# Teddington Direct River Abstraction

## Preliminary Environmental Information Report

## Appendix 8.1 – Preliminary Archaeological Assessment

Volume: 3

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# Appendix 8.1 – Preliminary Archaeological Assessment

## A.1 Introduction

### Scope and purpose

A.1.1 This Preliminary Archaeological Assessment has been prepared to support Chapter 8: Historic Environment of the Preliminary Environmental Information Report.

A.1.2 The Teddington Direct River Abstraction (TDRA) Project has the potential to create impacts on archaeological assets, both known and unknown, and some areas of the TDRA Project lie within designated Archaeological Priority Areas (APAs) where a heightened potential for previously unknown archaeological remains exists.

A.1.3 The Chartered Institute for Archaeologists (CIfA) (2020)[1] defines a desk-based assessment as a programme of study of the historic environment within a specified area or site on land, in the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely heritage assets, their interests and significance; the character of the study area, including appropriate consideration of the settings of heritage assets; and, in England, the nature, extent and quality of the known or potential archaeological, historic, architectural and artistic interest.

A.1.4 The purpose of this report is to review the currently available evidence for each of the main construction sites (Mogden Sewage Treatment Works (STW), Ham Playing Fields, Burnell Avenue and Tudor Drive) to provide a preliminary assessment of the potential for previously unknown archaeological remains to survive.

A.1.5 The report is a preliminary assessment and not a full desk-based assessment in accordance with CIfA standards and guidance (2020)[2]. It is considered sufficient to inform initial engagement with stakeholders at this stage of the TDRA Project. Further detailed assessment will be undertaken as the TDRA Project progresses to enhance and refine the findings of this study. The full desk-based assessment will form part of the Development Consent Order application.

A.1.6 Initial recommendations for appropriate field evaluation are identified to support the TDRA Project, where necessary.

[1] Standard and guidance for historic environment desk-based assessment (CIfA, 2020)
[2] Ibid

## A.2 National planning policy

### National Policy Statement for Water Resources Infrastructure

A.2.1 Key policy relevant to archaeological assessment is set out within Section 4.8 (Historic Environment) of the National Policy Statement (NPS) for Water Resources Infrastructure[3].

A.2.2 Of particular relevance in relation to the Applicant's assessment, paragraph 4.8.8 includes the provision for the following: '*Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, the applicant should include an appropriate desk-based assessment and, where necessary, an appropriate level of field evaluation*'.

A.2.3 A heritage asset is considered of archaeological interest if it holds, or may potentially hold, evidence of past human activity worthy of expert investigation at some point.

A.2.4 Paragraph 4.8.5 of the NPS also identifies that non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments should be considered subject to the policies for designated heritage assets.

A.2.5 In relation to the need for further mitigation, in the event that archaeological remains of a significance that does not merit preservation *in situ* are identified, paragraph 4.8.14 of the NPS highlights that the Secretary of State will consider requirements to ensure appropriate procedures are in place for the identification and treatment of such assets discovered during construction.

### National Planning Policy Framework

A.2.6 The National Planning Policy Framework (NPPF) Section 16 (conserving and enhancing the historic environment)[4] broadly mirrors the policy requirements set out in the NPS.

A.2.7 Paragraph 207 identifies that where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

## A.3 Regional and local planning policy

### London Plan 2021

A.3.1 Policy HC1 of the London Plan 2021 (Heritage Conservation and Growth) (Greater London Authority, 2021) addresses the historic environment and states

[3] National Policy Statement for Water Resources Infrastructure (Department for Environment, Food and Rural Affairs, 2023)
[4] NPPF (Ministry of Housing, Communities and Local Government, 2024)

that development proposals should identify assets of archaeological significance and use this information to minimise or avoid harm through design or appropriate mitigation.

### London Borough of Hounslow

A.3.2 Policy CC4 (Heritage) of the London Borough of Hounslow (LBH) Local Plan (2015 – 2030) (2015) and emerging LBH Local Plan (2020 – 2041) (2024) addresses the historic environment and outlines requirements in relation to archaeological evaluation. The emerging policy highlights the need for consultation of the Greater London Historic Environment Record (GLHER) when developing proposals.

### London Borough of Richmond

A.3.3 Policy LP 7 (Archaeology) of the London Borough of Richmond upon Thames (LBR) Local Plan (2018) states the council will seek to protect, enhance and promote archaeological heritage. A requirement for desk-based assessment and field evaluation for sites of archaeological significance or potential is identified. Policy 33 (Archaeology) of the emerging LBR Publication Draft (Regulation 19) Local Plan (2023) mirrors the existing adopted policy.

### Royal Borough of Kingston upon Thames

A.3.4 Policies CS 8 (Character, Design and Heritage) and DM 12 (Development in Conservation Areas and Affecting Heritage Assets) of the Royal Borough of Kingston upon Thames (RBK) Core Strategy (2012) address the historic environment, including archaeological remains, albeit no specific requirements for archaeological desk-based assessment or evaluation are identified. Policy KD14 (Archaeology) of the emerging draft (Regulation 18) Kingston's Local Plan 2019 – 2041 (2023) is also a material consideration.

## A.4 Methodology

### Data sources

A.4.1 The following data sources have been consulted to inform the assessment of archaeological potential at each of the TDRA Project sites:

a. Historic England's National Heritage List for England (NHLE)[5] for information on nationally designated sites (Scheduled Monuments)

b. GLHER as held by Greater London Archaeological Advisory Service (GLAAS) for information on non-designated heritage assets and previous archaeological investigations (data search purchased in August 2024)

c. GLAAS for details of APAs[6]

[5] National Heritage List for England (Historic England, 2025a)

[6] Greater London Archaeological Priority Area Guidelines (Historic England, 2016)

d. Historic maps for information on previous development and land usage provided by the National Library of Scotland[7], the Genealogist and Layers of London websites[8,9]

e. Historic aerial photographs available from Historic England (online)[10] for previous development and land usage

f. British Geological Survey (BGS)[11] for geological information and historical Ground Investigation (GI) information

g. The results of recent GI undertaken for the TDRA Project to inform on the presence of Made Ground deposits and previous ground disturbances

h. Unpublished historical reports and archaeological grey literature, the results of archaeological investigations undertaken in support of developments, available online from the Archaeological Data Service (ADS)

i. Historic plans and information from previous developments within Mogden STW to aid in the understanding of the development of the site held by Thames Water

j. Department for Environment, Food and Rural Affairs (Defra) survey catalogue for Environment Agency Light Detection And Ranging data (LiDAR) data which has been used form topographic models of the sites[12]

## Study area

A.4.2 A 500m study area around key above ground infrastructure sites has been used for this assessment.

A.4.3 The study area is considered appropriate to provide a sufficient sample to assess for previously unknown archaeological remains to be present, also referred to as archaeological potential. The extent of the study area is in accordance with the recommendations provided by GLAAS (2015)[13].

A.4.4 The study area around each site is shown in the respective baseline sections below.

## Guidance

A.4.5 This report has been compiled taking into consideration the industry guidance provided by the following:

a. Standards and Guidance for Historic Environment Desk-Based Assessment (CIfA, 2020)

b. Guidelines for Archaeological Projects in Greater London (GLAAS, 2015)

[7] National Library of Scotland OS Map Viewer (2025)

[8] Genealogist historic map viewer (2025)

[9] Layers of London historic map viewer (2025)

[10] Apex Aerial Viewer (Historic England, 2025b)

[11] GeoIndex Viewer (BGS, 2024)

[12] Defra survey data catalogue (2025)

[13] Guidelines for Archaeological Projects in Greater London (GLAAS, 2015)

### Structure

A.4.6 The baseline section below presents the available evidence and assessment of archaeological potential on a site by site basis.

### Assumptions and limitations

A.4.7 As noted above, this assessment is a preliminary report and does not constitute a full desk-based assessment as defined by the CIfA standards and guidance (2020). The report will be updated and refined as the TDRA Project progresses to include the results of a site inspection, review of available archival material and aerial photographs and detailed assessment of geoarchaeological potential.

A.4.8 It is assumed that data provided by third parties (NHLE, GLHER and BGS) is up to date, accurate and fit for purpose.

A.4.9 The report is based on the available evidence as detailed in Section A.4.1. No field investigations have been undertaken.

## A.5 Baseline Mogden STW site

### Introduction

A.5.1 The Mogden STW site is located in Isleworth within the LBH and is centred on National Grid Reference (NGR) 515361, 175083. The site covers an area of approximately 55 hectares (ha) and is bounded to the south, east and west by areas of residential housing from which it is screened by a large earthwork bund. To the north is a mixture of residential housing and industrial areas, which are not all screened from the site by the surrounding bund.

A.5.2 While a small sewage treatment works was present on the site from the late 19th century, the main elements and extent of the STW were constructed during the period 1931 to 1936 in response to the rapid increase in population following the First World War (Middlesex County Council (MCC), 1936)[14].

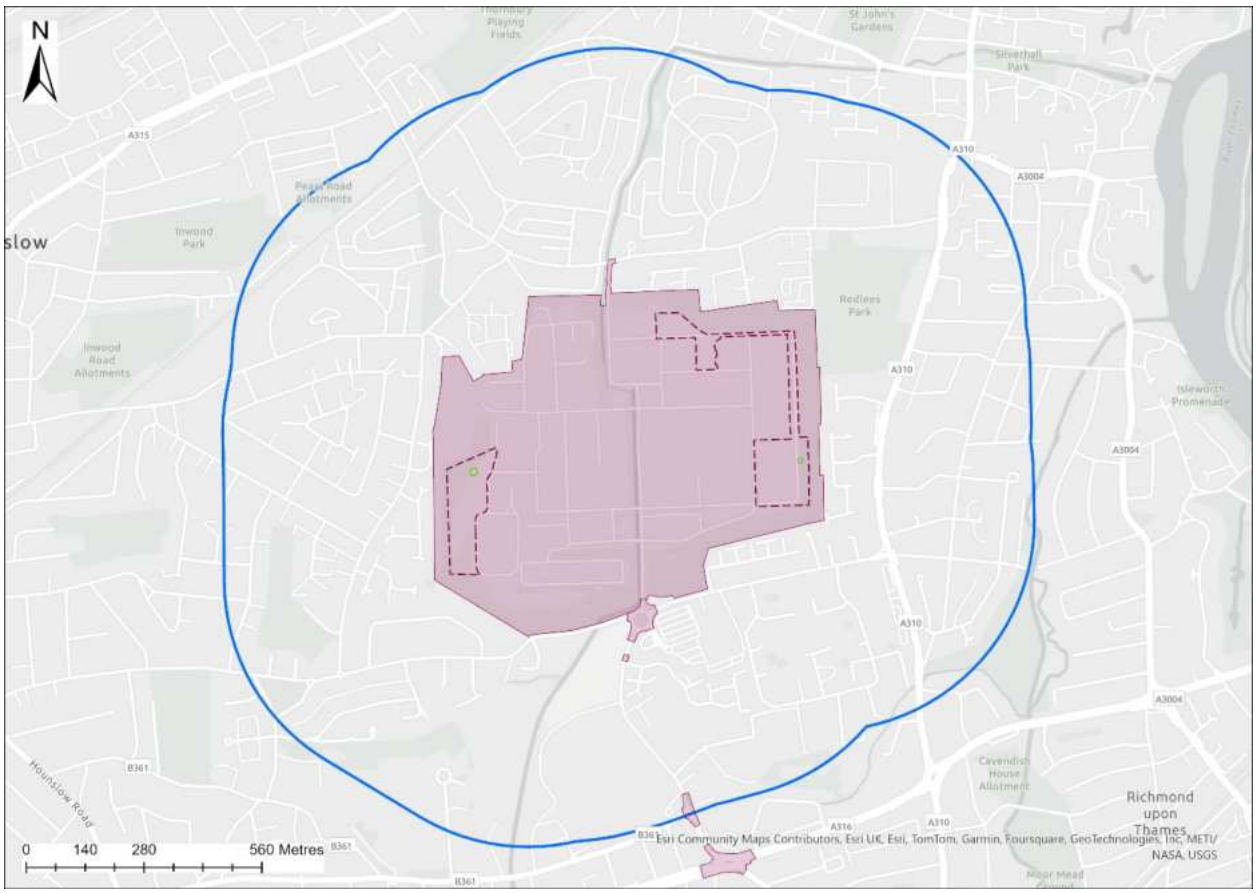
A.5.3 Within the Mogden STW site, two works sites are proposed as part of the TDRA Project. These include: the Western Work Area where the drive shaft for the recycled water conveyance tunnel will be located; and the Eastern Work Area where the Tertiary Treatment Plant (TTP) and interception shaft to the conveyance tunnel will be located. The locations of the two shafts are highlighted by green dots on the plates below. The Eastern and Western Work Areas are also outlined by dashed purple lines.

### Study area

A.5.4 The study area comprises a 500m radius around the Mogden STW site, which excludes areas for road modifications; it is shown on Plate A.1.

[14] The Main Drainage of West Middlesex: Description of the Completed Works (MCC, 1936)

Plate A.1 Mogden STW site extent and 500m study area. Shaft locations shown by green dots. Working areas area highlighted by dashed lines. Not To Scale (NTS)




*Source: Esri Community Maps*

A.5.5 The areas identified for road modifications are not considered to be of archaeological interest. These are visible on Plate A.1 south of the Mogden STW site.

## Topography

A.5.6 The Mogden STW site is located within the Thames Valley, and as such the ground is low lying. The natural ground level to the west of the site lies at approximately 16m Above Ordnance Datum (AOD), sloping down to 8m AOD at the eastern extent of the STW as the land grades down towards the River Thames. The Duke of Northumberland's River, a historic artificial diversion of the River Crane, runs north–south through the centre of the site, re-joining the River Crane to the south. The River Thames lies approximately 900m to the east of the site.

A.5.7 The Mogden STW site is surrounded by a man-made earthwork bund. This bund rises to approximately 22m AOD in the location of the Western Work Area. In the east of the site, the embankment rises to approximately 18m AOD with the Eastern Work Area situated around 12m AOD on the inner side of the bund.

## Geology and GI

A.5.8 The solid geology of the site comprises London Clay. This is overlain by superficial deposits of terrace gravels (Kempton Park Gravel and Taplow Gravel) with Langley Silt (brickearth) overlying these gravels (BGS, 2024)[15].

A.5.9 The embankment surrounding the site is noted to comprise Made Ground derived from the original excavation work for the construction of the STW during the early 1930s and subsequent expansion works. For example, the 1997 eastern expansion and the more recent Thames Tidal Quality Improvements 2010 to 2012 in the western part of the site (Arup, 2008)[16].

A.5.10 GI works within the Mogden STW have been undertaken as part of the TDRA Project and included four boreholes (Jacobs, 2024)[17]. In the Western Work Area, borehole MT-019-35 was sunk in the vicinity of the drive shaft (Plate A.2). The ground surface level was recorded at approximately 22m AOD. Ten metres of Made Ground deposits were recorded with varying inclusion of brick, wood and glass. The top of the natural Kempton Park Gravel was identified at 12.29m AOD and was 3m in depth. The London Clay was encountered at 9.29m AOD, 13.2m Below Ground Level (BGL).

A.5.11 In the Eastern Work Area, three boreholes (MT-003 to MT-005) were sunk to the south of the proposed interception shaft (Plate A.3) within the western edge of the earthwork bund.

A.5.12 The ground surface for borehole MT-003 was at approximately 7m AOD. The ground surface for borehole MT-004 was recorded at 7.59m AOD. Both boreholes were sub-horizontal and drilled directly into the earthwork bund and recorded Made Ground to depths of 14.7m and 10.5m respectively.

A.5.13 Borehole MT-005 was situated adjacent to the proposed interception shaft with ground level recorded at 6.12m AOD. The borehole encountered 0.4m of Made Ground directly overlying the London Clay. No superficial deposits were present (Jacobs, 2024)[18].

A.5.14 It is noted that the western half of the Mogden STW site is recorded by the BGS as a historic landfill in use between 1930 and 1935.

[15] GeoIndex Viewer (BGS, 2024)

[16] Tidal Thames Quality Improvements: Mogden Sewage Treatment Works. Environmental Statement Volume 1 Chapter 6 Archaeology and Heritage

[17] London Water Recycling SR0 – TDRA Phase 1 Ground Investigation Interim Technical Note (Jacobs, 2024)

[18] Ibid

## Plate A.2 Western Work Area with borehole (red star) and shaft (green circle) locations with contours. NTS


*Source: Esri Community Maps. 1m contours derived from Environment Agency LiDAR data*

Plate A.3 Eastern Work Area with boreholes (red stars) and shaft (green circle) locations with contours. NTS


*Source: Esri Community Maps. 1m contours derived from Environment Agency LiDAR data*

## Designated assets

A.5.15 There are no designated archaeological assets (Scheduled Monuments) within the Mogden STW site or 500m study area.

## APA

A.5.16 There is one Tier 2 APA (Borough APA reference: 2.17) within the Mogden STW site that covers the course of the Duke of Northumberland's River (also known as the Duke's River), which runs centrally through the site; neither work area for the TDRA Project is within the APA. The APA covers the course of the Longford River as it flows through the borough of Hounslow and two sections of the Duke of Northumberland's River. The Longford River is an artificial river that was constructed in early 17th century. The APA has been included at Tier 2 as it contains the remains of two artificial waterways, the 17th-century Longford River and the earlier 15th- to 16th-century Duke of Northumberland's River (Oxford Archaeology, 2023)[19].

[19] London Borough of Hounslow Archaeological Priority Area Appraisal (Oxford Archaeology, 2023)

A.5.17 There is one APA within the 500m study area, which relates to the Tier 2 (Borough APA reference: 2.16) Kneller Hall (and Whitton) APA located approximately 200m to the south of Mogden STW site within the LBR. Kneller Hall comprises an extant 18th-century mansion and estate and the site of an earlier 17th-century house and grounds. According to Historic England (2022)[20], it is classified as a Tier 2 APA because it is an important 18th century designed (Repton) landscape, an important military site and area of open undeveloped land with the remains of a possible moated enclosure.

## Non-designated assets

A.5.18 There are two non-designated assets recorded by the GLHER within the Mogden STW site.

A.5.19 The findspot of an undiagnostic prehistoric (Palaeolithic) flint flake artefact (GLHER Primary Reference Number (PRN) 95356) is recorded in the south-eastern part of the site approximately 175m south-west of the proposed interception shaft. The flake was found during excavation works at the site during the mid-20th century.

A.5.20 The site of a former landfill (GLHER PRN 147808) of 19th or 20th century date is also recorded within the Mogden STW site, approximately 150m south-east of the proposed drive shaft. The site lies beneath existing infrastructure and is of little archaeological interest.

A.5.21 Within the 500m study area, a further 33 non-designated assets are recorded by the GLHER. The assets span the Prehistoric to Post-Medieval/Modern periods and attest to the longevity of human occupation in the area surrounding the site. Assets of particular note include: Neolithic (GLHER PRN 114243) and Bronze Age (GLHER PRN 99612 and 138621) finds and features from archaeological investigation work at South Middlesex Hospital located approximately 150m to the south; and a Bronze Age ring ditch (GLHER PRN 149156) and Post-Medieval field system (GLHER PRN 113560) found during archaeological investigations at Bankside Close to the immediate south-east of the Mogden STW.

## Previous archaeological investigations

A.5.22 No previous archaeological investigations are recorded by the GLHER within the Mogden STW site.

A.5.23 However, it is noted that a programme of archaeological monitoring (watching brief) was identified as a suitable course of mitigation for the Tidal Thames Quality Improvements Works undertaken within the western part of the site in 2010 in the area of the proposed drive shaft (Arup, 2008)[21]. There is no record of the results of this investigation available, if it took place.

[20] London Borough of Richmond Archaeological Priority Areas Appraisal (Historic England, 2022)

[21] Tidal Thames Quality Improvements: Mogden Sewage Treatment Works. Environmental Statement Volume 1 Chapter 6 Archaeology and Heritage

## Historic map regression

A.5.24 The earliest available mapping of the site is Glover's 1635 Map of Hounslow[22] (not illustrated). The eastern part of the Mogden STW site is not mapped. The western part of the site and the location of the proposed drive shaft are shown as agricultural fields. The Duke of Northumberland's River is recorded along with a number of roads and small possible dwellings within the area of the STW.

A.5.25 John Roque's 1754 Map (not illustrated)[23] shows a similar picture with both works areas situated in areas recorded as fields.

A.5.26 A 1786 Map of the Manor of Isleworth (not illustrated) and 1805 Ordnance Surveyor's Drawing (not illustrated)[24] show limited change.

A.5.27 The 1839 Isleworth Tithe Map (Plate A.4) provides a more detailed picture of the site. The majority of the landscape remains as regular arable fields and meadow. The Duke of Northumberland's River is shown with additional spurs to the west. A number of buildings are noted within the area of the Mogden STW site. The area of the proposed drive shaft is identified to lie within a small field recorded as under arable. The area of the interception shaft is identified as part of a field forming the garden of Mogden House.

A.5.28 The 1869/1871 First County Edition (6") Ordnance Survey (OS) Map (not illustrated) shows limited change. The area of the Mogden STW site predominantly remains undeveloped fields or orchards. A number of wells are labelled within the area of the site.

A.5.29 The 1893 OS 6" edition (not illustrated) shows the Heston and Isleworth Sewage Works to have been built to the east of the Duke of Northumberland's River within the central area of the Mogden STW. The remainder of the site, including both proposed shaft locations, remains relatively unchanged.

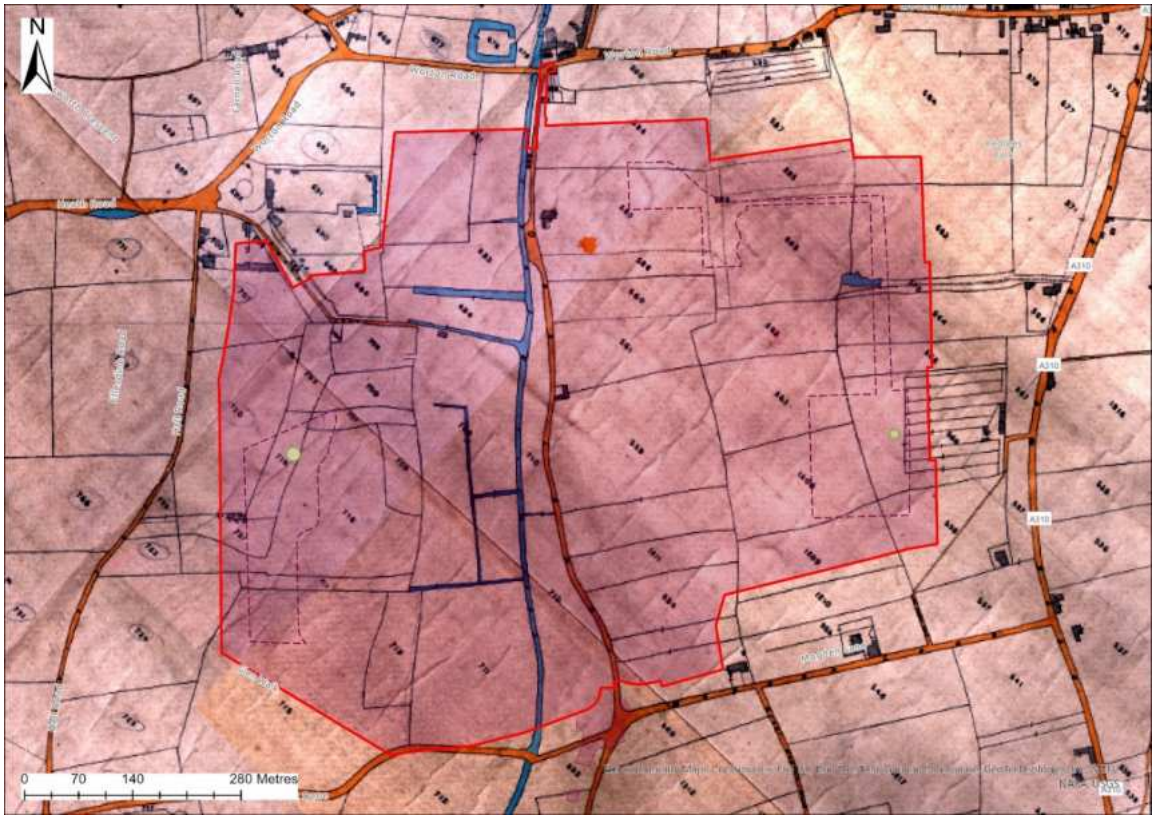
A.5.30 The 1897 OS 25" edition shows limited change (Plate A.5).

[22] Available online from Layers of London historic map viewer

[23] Ibid

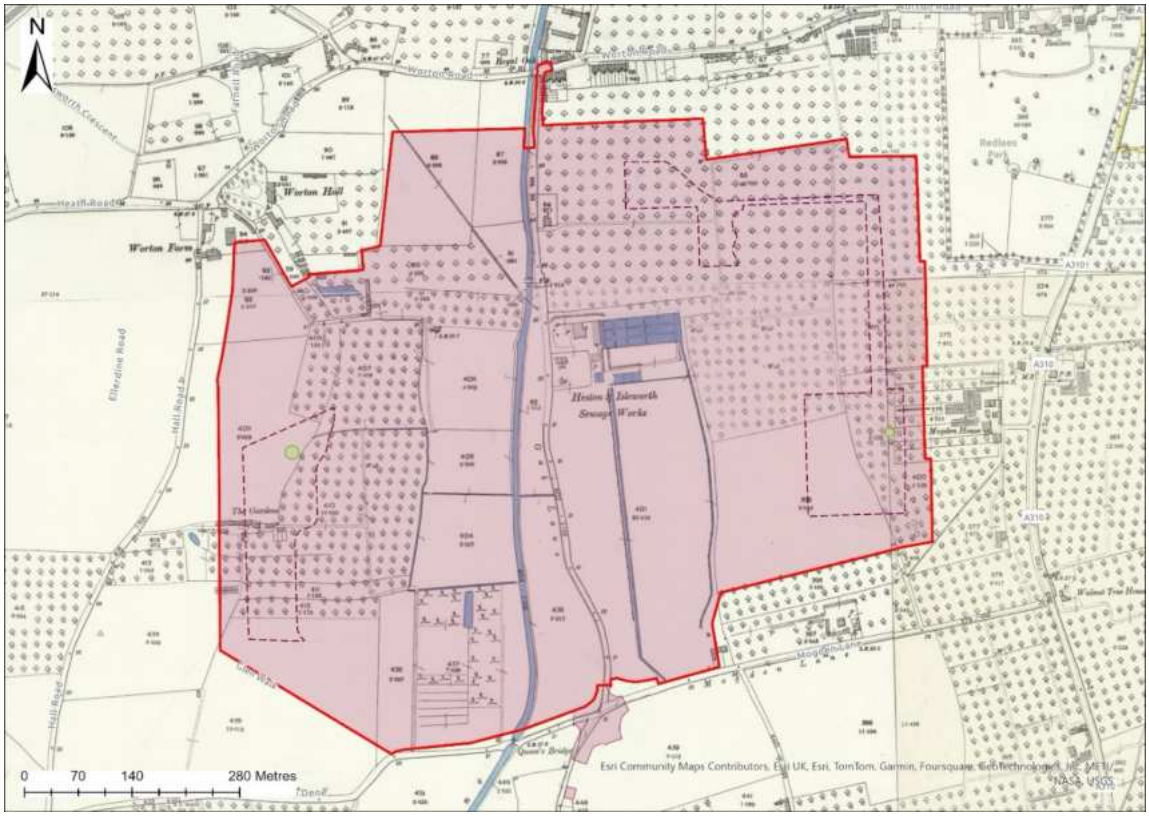
[24] Ibid

## Plate A.4 Extract of the 1839 Isleworth Tithe Map. NTS




*Source: The Genealogist*

## Plate A.5 Extract of the 1897 OS Map showing the Mogden STW site. NTS



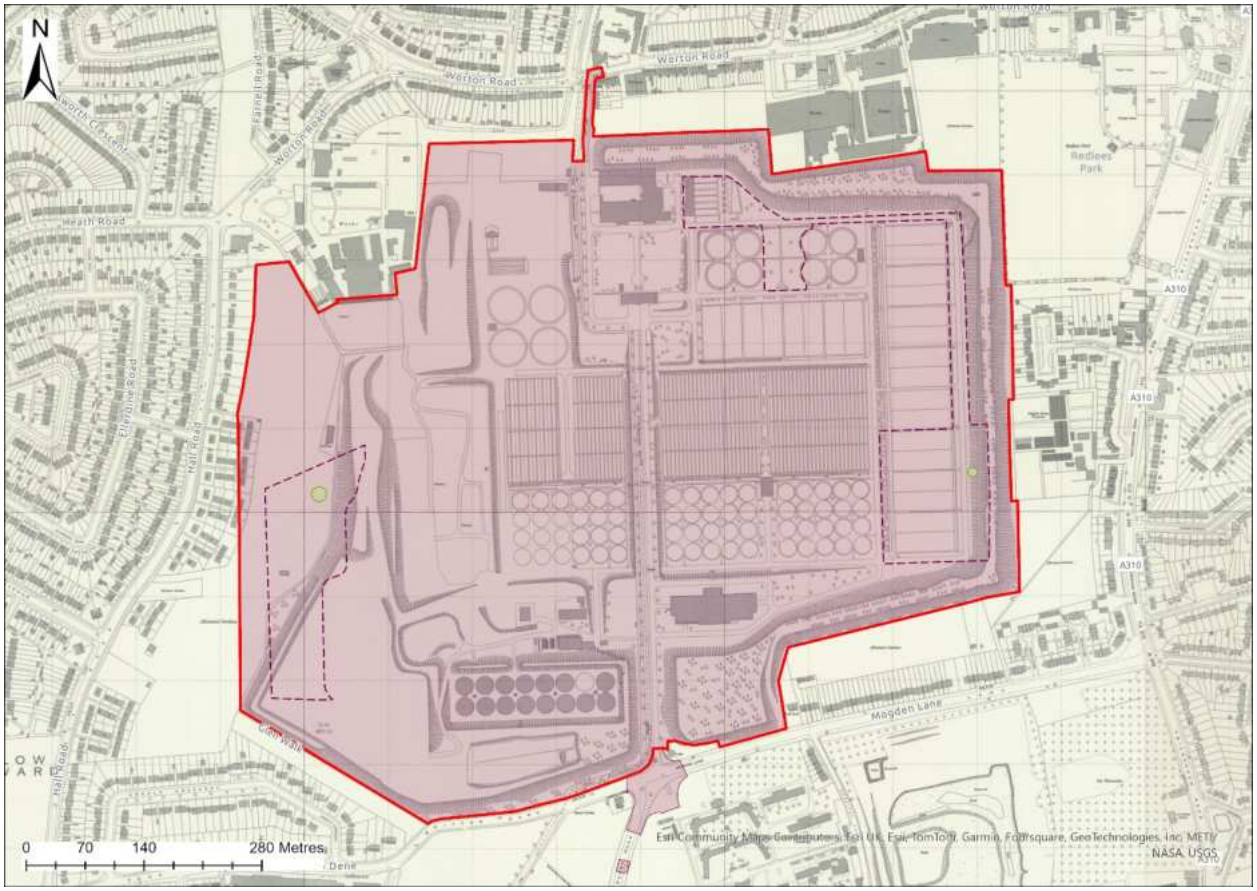

*Source: National Library of Scotland*

A.5.31 The 1915 to 1920 OS Map (not illustrated) shows the expansion of the Heston and Isleworth Sewage Works to the south (and east of Oak Lane) within the central part of the Mogden STW site.

A.5.32 The 1935 OS Map (not illustrated) shows substantial construction and remodelling of the sewage works within the Mogden STW site. This is aligned to the known history of the site with the current boundaries of the STW established and surrounding embankment constructed. The available literature (MCC, 1936)[25] and historic plans of the site highlight that the western part of the site was always intended for further expansion, and this is clearly demonstrated in subsequent mapping.

A.5.33 The detailed 1950 OS 25" edition (Plate A.6) shows the proposed western drive shaft site within an area identified as allotment gardens beyond the extent of the mapped earthworks. The eastern interception shaft lies within the heavily developed south-eastern corner of the site adjacent to the earthwork bund.

Plate A.6 Extract of the 1950 OS Map showing the Mogden STW site. NTS




*Source: National Library of Scotland*

[25] The Main Drainage of West Middlesex: Description of the Completed Work (MCC, 1936)

## Historic aerial photographs

A.5.34 There are a number of historic aerial photographs of the Mogden STW site showing it being constructed during the early 1930s[26]. The images highlight the extensive and intensive construction impacts that have occurred across the site[27]. Plate A.7 shows construction underway in the vicinity of the Eastern Work Area at the south-east corner of the site.

A.5.35 Plate A.8 shows an early post-war vertical aerial photograph of the Mogden STW site. The site of the proposed drive shaft and Western Work Area is shown to lie within allotment gardens. Much of the western part of the STW is yet to be developed.

### Plate A.7 1934 Oblique aerial photograph of Eastern Work Area

*Source: Historic England reference (EPR00401A)*

A.5.36 More recent satellite imagery available online[28] (not illustrated) records the works in the western part of the site undertaken between 2010 to 2013. This included reprofiling and modification (widening) of the embankment on which the proposed drive shaft is located. These works were consented under

[26] Ibid

[27] Apex Aerial Viewer (Historic England, 2025b)

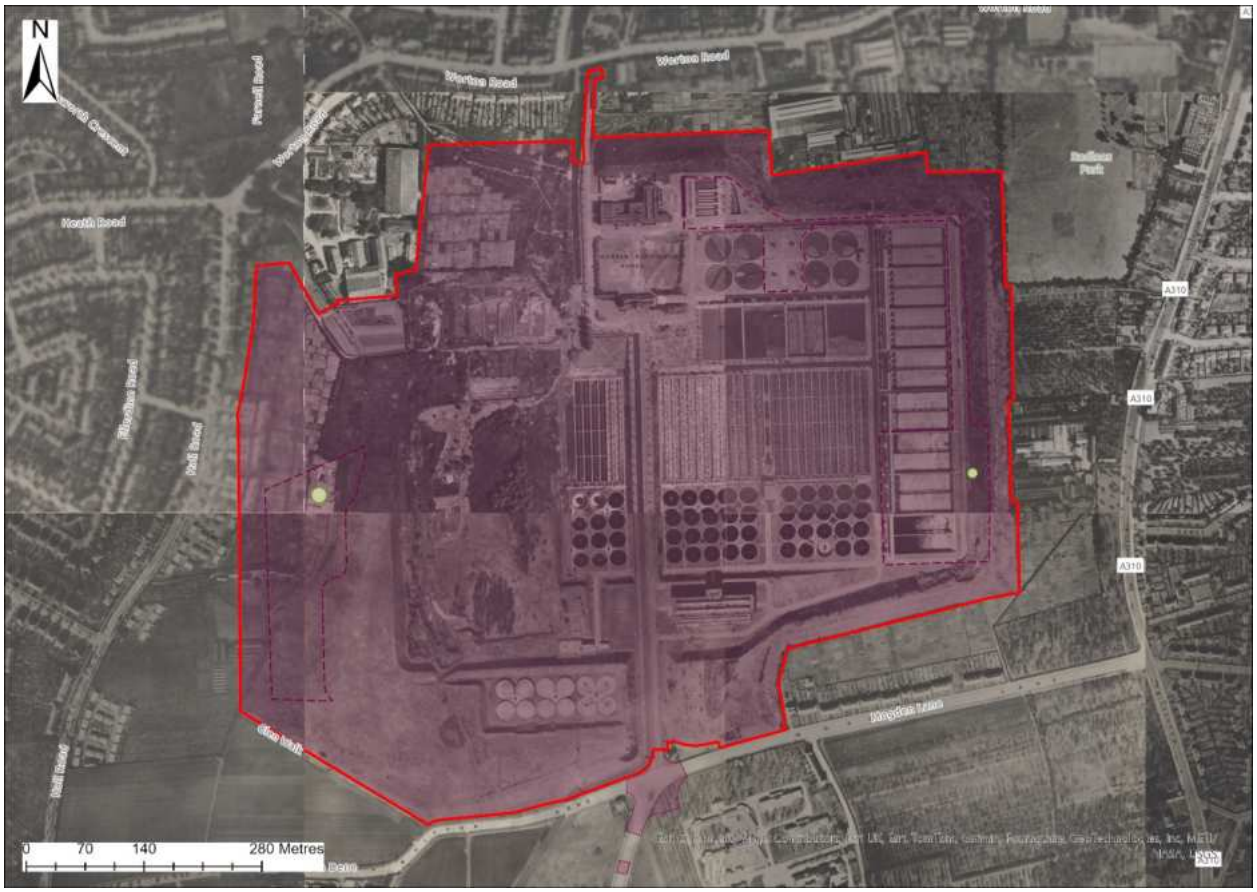
[28] Imagery available on Google Earth

planning reference P/2008/1873 of the LBH. The available documentation supporting the planning application provides detail on the nature of the works[29].

## LiDAR

A.5.37 The available 1m LiDAR data has been used to create a Digital Terrain Model (DTM) hillshade of the Mogden STW (Plate A.9). This helps to illustrate the areas of Made Ground in the Western Work Area where the proposed drive shaft will be situated.

Plate A.8 1946 Vertical aerial photograph of the Mogden STW site. NTS




*Source: National Library of Scotland*

A.5.38 The current layout of the western embankment is a result of the works undertaken as part of the Tidal Thames Quality Improvements in 2010 to 2012 and included the construction of the 10 Final Settlement Tanks located to the east of the Western Works Area as part of a major programme of works (Arup, 2008)[30].

[29] Tidal Thames Quality Improvements: Mogden Sewage Treatment Works. Environmental Statement
[30] Ibid

Plate A.9 Mogden STW site LiDAR 1m DTM Hillshade. X10 Vertical exaggeration. NTS


*Source: Environment Agency obtained from Defra survey catalogue*

## Archaeological potential

A.5.39 While it is acknowledged that there is evidence for sustained human occupation from the earliest periods onwards within the study area surrounding the Mogden STW site, there is clear and compelling evidence to indicate that past impacts associated with previous construction works within the STW will have truncated or most likely entirely removed any previously unknown archaeological evidence present.

A.5.40 The Eastern Work Area is located on the inner fringe of the surrounding earthwork bund which is composed of Made Ground derived from the main construction of the site during the early 1930s. The available map evidence indicates this area was part of fields/gardens associated with Mogden House prior to the construction of the STW. The recent borehole (MT-005) located adjacent to the proposed interception shaft location encountered 0.4m of Made Ground directly overlying the London Clay. With the ground level located around 6m AOD, being lower than the ground outside the STW which lies at around 8m AOD, and the absence of any superficial deposits, it is considered likely that this area has been heavily reduced by the previous construction works and any archaeological evidence (if present) will have been entirely erased. This is further illustrated by the available historic aerial imagery. The potential for archaeological remains to survive in this area can therefore reasonably be identified as negligible/nil.

A.5.41 In the Western Work Area, the available evidence indicates the proposed drive site is located on a substantial deposit of Made Ground that was remodelled as recently at the early 2010s in relation to the Tidal Thames Quality Improvements scheme. Over 10m of Made Ground was recorded in the recent borehole (MT-019-35) and no evidence of the Langley Silt was identified. Approximately 3m of Kempton Park Gravel was encountered above the London Clay. The available historic mapping dating back to the 17th century indicates this area was previously agricultural fields and more recently allotment gardens of little archaeological interest. The BGS also records the site of a historic landfill across the western extent of the STW that was in use between 1930 and 1935.

A.5.42 Given the clear impacts from topsoil stripping and embankment remodelling that will have occurred across this area, the overall archaeological potential can also reasonably be identified as negligible. However, it is recognised that there is a modest potential for occasional and unstratified flint implements to be recovered from the Kempston Park Gravel at depth within the proposed drive shaft footprint.

## A.6 Baseline Ham Playing Fields site

### Introduction

A.6.1 The Ham Playing Fields site of the TDRA Project is located on the south bank of the River Thames, opposite Eel Pie Island and the core of Twickenham, within the LBR and is centred on NGR 516916, 173066. The proposed intermediate shaft site within the Ham Playing Fields site covers an area of approximately 1.2ha.

A.6.2 The site includes: the proposed intermediate shaft and working area within Ham Playing Fields; a small area to the west of Ham Street Car Park which lies adjacent to the river; access routes along Ham Street; and an area along Riverside Drive proposed for additional parking. The main focus of this assessment is the intermediate shaft site and associated working area as this is where the main impacts to archaeological remains would be likely to occur.

### Study area

A.6.3 The study area comprises a 500m radius around the Ham Playing Fields site and is shown on Plate A.10.

Plate A.10 Ham Playing Fields site extent and 500m study area shown in blue. NTS


*Source: Esri Community Maps*

## Topography

A.6.4 The Ham Playing Fields site is located in an area of low-lying ground adjacent to the River Thames. The site is generally flat and lies at a height of between 5m and 6m AOD. The general trend in the topography is a slight drop in levels from around 7m AOD at the southern limit of the site grading down to the north towards the River Thames (Plate A.11).

## Geology and GI

A.6.5 The solid geology of the Ham Playing Fields site comprises London Clay. This is overlain by superficial deposits of terrace gravels (Kempton Park Gravel). The Langley Silt (brickearth) is not identified by the BGS to extend west of Ham Street into the site (BGS, 2024)[31].

A.6.6 GI works within the Ham Playing Fields site have been undertaken as part of the TDRA Project and included one borehole (Jacobs, 2024). Borehole (MT-025-035) was sunk in the south of the area and the ground surface level was recorded at 5.68m AOD. Approximately 2.1m of Made Ground was recorded beneath the shallow topsoil/grass. This overlays the Kempton Park Gravel

[31] GeoIndex Viewer (BGS, 2024)

which extends to a depth of 2.3m. Beneath the gravel was the London Clay which was present at approximately 1.48m AOD. The deposit of Made Ground was notable and identified as possible evidence of former gravel extraction due to the shallow depth of the Kempton Park Gravel and known history of extraction in this area (Jacobs, 2024)[32].

A.6.7 The location of borehole (MT-025-035), the location of the intermediate shaft within the Ham Playing Fields site, and the localised topography of the area (contours) are shown on Plate A.11.

Plate A.11 Ham Playing Fields site with borehole (red star), shaft (green circle) and 1m contours. NTS


*Source: Esri Community Maps. 1m contours derived from Environment Agency LiDAR data*

## Designated assets

A.6.8 There are no designated archaeological assets (Scheduled Monuments) within the Ham Playing Fields site or 500m study area.

[32] London Water Recycling SR0 – TDRA Phase 1 Ground Investigation Interim Technical Note (Jacobs, 2024)

## APA

A.6.9 Ham Playing Fields and most of the area west of Ham Street Car Park, are located within the LBR Tier 2 Ham Fields APA (Borough APA reference: 2.12). This APA covers a large area of undeveloped open land along the River Thames to the west of Ham. Prehistoric, Roman and Saxon finds have been discovered within the APA. The topographic and geological character of the area provided a favourable location for human occupation and settlement. As such, the APA is identified as having a high potential to contain important multi-period archaeological remains, including Saxon and Medieval evidence relating to the early settlement of Ham (Historic England, 2022)[33].

A.6.10 The land along Riverside Drive also lies on the periphery of the APA.

## Non-designated assets

A.6.11 There are two non-designated assets recorded by the GLHER within the Ham Playing Fields site.

A.6.12 An extensive area of possible Prehistoric interest is recorded across the Thames riverside from Ham Street extending west to the extant former gravel quarries in the south-west of the study area (GLHER PRN 146142). A large number of Prehistoric flint artefacts dating from a number of different periods and pottery sherds have been recovered from this area. Most of the finds are recorded to have been found in the early 20th century although this cannot be confirmed. The finds include pottery discovered on the surface and in gravel pits including possible burial urns. The extent of this asset extends across the majority of the Ham Playing Fields site.

A.6.13 On the foreshore adjacent to the Ham Street Car Park, a survey identified a possible timber structure, possibly a jetty, comprised of several large vertical piles. This structure is undated but considered to be of Post-Medieval date (GLHER PRN113743); see historic map regression below.

A.6.14 Within the 500m study area, numerous non-designated assets are recorded by the GLHER. The assets span the Prehistoric to Post-Medieval/Modern periods and attest to the longevity of human occupation in the area surrounding the site. These include finds recovered from the River Thames, evidence of widespread Prehistoric activity identified over the last 200 years and Medieval and later assets related to the development of Twickenham and Ham House, which lie to the north and east of the site respectively.

## Previous archaeological investigations

A.6.15 No previous archaeological investigations are recorded by the GLHER within the Ham Playing Fields site.

[33] London Borough of Richmond Archaeological Priority Areas Appraisal (Historic England, 2022)

A.6.16 Two historic observations are noted to the north of Ham Street Car Park relating to the discovery of an urn and piece of jewellery. However, the exact locations of these find spots are unknown.

A.6.17 In the study area, there have been multiple archaeological interventions within the grounds of Ham House located to the east of the site, but no other invasive investigations are recorded within the Ham area.

## Historic map regression

A.6.18 The Ham Playing Fields site is partly depicted by Glover's 1635 Map of Hounslow[34] (not illustrated) but little insight into the land use at the time can be discerned due to lack of detail, albeit the site is not depicted as being developed. The adjacent Ham House is labelled along with Eel Pie Island.

A.6.19 John Roque's 1754 Map[35] (not illustrated) shows the Ham area with Ham House and formal grounds. The area of the site is shown as undeveloped with a formal tree avenue running west from Ham House to the south of the Ham Playing Fields area.

A.6.20 The 1805 Ordnance Surveyor's Drawing[36] (not illustrated) shows limited change.

A.6.21 The 1841 Ham Tithe Map (Plate A.12) shows Ham Street in its modern position and the tree avenue extending west from Ham House to the south of the site. The area of the Ham Street Car Park is shown to lie mostly within the river. The area of Ham Playing Fields is identified to lie within a field recorded as 'Ferry Mead' and identified to be meadow belonging to the late Countess of Dysart. The small area of land to the west of the Ham Street Car Park is recorded as part of the towing path owned by Richard Tollemach.

[34] Available online from Layers of London historic map viewer
[35] Ibid
[36] Ibid

## Plate A.12 Extract of the 1841 Ham Tithe Map. NTS


*Source: The Genealogist*

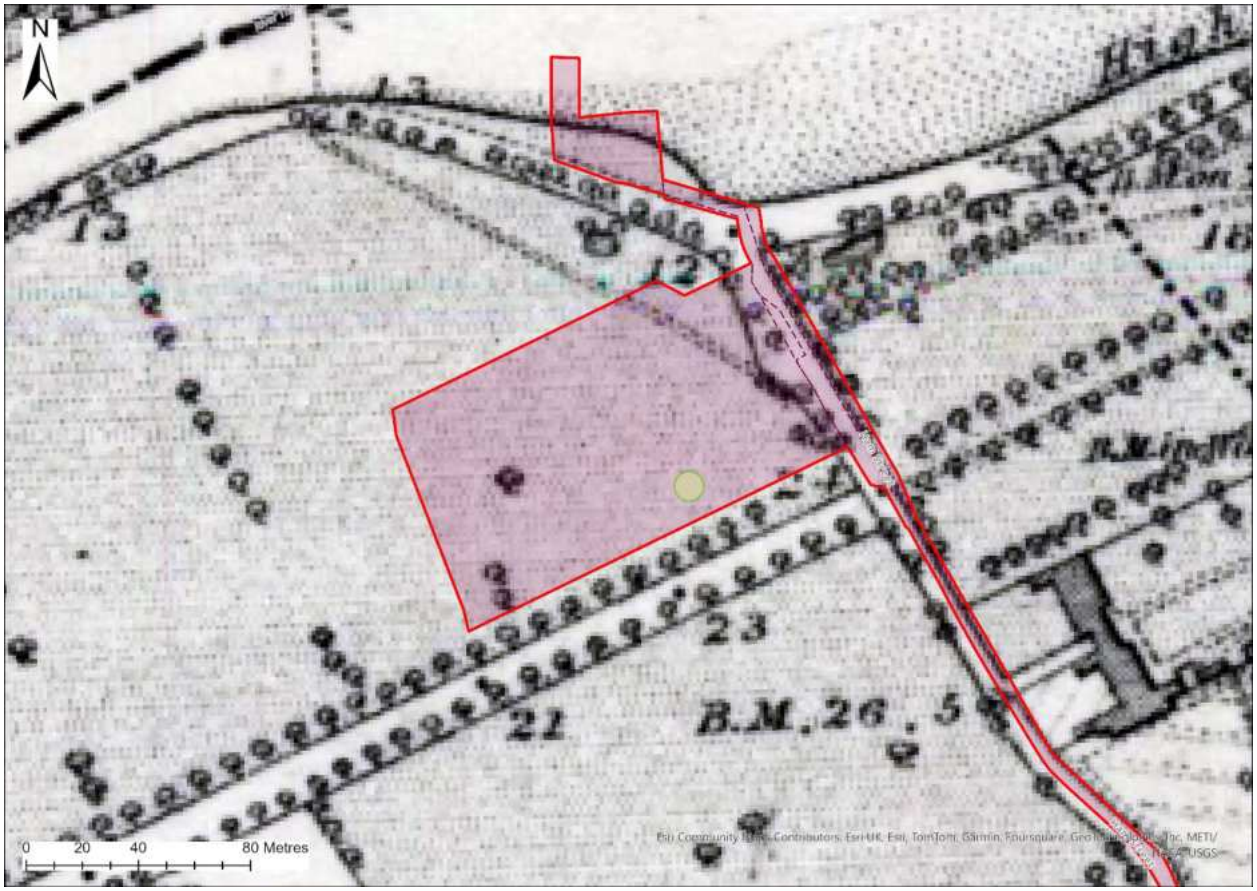
A.6.22 The 1871 OS First County Edition (6") shows limited change (Plate A.13). A footpath is mapped extending north-west across the site towards a ferry crossing (hence Ferry Mead). The area of Ham Street Car Park remains within the river.

A.6.23 The 1894 OS 25" edition (not illustrated) shows the area of Ham Street Car Park to have been reclaimed from the river with the towing path realigned and a new landing stage labelled.

A.6.24 The 1896 OS 6" edition shows limited change (not illustrated).

A.6.25 The 1897 OS 25" edition shows limited change (not illustrated).

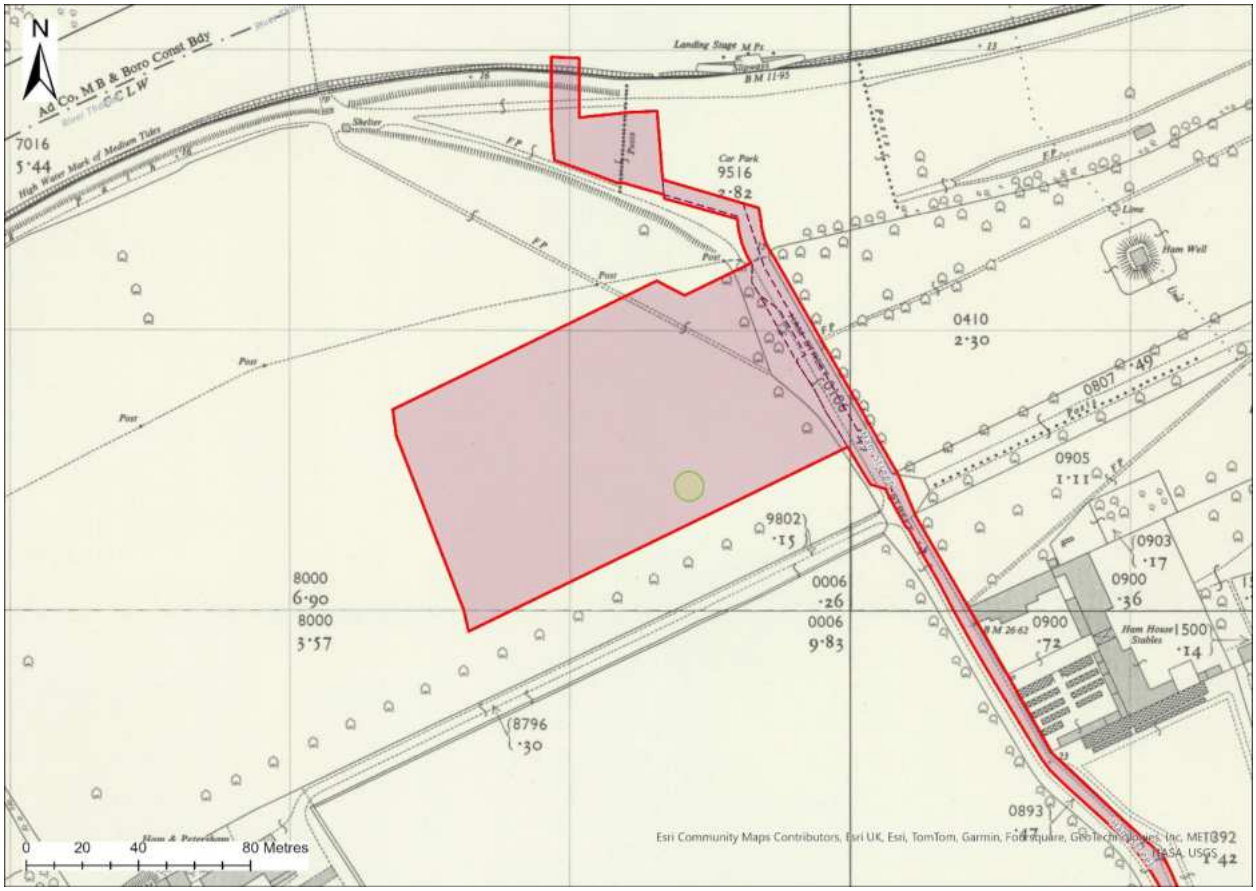
## Plate A.13 Extract of the 1871 OS Map showing the Ham Playing Fields site. NTS




*Source: National Library of Scotland*

A.6.26 The detailed 1950 OS 25” edition (Plate A.14) shows the Ham Street Car Park to have been established. Few other changes are noted within the site or surrounding area.

## Plate A.14 Extract of the 1950 OS Map showing the Ham Playing Fields site. NTS




*Source: National Library of Scotland*

A.6.27 Subsequent mapping (not illustrated) shows limited change of note within the site.

A.6.28 Early oblique aerial photographs of the Ham area dating to the mid to late 1920s (not illustrated) show the area of the site as undeveloped meadow (Ham Playing Fields). To the west of the site, extensive areas of gravel extraction are shown. There are also numerous vertical photographs of the site dating from the Second World War and the later part of the 20th century. These images do not provide any further insights into the site beyond those provided by the historic mapping[37].

A.6.29 The available satellite imagery online (not illustrated) records the site during the last 20 years[38]. The imagery shows a distinct parch mark (a variation in the vegetation coverage which may relate to differences in the underlying geology/soil or presence of archaeological features) in the southern half of the Ham Playing Fields area, visible in both the 2005 and 2010 imagery. The area is approximately 178m in length and 40m in width and is aligned approximately north-east to south-west following (perhaps respecting) the alignment of the avenue of trees. The feature does not correspond with any features shown on

[37] Apex Aerial Viewer (Historic England, 2025b)
[38] Imagery available on Google Earth

the historic mapping but is visible within the LiDAR data as a slight topographic feature (see below). It is also notable that the recent borehole (MT-025-035) was located within the area of this feature.

A.6.30 Also of note is the satellite imagery from 2003, which shows what appears to be a series of small holes excavated within the above noted feature. It is unclear from the available information what these relate to.

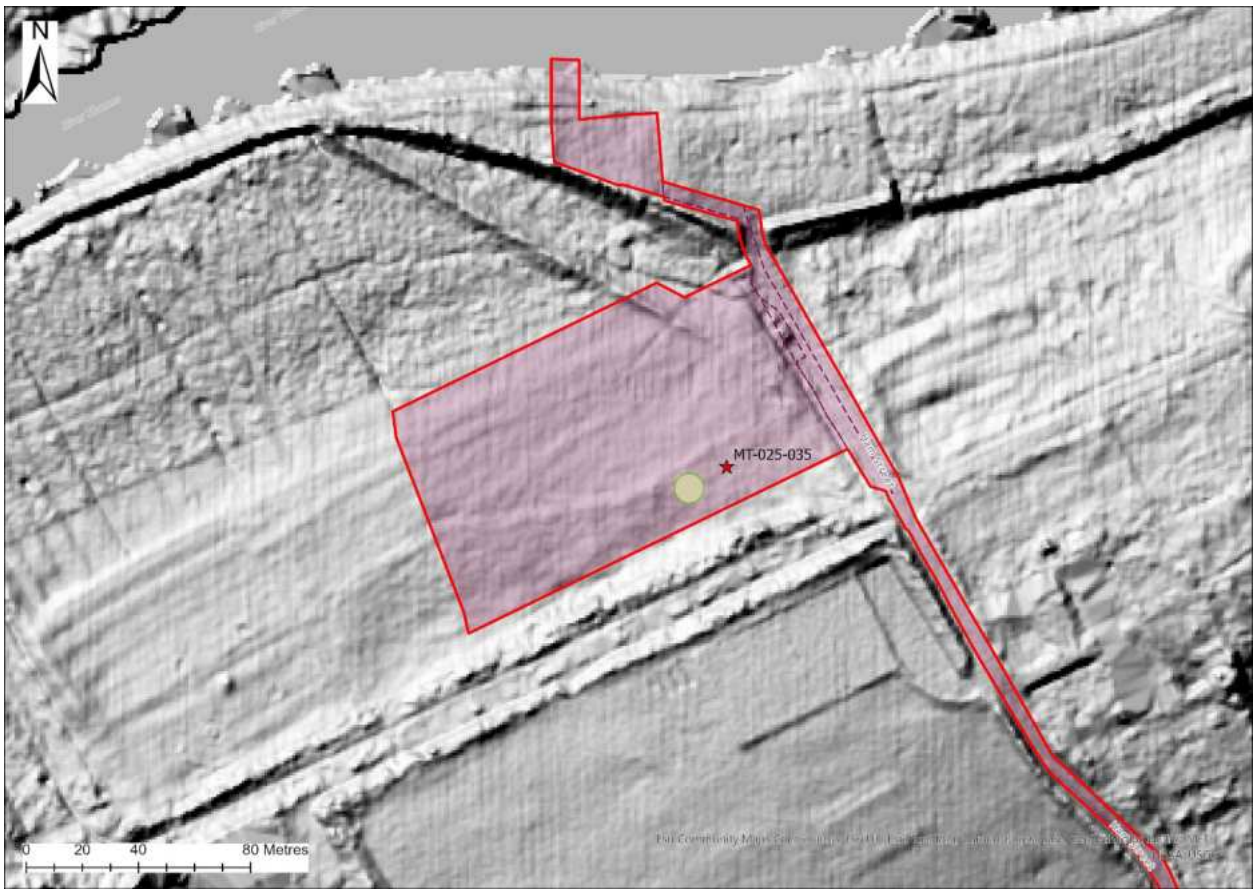
## LiDAR

A.6.31 The available 1m LiDAR data has been used to create a DTM hillshade of the Ham site. This highlights the above noted parch/vegetation mark visible on the satellite imagery as a slight topographic variation. Also evident is the alignment of a Thames Water rising main which crosses the Ham Playing Fields site on a north-east to south-west alignment and the existing footpath running north-west to south-east.

A.6.32 A series of parallel north-west to south-east oriented linear features are visible to the north-west of the site. These are likely to reflect drains or former agricultural features such as water meadows. West of the site, there are slight traces of approximately east to west oriented linear trends which may reflect former agricultural features. These features do not extend across the area of the identified topographic variation. The Ham Street Car Park area evidences little topographic variation of interest.

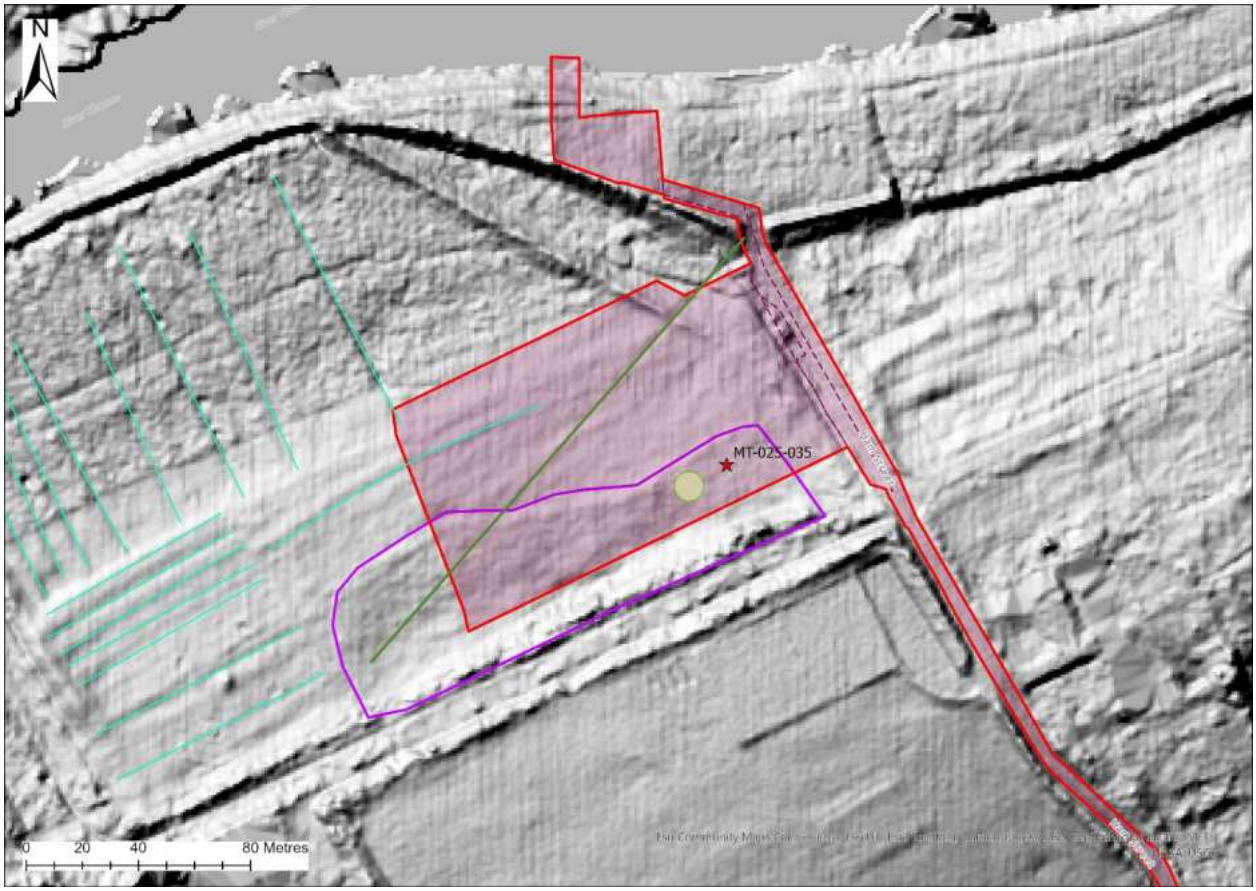
A.6.33 Plate A.15 shows the LiDAR data with the intermediate shaft and recent borehole locations highlighted. Plate A.16 provides an interpretation of the data highlighting the above noted topographic features. The rising main is highlighted by a green line. The amorphous area in the southern part of the site is outlined in purple. Linear possible former agricultural features are shown in cyan. The dashed purple line is Ham Street.

## Plate A.15 LiDAR 1m DTM Hillshade of the Ham Playing Fields site. X10 Vertical exaggeration. NTS




*Source: Environment Agency obtained from Defra survey catalogue*

Plate A.16 LiDAR 1m DTM Hillshade. X10 with interpretation. The rising main is highlighted by a green line. The amorphous area in the southern part of the site is outlined in purple. Linear possible former agricultural features are shown in cyan. NTS




*Source: Environment Agency obtained from Defra survey catalogue*

## Archaeological potential

A.6.34 The Ham Playing Fields site lies within an area that the historic mapping indicates has been undeveloped meadow from at least the 17th century. No previous archaeological investigations have been undertaken within this area. The LiDAR, satellite imagery and results of the GI indicate that a large potential feature exists in the southern half of the site that may relate to former gravel extraction. The GI report (Jacobs, 2024)[39] notes the presence of over 2.1m of Made Ground in this area and a corresponding reduced depth in the Kempton Park Gravel. The historic mapping and the available historic plans of Ham House dating from the 17th and 18th centuries (not illustrated) do not record a feature in this location, albeit the feature does appear to respect the alignment of the Ham House tree avenue extending to the west. While the exact nature of this feature is yet to be determined, be it gravel extraction or an unknown earlier landscaping feature such as a pond (or both), it is likely that excavation of the feature will have removed any earlier shallow surface remains. However, it is

[39] London Water Recycling SR0 – TDRA Phase 1 Ground Investigation Interim Technical Note (Jacobs, 2024

recognised the feature may be of archaeological interest itself. The remainder of the Ham Playing Fields area appears to have been subject to limited past impact, other than construction of the Thames Water rising main, and given the topography and known Prehistoric and Saxon activity in the vicinity, and its status as an APA, it is reasonable to identify a moderate to high potential for previously unknown archaeological remains. The proposed intermediate shaft lies within the area of the unknown features identified within the southern part of this area.

## A.7 Baseline Burnell Avenue site

### Introduction

A.7.1 The Burnell Avenue site is located on the River Thames on the boundary between the LBR and RBK. The combined site is centred on NGR 517277, 171340 and covers an area of approximately 5.1ha.

A.7.2 The Burnell Avenue site will contain the conveyance route reception shaft, river water connection shaft, and River Thames intakes and outlets with associated temporary working and storage areas. These will be located within the central Main Work Area of the site. The Northern and Southern Work Areas will be used for enhancement measures.

### Study area

A.7.3 The study area comprises a 500m radius around the Burnell Avenue site and is shown on Plate A.17. The study area for this assessment excludes the access routes along Dysart Avenue and Beaufort Road as there will not be any impact to archaeological assets from use of existing roads.

A.7.4 The Northern Work Area is shown in purple hatch. The Southern Work Area is shown in green hatch.

### Topography

A.7.5 The site is located in an area of low-lying ground adjacent to the River Thames. The area of the Burnell Avenue site is generally flat and lies at a height of around 8m AOD grading down to 7m AOD along the River Thames.

### Geology and GI

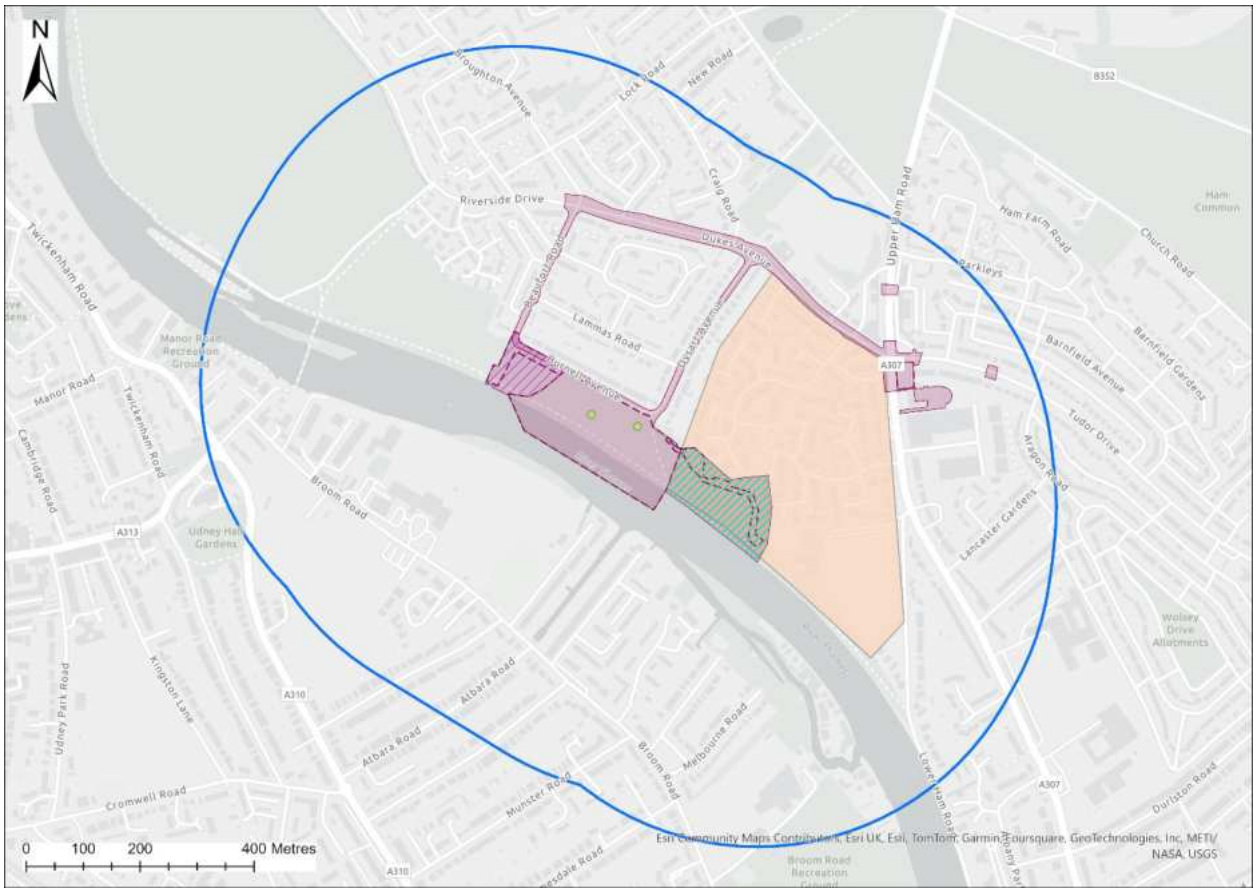
A.7.6 The solid geology of the site comprises London Clay. This is overlain by superficial deposits of terrace gravels (Kempton Park Gravel). Superficial deposits of Alluvium (clay, silt, sand and gravel) dating from the Quaternary period are also recorded along the southern fringe of the site along the course of the River Thames (BGS, 2024)[40].

[40] GeoIndex Viewer (BGS, 2024)

A.7.7 No GI works have been undertaken as part of the TDRA Project within the site but are planned as part of the Phase 2 GI investigation which will be completed in summer 2025.

A.7.8 Previous deposit modelling and GI was undertaken for the development of the former British Aerospace site in 1994 by Museum of London Archaeology (MOLA)[41]. The extent of this investigation overlaps with the Southern Work Area. The work identified a possible palaeochannel running parallel to the River Thames that was approximately 100m in width. The channel appears to run to the north of the Burnell Avenue site. The extent of this investigation is shown on Plate A.17 and discussed further below.

Plate A.17 Burnell Avenue site extent and 500m study area shown in blue. Extent of previous investigation shown in orange. Shaft locations shown by green circles. NTS




*Source: Esri Community Maps and MOLA (1994)*

## Designated assets

A.7.9 There are no designated archaeological assets (Scheduled Monuments) within the site or 500m study area.

[41] British Aerospace Site, Richmond Road, Royal Borough of Kingston-upon-Thames: An Archaeological Evaluation (MOLA, 1994)

## APA

A.7.10 The majority of the Burnell Avenue site falls within the LBR Tier 2 Ham Fields APA (Borough APA reference: 2.12). This APA covers a large area of undeveloped open land along the Thames riverside to the west of Ham. Prehistoric, Roman and Saxon finds have been discovered within the APA. The topographic and geological character of the area provided a favourable location for human occupation and settlement. As such, the APA is identified to have a high potential to contain important multi-period archaeological remains, including Saxon and Medieval evidence relating to the early settlement of Ham (Historic England, 2022)[42].

A.7.11 The Southern Work Area is located within the RBK Tier 2 Stevens Eyots and Kingston Thames Riverside APA (Borough APA reference: 2.1). This APA is known to preserve geoarchaeological and/or archaeological evidence of past human activity within the Thames, its banks and lands close to its course (Abrams Archaeology, 2021)[43].

## Non-designated assets

A.7.12 There are no non-designated assets recorded by the GLHER within the Burnell Avenue site.

A.7.13 Within the 500m study area, non-designated assets recorded by the GLHER mostly relate to historic finds of unstratified Prehistoric flint artefacts from the Ham area, including a polished flint axe (GLHER PRN 95179) from the river at Teddington Weir. Many of the recorded assets relate to the investigation undertaken at the former British Aerospace site (see below).

A.7.14 Also of note is the excavation of a Saxon grubenhaus (GLHER PRN 147312) at Ham Fields approximately 200m west of the Burnell Avenue site. A Saxon occupation site, comprising the single grubenhaus was discovered and excavated by SS Frere in 1950. The site was later re-excavated by Hope-Taylor. The whole area was not opened for excavation due to gravel diggings. The finds included early Saxon domestic pottery, un-baked clay loom weights and animal bones.

## Previous archaeological investigations

A.7.15 The Southern Work Area overlaps with the extent of a previous archaeological investigation undertaken at the former British Aerospace site in advance of a residential development in 1994.

A.7.16 The investigation comprised desk-based assessment, deposit modelling and the excavation of 27 archaeological trial trenches. The trial trenches were targeted on a large palaeochannel identified from the deposit modelling

[42] London Borough of Richmond Archaeological Priority Areas Appraisal (Historic England, 2022)

[43] London Borough of Kingston-upon-Thames Archaeological Priority Areas Appraisal (Abrams Archaeology, 2021)

crossing the area parallel to the River Thames. Due to ground contamination across the site, no archaeological trial trenches were excavated in the Southern Work Area of the TDRA Project.

A.7.17 The trial trenches revealed flood plain sand and gravel (Kempton Park Gravel), which was cut by several undated features filled with Alluvium, including small gullies. The shallow palaeochannel was confirmed to be over 100m wide and may once have formed part of the braided course of the river.

A.7.18 The Alluvium was covered by soil containing pottery dating back to the 17th or 18th centuries, indicating that by this time the site had been reclaimed, probably for agricultural use. There was no evidence for earlier human activity on the site apart from two Prehistoric struck flints (MOLA, 1994)[44].

## Historic map regression

A.7.19 John Roque's 1754 Map[45] (not illustrated) shows the area of the site as undeveloped ground. Ham Common is labelled to the north and east.

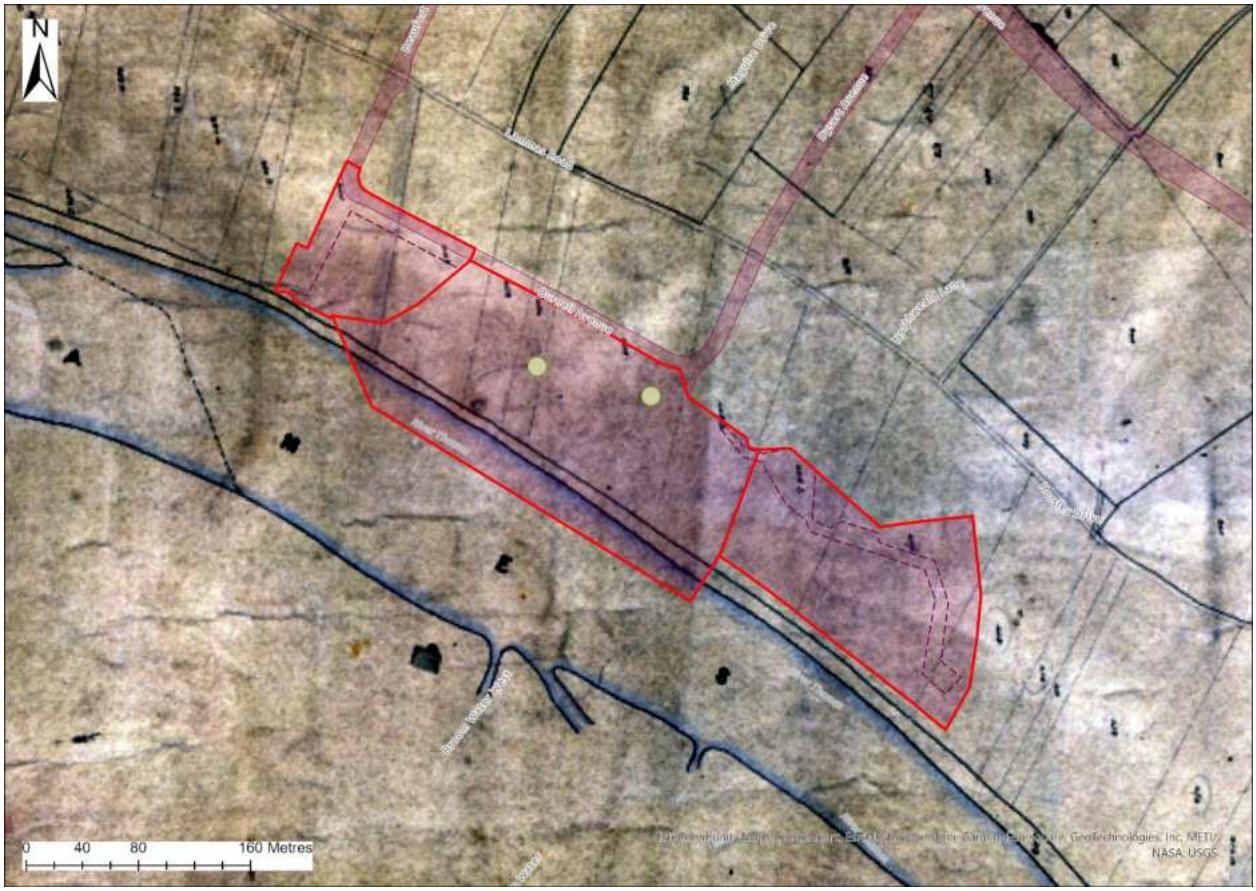
A.7.20 The 1805 Ordnance Surveyor's Drawing[46] (not illustrated) shows limited change. The site is shown to form part of a broad undeveloped area labelled as Ham Field. Field divisions are recorded to the north and east of the site, but not within the Burnell Avenue site itself.

A.7.21 The 1841 Ham Tithe Map (Plate A.18) shows the site to comprise part of a series of regular fields running along the Thames riverside and also a section of the Thames towpath. The fields are all recorded as under arable cultivation within areas named as Ham Field Scrub Oak, Ham Field Flax Land or Ham Field Pool Hill.

A.7.22 The 1871 OS First County Edition (6") shows limited change (not illustrated). The site is depicted as undeveloped land. No field boundaries are recorded.

[44] British Aerospace Site, Richmond Road, Royal Borough of Kingston-upon-Thames: An Archaeological Evaluation (MOLA, 1994)
[45] Available online from Layers of London historic map viewer
[46] Ibid

## Plate A.18 Extract of the 1841 Ham Tithe Map. NTS




*Source: The Genealogist*

A.7.23 The 1896 OS 6” edition (not illustrated) shows limited change.

A.7.24 The 1915 OS 25” edition shows limited change within the site (not illustrated). A series of posts are mapped running along the towing path by the river’s edge.

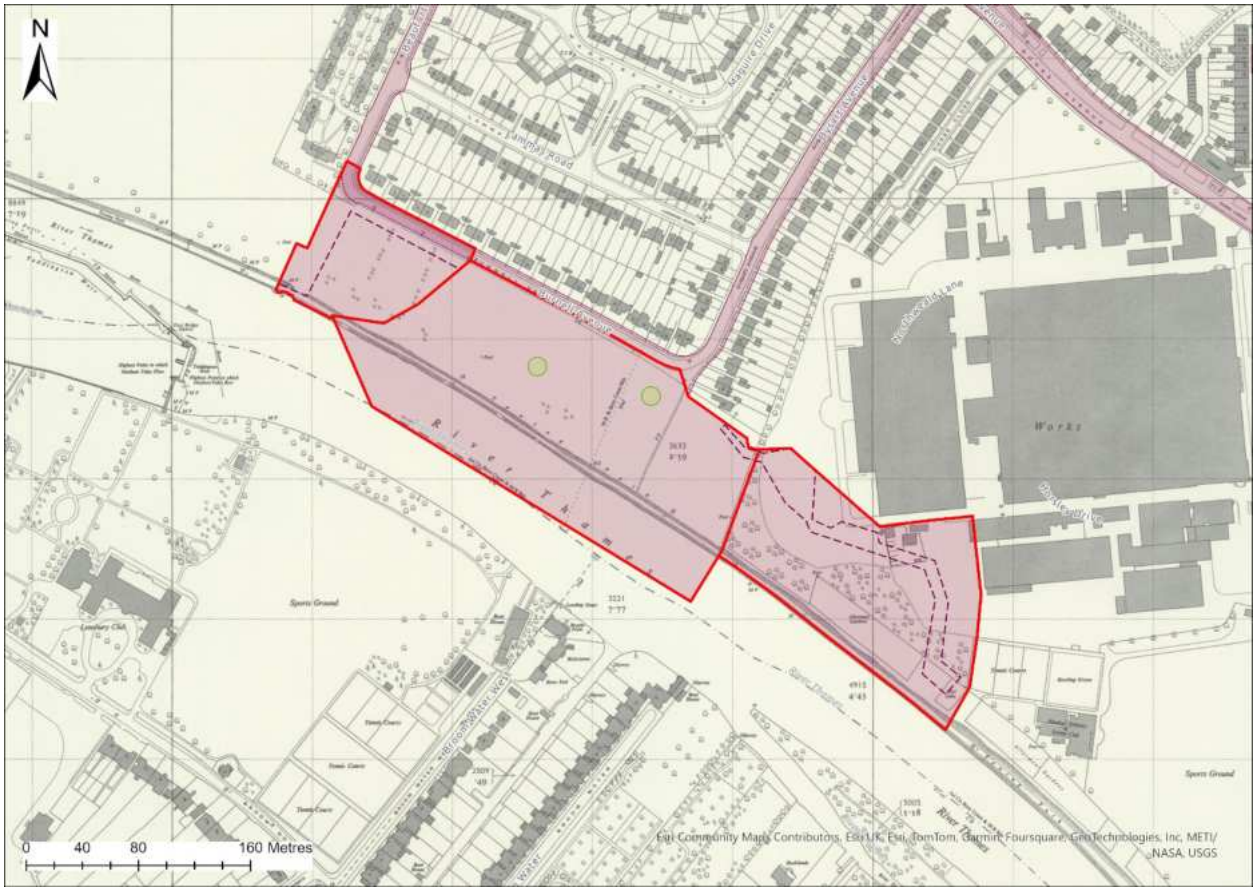
A.7.25 The 1920, 1932 and 1933 OS 6” editions (not illustrated) all show limited change.

A.7.26 The 1935 OS 6” edition (not illustrated) shows development beginning to encroach upon the site. Part of Dysart Avenue to the north of the site is mapped to have been constructed in addition to a Motor Works to the east and associated boundary. Within the site itself, a cricket ground and pavilion are labelled.

A.7.27 The detailed 1950 OS 25” edition (Plate A.19) shows further residential development to the north of the site, with Burnell Avenue now mapped. To the east of the site, the Motor Works is recorded to have expanded. The cricket ground on the previous mapping is no longer recorded.

A.7.28 Subsequent mapping (not illustrated) shows limited change. Redevelopment of the adjacent British Aerospace site (Motor Works) is recorded to occur in the mid 1990s at which time Northweald Lane is established.

Plate A.19 Extract of the 1950 OS Map showing the Burnell Avenue site. NTS




*Source: National Library of Scotland*

## Historic aerial photographs

A.7.29 There are a number of historic oblique and vertical aerial photographs of the Burnell Avenue site dating from the 1930s and 1940s (not illustrated). The early oblique images from 1937 focus on the Motor Works to the east but capture the eastern half of the site as undeveloped ground. The cricket ground identified in the 1935 mapping is also shown[47].

A.7.30 Vertical aerial photographs dating from the Second World War and immediate post-war period record the site being used as allotment gardens (Plate A.20). Subsequent imagery from the 1960s show the allotment gardens to have been restored to grassland (not illustrated).

[47] Apex Aerial Viewer (Historic England, 2025b)

Plate A.20 1946 Vertical aerial photograph of Burnell Avenue area showing allotment gardens. NTS


*Source: National Library of Scotland*

A.7.31 The available satellite imagery online (not illustrated) records the site during the last 20 years[48]. The imagery shows distinct parch or vegetation marks, in a rectangular pattern, in the eastern part of the site. These appear to reflect the earlier division of the area into small allotment gardens during the Second World War. No other features of note were identified.

## LiDAR

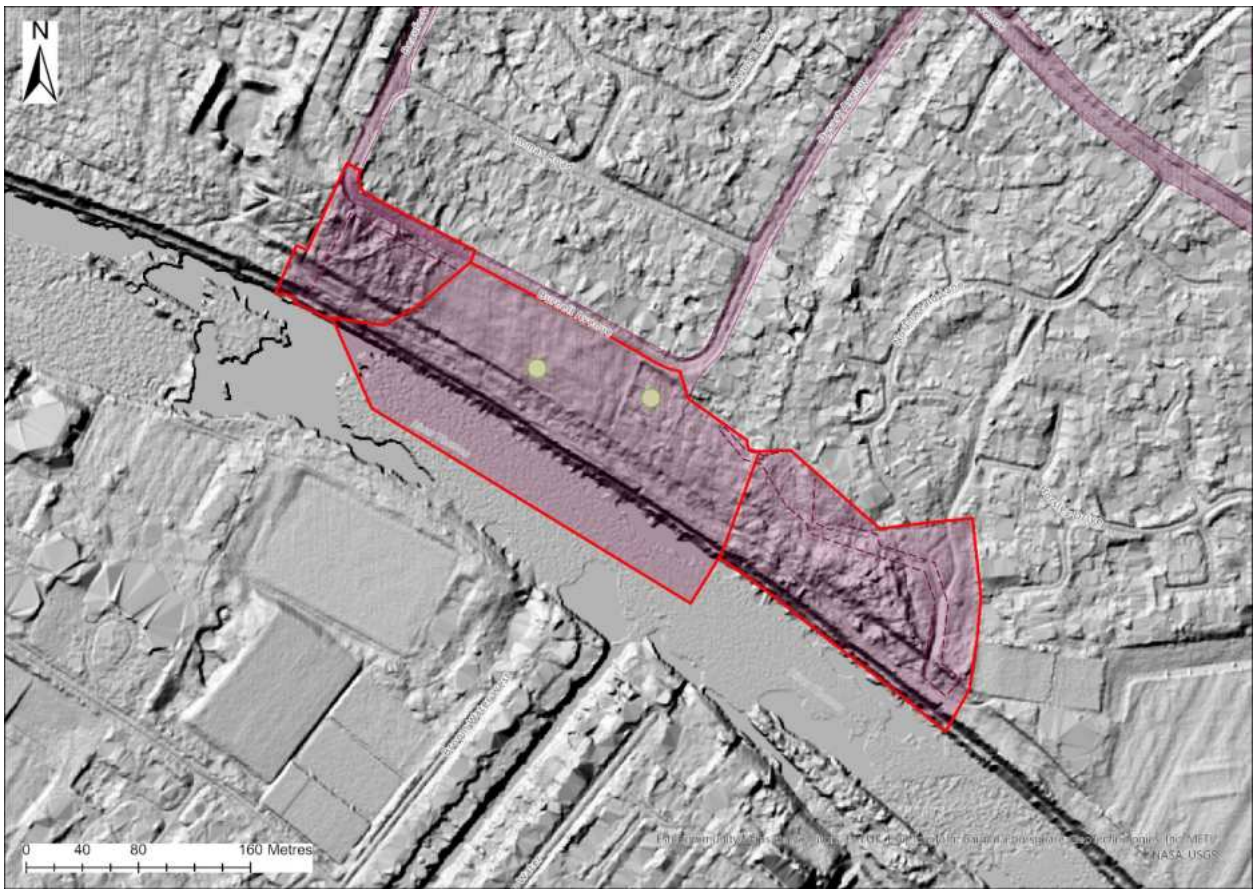
A.7.32 The available 1m LiDAR data has been used to create a DTM hillshade of the site (Plate A.21). This highlights linear topographic features which reflect earlier 20th century land divisions shown on the historic mapping and aerial photographs.

A.7.33 No evidence of the 100m wide palaeochannel identified in the former British Aerospace site[49] to the east is visible within the Burnell Avenue site. No other features of note were identified.

[48] Imagery available on Google Earth

[49] British Aerospace Site, Richmond Road, Royal Borough of Kingston-upon-Thames: An Archaeological Evaluation (MOLA, 1994)

Plate A.21 LiDAR 1m DTM Hillshade of the Burnell Avenue site. X10 Vertical exaggeration. NTS




*Source: Environment Agency obtained from Defra survey catalogue*

## Archaeological potential

A.7.34 The site spans two APAs and based on current evidence, excluding the Southern Work Area, has been subject to limited disturbance other than previous arable usage and allotment gardening during the Second World War. Prehistoric and Saxon evidence is known from the 500m study area, including traces of a possible Saxon settlement located approximately 200m to the west. Given the above, a moderate to high potential for previously unknown assets can be identified for the Burnell Avenue element of the site (main and northern works areas only).

A.7.35 The Southern Work Area is located within the grounds of the former British Aerospace site that was subject to GI and archaeological investigations in the early 1990s. In their archaeological evaluation report, MOLA identified that ground contamination was present across the site including within the current TDRA Project's area[50]. It is unknown if this contamination has been remediated. While there were no archaeological trenches excavated within the Southern Work Area itself, the previous evaluation work did not record any evidence of early human activity beyond several undated features filled with Alluvium.

[50] Ibid

Unstratified Prehistoric and Post-Medieval finds were also recovered. Given the above, and taking into account likely impacts from previous development within the area, a low potential for previously unknown archaeological remains can reasonably be identified.

## A.8 Baseline Tudor Drive site

### Introduction

A.8.1 The Tudor Drive site occupies a small, grassed amenity area at the junction of Upper Ham Road, Richmond Road, Dukes Road and Tudor Drive within the RBK. The site is centred on NGR 517810, 171446 and covers an area of approximately 0.15ha. Ancillary areas for the TDRA Project include part of the adjacent hardstanding within the fire station to the south.

A.8.2 An existing shaft connecting to the Thames Lee Tunnel (TLT) is located within this area and may be used by the TDRA Project to connect into the TLT.

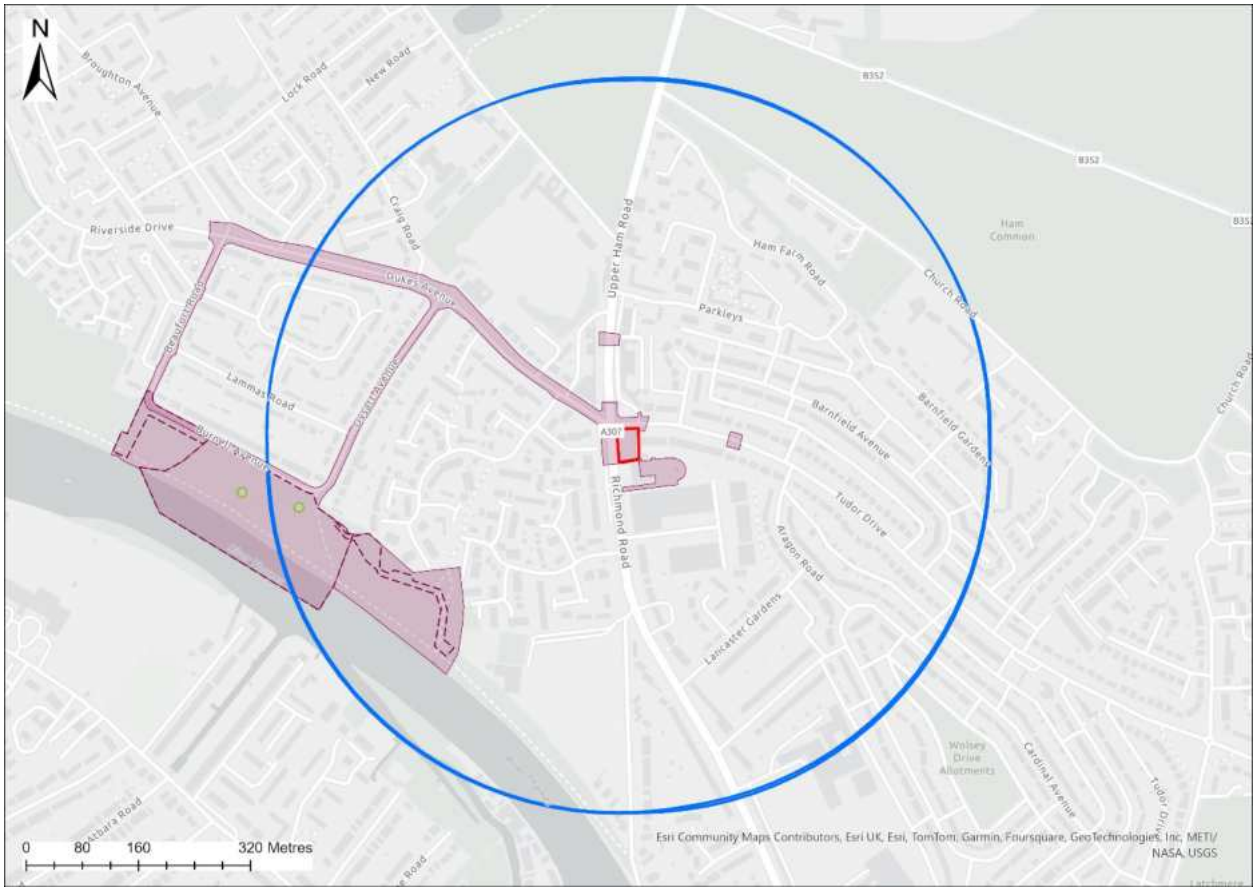
### Study area

A.8.3 The study area comprises a 500m radius around the Tudor Drive site and is shown on Plate A.22. The study area does not incorporate adjacent proposed road modifications or the fire station hardstanding. There is no potential for archaeological remains to be affected within these areas due to the limited invasive nature of any proposed works and likely previous impacts.

### Topography

A.8.4 The site occupies low-lying ground at approximately 8m AOD. Much of the natural topography of the surrounding area is obscured by the extensive development surrounding the site.

Plate A.22 Tudor Drive site outlined in red and 500m study area shown in blue. NTS




*Source: Esri Community Maps*

## Geology and GI

A.8.5 The solid geology of the Tudor Drive site comprises London Clay. This is overlain by superficial deposits of terrace gravels (Kempton Park Gravel) (BGS, 2024)[51].

A.8.6 No GI works have been undertaken as part of the TDRA Project within the site but are planned as part of the Phase 2 GI investigation which will be completed in summer 2025. There are also no historic boreholes recorded within the site by the BGS.

## Designated assets

A.8.7 There are no designated archaeological assets (Scheduled Monuments) within the site or 500m study area.

## APA

A.8.8 The Tudor Drive site is not located within an APA.

[51] GeoIndex Viewer (BGS, 2024)

A.8.9 Within the 500m study area, five APAs are present. None of the areas lie within 100m of the site (main works area).

## Non-designated assets

A.8.10 There are no non-designated assets recorded within the site by the GLHER.

A.8.11 Within the 500m study area, non-designated assets recorded by the GLHER mostly relate to historic finds of unstratified Prehistoric flint artefacts from the Ham area and historic areas such as Ham Common and the Parkleys Estate. Many of the recorded assets relate to the investigation undertaken at the former British Aerospace site located to the south-west of the Tudor Drive site.

## Previous archaeological investigations

A.8.12 No previous archaeological investigations are recorded by the GLHER within the Tudor Drive site.

## Historic map regression

A.8.13 John Roque's 1754 Map[52] (not illustrated) shows the area of the Tudor Drive site as undeveloped ground. The main road between Ham and Richmond is recorded and Richmond Park, Ham House and Ham Common are all shown.

A.8.14 The 1805 Ordnance Surveyor's Drawing[53] (not illustrated) shows limited change. The site is shown to form part of a broad area of regular fields.

A.8.15 The 1841 Ham Tithe Map (Plate A.23) shows the area of the site to be located within part of a field recorded as arable and named 'Six Acre Sheep Walk'.

A.8.16 The 1871 OS First County Edition (6") (not illustrated) shows the site to comprise undeveloped land. No field boundaries are recorded.

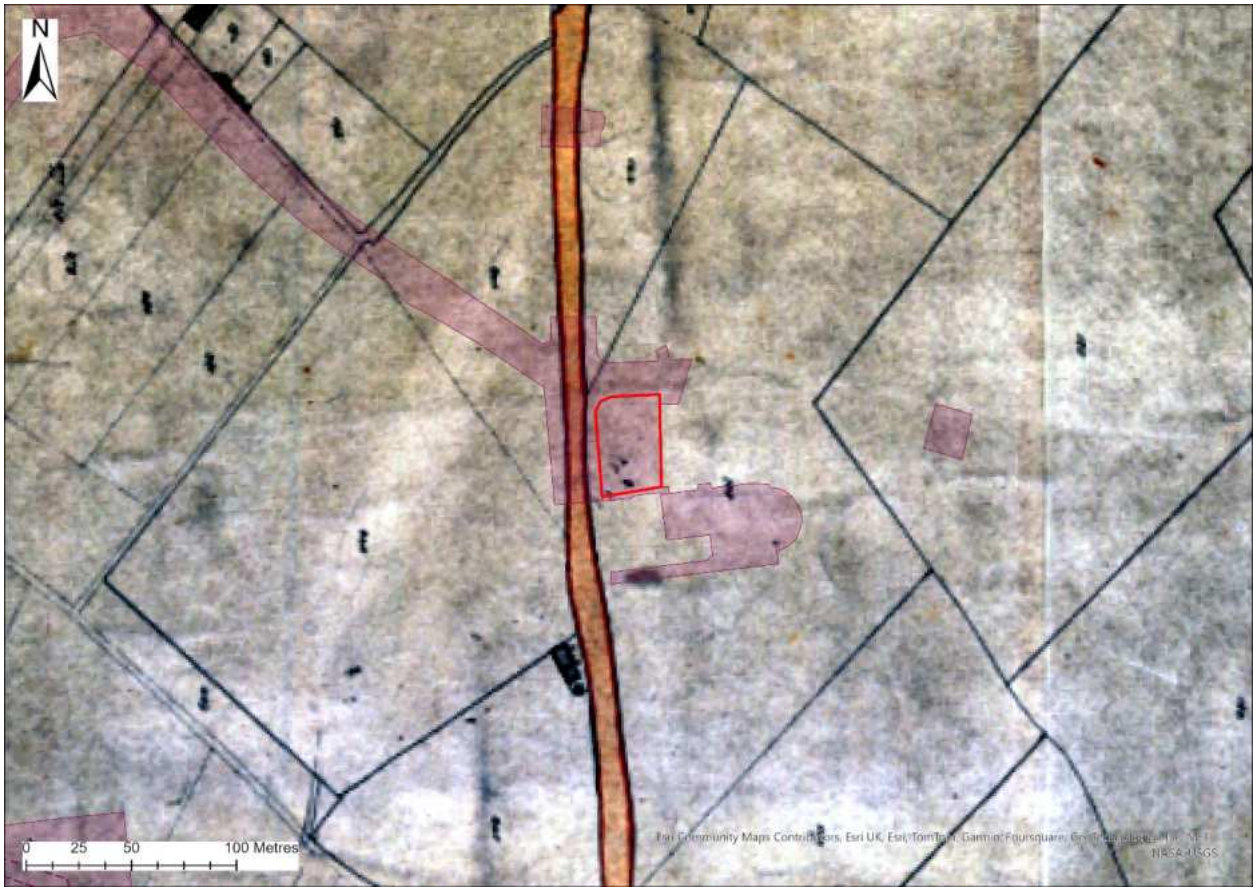
A.8.17 The 1896 OS 6" edition (not illustrated) shows the site to be formed of parts of two small regular fields.

A.8.18 The 1915 OS 25" edition (not illustrated) shows a dwelling to have been constructed within the area of the site. Little change in the wider area is mapped.

A.8.19 The 1935 OS 6" edition (not illustrated) shows development beginning to encroach upon the site. The building shown on the previous mapping is no longer recorded and the southern part of the site is labelled as allotment gardens. A Motor Works (the aforementioned British Aerospace site) is recorded to the west and residential and industrial developments are mapped to the south.

[52] Available online from Layers of London historic map viewer
[53] Ibid

### Plate A.23 Extract of the 1841 Ham Tithe Map. NTS




*Source: The Genealogist*

A.8.20 The detailed 1959 OS 25” edition (not illustrated) shows the boundaries of the site in their current form to have been established. Tudor Drive is recorded to the north and a Fire Station is shown to the south.

A.8.21 Subsequent mapping (not illustrated) shows limited change of note within the site.

## Historic aerial photographs

A.8.22 The available historic oblique and vertical images dating from the post war period (1947) highlight the presence of two buildings within the site not recorded on the historic mapping. These appear to be a bungalow and long wooden workshop or shed (Plate A.24).

Plate A.24 1947 Vertical aerial photograph of Tudor Drive site showing buildings. NTS


*Source: National Library of Scotland*

A.8.23 The available satellite imagery online[54] (not illustrated) records the site during the last 20 years. The imagery shows the site in its current form with little notable changes.

## Archaeological potential

A.8.24 The Tudor Drive site is not located within an APA and there is no record of previous archaeological investigation within the area. No non-designated archaeological assets are recorded within the site. The available historic map evidence indicates the site was undeveloped agricultural land. Buildings are shown within the site on the 1915 OS mapping and then subsequently within the post-war aerial imagery. The southern part of the site does not appear to have been previously developed. An existing TLT shaft is present within the site, located within the northern part of the area, and groundworks and landscaping associated with the construction of this asset will have truncated or removed any archaeological evidence within its footprint. However, it is possible previously unknown archaeological remains may survive within the site. Given the above, a moderate/low archaeological potential can be reasonably identified for the Tudor Drive site.

[54] Imagery available on Google Earth

## A.9 Conclusions

A.9.1 At the Mogden STW site, there is clear and compelling evidence to indicate that past impacts associated with previous construction works, and use as a former landfill site, will have truncated or most likely entirely removed any previously unknown archaeological evidence in both the proposed Western and Eastern Work Areas. However, it is recognised that there is a modest geoarchaeological potential for occasional and unstratified flint implements to be recovered from the Kempston Park Gravel at depth within the proposed drive shaft footprint.

A.9.2 At the Ham Playing Fields site (intermediate shaft and working area), the available evidence indicates a large potential feature exists in the southern half of the site of uncertain date and origin. The remainder of the Ham Playing Fields area appears to have been subject to limited past impact, other than construction of the Thames Water rising main that crosses the site. Given the topography and known Prehistoric and Saxon activity in the vicinity, and its status as an APA, it is reasonable to identify a moderate to high potential for previously unknown archaeological remains.

A.9.3 The Burnell Avenue site (Northern and Main Work Areas) lies within a designated APA and has been subject to limited disturbance other than previous arable usage and allotment gardening during the Second World War. Prehistoric and Saxon evidence is known from the 500m study area, including traces of a possible Saxon settlement located approximately 300m to the north-west. Given the above, a moderate to high potential for previously unknown assets can be identified.

A.9.4 Burnell Avenue (Southern Work Area) is located within an APA but also falls within the extent of the former British Aerospace site that was subject to GI and archaeological investigations in the early 1990s prior to residential development[55]. The previous evaluation work did not record any evidence of early human activity beyond several undated features filled with Alluvium and unstratified finds. Given the above and taking into account likely impacts from previous development within the area, a low potential for previously unknown archaeological remains can reasonably be identified.

A.9.5 At the Tudor Drive site, the available historic map and aerial photograph evidence indicates the site was undeveloped agricultural land until the 20th century when a number of buildings are recorded. The southern part of the site does not appear to have been previously developed. An existing TLT shaft is present within the site and groundworks and landscaping associated with the construction of this asset will have truncated or removed any archaeological evidence within its footprint. However, it is possible previously unknown archaeological remains may survive within the site. Given the above, a moderate/low archaeological potential can reasonably be identified.

[55] British Aerospace Site, Richmond Road, Royal Borough of Kingston-upon-Thames: An Archaeological Evaluation (MOLA, 1994)

## A.10 Proposed approach

A.10.1 Given the level of previous disturbance and the identified deep deposits of Made Ground, it is considered that further archaeological evaluation in advance of construction at the Mogden STW is not necessary or justified.

A.10.2 At the Ham Playing Fields site (intermediate shaft site and working area), it is proposed that a programme of non-invasive geophysical (magnetometer) survey is undertaken to help further clarify the potential for previously unknown archaeological remains to survive.

A.10.3 At the Burnell Avenue site (Main Work Area) it is proposed that a programme of non-invasive geophysical (magnetometer) survey is undertaken to help further clarify the potential for previously unknown archaeological remains to survive. Given the nature of the proposed works in the Northern Work Area, and the presence of extensive vegetation, field evaluation of this area is not considered necessary.

A.10.4 Archaeological evaluation is not considered necessary or justified for the Burnell Avenue site Southern Work Area. The site falls within an area that has been subject to past disturbance and investigation, having been within the grounds of the former British Aerospace site. Previous archaeological investigation of the area identified limited archaeological remains and ground contamination was also highlighted[56]. Impacts from the TDRA Project within this area are also anticipated to be limited.

A.10.5 Given the small scale of the Tudor Drive site and taking into account past impacts from landscaping and construction of the existing TLT shaft, archaeological evaluation in advance of construction is not considered appropriate. A geophysical survey of such a small area within an urban context is unlikely to provide any meaningful results.

A.10.6 Following geophysical survey, further invasive investigations may be required at the Ham Playing Fields and Burnell Avenue sites. The need for and scope of any further investigations is to be discussed with GLAAS.

[56] Ibid

## A.11 References

Abrams Archaeology (2021). London Borough of Kingston-upon-Thames Archaeological Priority Areas Appraisal. London: Historic England.

Arup (2008). Tidal Thames Quality Improvements: Mogden Sewage Treatment Works. Environmental Statement. Unpublished.

BGS (2024). GeoIndex Viewer. Accessed January 2025. https://www.bgs.ac.uk/map-viewers/geoindex-onshore/

CIfA (2020). Standards and Guidance for Historic Environment Desk-Based Assessment. Reading: CIfA.

Department for Environment, Food and Rural Affairs (2023). National Policy Statement for Water Resources Infrastructure.

Esri (2025). Community Maps Program.

Genealogist (2025). Historic map viewer. Accessed January 2025. https://www.thegenealogist.co.uk/

GLAAS (2015). Guidelines for Archaeological Project in Greater London. London: Historic England.

Greater London Authority (2021). The London Plan.

Historic England (2016). Greater London Archaeological Priority Area Guidelines. London: Historic England.

Historic England (2022). London Borough of Richmond Archaeological Priority Areas Appraisal. London: Historic England.

Historic England (2025a). National Heritage List for England database. Accessed January 2025. https://historicengland.org.uk/listing/the-list/

Historic England (2025b). Apex Aerial Photograph Viewer. Accessed January 2025. https://www.arcgis.com/apps/webappviewer/index.html?id=2626ed0c37484d96b8954dd33187084e

Jacobs (2024). London Water Recycling SR0 – TDRA Phase 1 Ground Investigation Interim Technical Note. Unpublished.

Layers of London (2025). Historic map viewer. Accessed January 2025. https://www.layersoflondon.org

LBH (2015). Hounslow Local Plan 2015 - 2030.

LBH (2024). Local Plan 2020 – 2041. Proposed Submission Version (Regulation 19)

LBR (2018). London Borough of Richmond upon Thames Local Plan 2018 - 2033.

LBR (2023). Richmond Local Plan. Publication (Regulation 19) Consultation Version.

MOLA (1994). British Aerospace Site, Richmond Road, Royal Borough of Kingston upon Thames: An Archaeological Evaluation. Unpublished.

Middlesex County Council (1936). The Main Drainage of West Middlesex: Description of the Completed Works. London: Middlesex County Council.

Ministry of Housing, Communities and Local Government (2024). National Planning Policy Framework.

Oxford Archaeology (2023). London Borough of Hounslow Archaeological Priority Area Appraisal (Final Report). London: Historic England.

RBK (2012) Core Strategy.

RBK (2023) Kingston's Local Plan. First Draft of the Local Plan Consultation (Regulation 18).