finds and features.

BA aims to produce the Report within as practicable a timescale as possible following completion of fieldwork, subject to any delays caused by post-excavation procedures.

Digital copies of the FTR (in PDF/A format) will be sent to the Archaeology Advisor GLAAS, Hillingdon Borough Council and Mr Arens. A completed OASIS online form - previously initiated at the outset of the project (<http://ads.ahds.ac.uk/project/oasis>) - will be submitted to the Greater London Historic Environment Record, to

include an uploaded .pdf version of the entire FTR. BA undertakes to provide Geographic Information System (GIS) or Computer Added Design (CAD) files for the project showing:

- Site outline
- Groundworks location(s)

Files may be submitted in .dwg, .dxf, or .shp formats.

If required, a summary report will be prepared for publication in an appropriate journal, such as *Transactions of the London and Middlesex Archaeological Society*, with a site summary supplied for publication in the annual 'round-up' of the *London Archaeologist*. Dependent upon discovery and where applicable, a summary report may be offered to *Archaeologia Cantiana*.

9 Staff & Timescales

Amy Bunce BSc MA ACIfA Director: UK Operations & Palaeoenvironmental Sciences Border Archaeology Ltd will be Site Director for this proposed works programme.

George Children MA MCIIfA Director: Quality & Compliance will additionally provide overall technical and editorial guidance to all constituent aspects of the works programme.

The commencement of the fieldwork programme is subject to confirmation.

Overall project management remains the responsibility of Neil Shurety.

10 Border Archaeology Ltd. Operating Standards

All projects are carried out in accordance with the Company's *Archaeological Field Recording Manual* (2017) and with *CIIfA Standards and Guidance* and *Guidelines for Archaeological Projects in Greater London* (GLAAS April 2015). A pre-works risk assessment will be completed and lodged in the site Health & Safety File. Site reporting procedures are completed daily.

George Children MA MCIIfA Director: Quality & Compliance retains overall responsibility for the qualitative elements of the project.

11 Monitoring

BA is cognisant of the fact that Local Planning Authority representatives, GLAAS, the HE Inspector of Ancient Monuments, the Science Advisor and any other nominated individual may monitor works at any stage.

It is understood that the purpose of monitoring is to ensure compliance with the Written Scheme of Investigation and to enable appropriate interpretation or variation, for example, in response to new discoveries or operational issues.

12 Copyright

Border Archaeology Ltd shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988, with all rights reserved, excepting that it hereby provides a licence to Mr Richard Arens, Historic England and the London Borough of Hillingdon for the use of the report by them in all matters directly relating to the project as described in the Project Specification to use the

documentation for their statutory functions and to provide copies of it to third parties as an incidental to such functions.

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14 Appendix 1: Specialists

The following specialists have been appointed to provide, where required, sampling, consulting, analysis & reporting services:

1. Geoarchaeology: Rob Batchelor BSc PhD MCI fA Director Quest University of Reading;
2. Pleistocene/Palaeolithic Archaeology: Barry Bishop BA MA PhD Senior Research Fellow Univ. of Buckingham;
3. Prehistoric Pottery: Alex Gibson BA PhD MCI fA University of Bradford;
4. Roman Pottery: Rob Perrin M.Litt MCI fA FSA Freelance Specialist;
5. Samian Ware: Jo Mills Freelance Specialist;
6. Post-Roman, Medieval & Post-Medieval Pottery: Paul Blinkhorn BTech (Hons) Freelance Specialist, Jane Evans BA MA Worcestershire County Council;
7. Coins: Peter Guest BA PhD University of Cardiff;
8. Flint: Rebecca Devaney MA ACI fA Freelance Specialist; Barry Bishop BA MA PhD Senior Research Fellow University of Buckingham;
9. Petrological Analysis: Imogen Wood BA MA PhD;
10. Glass: Nicola Powell MA MCI fA Freelance Specialist;
11. Clay Tobacco Pipes: Nicola Powell MA MCI fA Freelance Specialist;
12. Leather and Metal Objects: Quita Mould Barbican Research Associates;
13. Archaeometallurgy: Gerry McDonnell BSc PhD Gerry McDonnell Archaeometals;
14. Glass Working: John Shepherd BA FSA MCI fA Freelance Specialist;
15. Artefact & Materials Conservation: Ian Panter York Archaeological Trust;
16. Building Materials: Phil Mills BSc PhD MCI fA;
17. Worked Stone: Ruth Shaffrey BA PhD MCI fA Freelance Specialist;
18. On-Site Conservation: Janice McLeish MA Border Archaeology Ltd;
19. Faunal Remains: Chris Faine MA ACI fA Faunal Finds Manager & Janice McLeish MA Director: Post Excavation Services Border Archaeology Ltd & Deborah Jaques Palaeoecology Research Services Hull;
20. Human Remains: Catherine Sinnott BA PhD Osteoarchaeologist Border Archaeology Ltd;
21. Archaeobotanical, Charcoal & Wood ID: Amy Bunce BSc MA ACI fA Director: UK Operations & Palaeoenvironmental Sciences.

Other specialist suppliers will be sourced, if deemed appropriate, and suitable management time will be expended to ensure that such external suppliers' work complies with accepted national guidance.

Document Title		Document Reference	
Written Scheme of Investigation for Archaeological Observation: Six Bells Public House Ducks Hill Road Ruislip London Borough of Hillingdon HA4 7TP on behalf of Mr Richard Arens.		BA2134SBR/WSI	
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Artwork	Holly Litherland BA (Hons.)		
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