

Produced by: BG
Approved by: MAC
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Heritage and Desk Based Archaeology Assessment

A desk-based assessment has been undertaken to determine the archaeological implications of the proposed new Energy Centre (comprising of sub-station, external packaged plant room and AHSP and acoustic enclosure)

Archaeology Priority Zone

The proposed development is within an Archaeology Priority Zone (APZ), these are defined in Havering Council's Heritage Supplementary Planning Document, adopted in April 2011, as:

..wider areas of archaeological landscape which may contain specific individual hotspots and are likely to contain other yet unknown sites waiting future identification.¹

Development Control Policy DC70 – Archaeology and Ancient Monuments states:

The Council will ensure that the archaeological significance of sites is taken into account when making planning decisions and will take appropriate measures to safeguard that interest. Planning permission will only be granted where satisfactory provision is made in appropriate cases for preservation and recording of archaeological remains in situ or through excavation. Where nationally important archaeological remains exist there will be a presumption in favour of their physical preservation. Particular care will need to be taken when dealing with applications in archaeological 'hotspots' where there is a greater likelihood of finding remains.

Paragraphs 5.14 to 5.21 provide guidance on the information required to support an application for planning permission and how the Council will consider and determine the application.

¹ https://www.havering.gov.uk/download/downloads/id/5784/heritage_2011.pdf

Desk based assessment – aims and method

The Chartered Institute of Archaeologists' (CIfA) Standard and guidance for historic environment desk-based assessment². This defines a desk based assessments as 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. Significance is to be judged in a local, regional, national or international context as appropriate. (CIfA, 2020)

A desk based review of historic environment records has been undertaken for a 500m radial from the site postcode RM13 9XD. Table 1.0 sets out the sources of information that have been consulted.

Table 1.0 Desk based assessment – sources of information

Information Source	Description
Heritage Gateway	The Heritage Gateway is managed by Historic England in partnership with ALGAO and IHBC. The website provides access to local and national records on the historic environment including the following resources: • Local authority records from over 70% of England's Historic Environment Records (HERs) including the Greater London HER. • National records from the National Heritage List for England including listed buildings and scheduled monuments • Historic England Research Records (replaces PastScape) • Records from the National Trust Historic Buildings Sites and Monuments Record • The Excavation Index • Information of historic parks, gardens and historic landscapes (Parks & Gardens UK) • Designation Decision Records
Greater London Historic Environment Record	The Greater London Historic Environment Record (GLHER) is maintained by Historic England and is the first point of call for those interested in the heritage of the 32 London boroughs, and the City of London, which make up the Greater London area.

² https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf

Information Source	Description
National Library of Scotland	Historic OS mapping and land use.
Lidar data	LiDAR (light detection and ranging), a remote sensing technology in which lasers are used as topographic scanners that can penetrate foliage, has particularly influenced researchers in the field of settlement or landscape archaeology. LiDAR provides detailed landscape data for broad spatial areas and permits visualization of these landscapes in ways that were never before possible. These data and visualizations have been widely utilized to gain a better understanding of historical landscapes and their past uses by ancient peoples.
Local history organisations and repositories	https://www.british-history.ac.uk/vch/essex/vol7/pp126-134 http://www.kentpast.co.uk/rainham.html https://opendomesday.org/place/TQ5282/rainham/ https://www.british-history.ac.uk/vch/essex/vol7/pp138-142
Geology	https://geologyviewer.bgs.ac.uk

Desk based assessment data results

Rainham

Rainham is recorded as a settlement in the Domesday Book; it had a recorded population of 50 households in 1086 putting it in the largest 20% of settlements recorded in Domesday. It is listed under four owners – Bishop Odo of Bayeux, Robert Gernon, Walter of Douai and Hagebern.³ The land held by Walter Douai became the manor of Rainham.

In the Middle Ages settlement is clustered round the church and manor-houses.⁴

The sixteenth century settlement reflected the medieval road pattern and remained unchanged as late as 1865.⁵ Lambs Lane links the Upminster and Wennington Roads.

³ <https://opendomesday.org/place/TQ5282/rainham/>

⁴ <https://www.british-history.ac.uk/vch/essex/vol7/pp126-134>

⁵ <https://www.british-history.ac.uk/vch/essex/vol7/pp126-134>

The population has started to increase by the early nineteenth century, the population in 1801 was 444, 868 in 1851, 1725 in 1901 and 7666 in 1951. By the early twenty first century the population is over 30,000.⁶

In 1858 the London, Tilbury and Southend railway was opened as far as Tilbury with a station at Rainham known as Rainham and Newington. It brought an almost immediate increase in the size of the village. When the railway line was electrified in 1959 there was a corresponding increase in development including the Park Wood estate to the south of Rainham mostly constructed in the 1960's and 1970's.

Geological records

Top soils are loamy with naturally high groundwater. These soils are developed on a superficial deposit of Taplow Gravel Member sand and gravel, a sedimentary formed between 362 and 126 thousand years ago during the Quaternary period. The underlying bedrock geology is London Clay Formation – clay, silt and sand bedrock formed between 56 million and 47.8 million years ago during the Palaeogene period.

Historic map regression

There is no evidence of development at this location prior to its being occupied by the school. The first OS map, surveyed in 1865-6 and published in 1875 shows the proposal site, marked by the blue pin, located outside the village of Rainham. The site is shown as open space, likely utilised for agricultural uses (refer Plate 1.0).

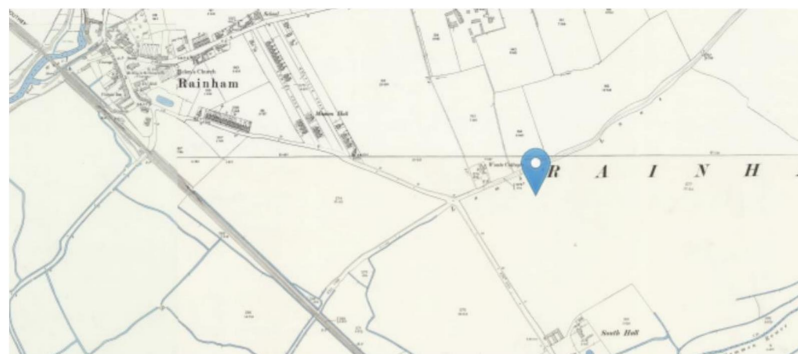


Plate 1.0 First OS Map surveyed 1865-1866 (Source: National Library of Scotland)

By the mid twentieth century OS mapping indicates the site as still undeveloped, the village of Rainham has grown to the edge of Lambs Lane (refer plate 1.1).

⁶ <https://www.british-history.ac.uk/vch/essex/vol7/pp126-134>



Plate 1.1 OS Map revised 1939, published 1947 (Source: National Library of Scotland)

In a History of the County of Essex: volume 7 the history of the school is described:

The Chafford school, Lambs Lane, was opened in 1934 by Essex county council as Rainham senior, later secondary (modern), school, Upminster Road, for 360 boys and girls. It moved in 1950 to new buildings in Lambs Lane for 450 children. It was enlarged in 1962 and 1971 and was renamed in 1973⁷.

It later became the Harris Academy Rainham, joining the Harris Federation in September 2016.

Lidar data

No archaeological features are indicated on the site by Lidar data.

Historic environment records

Table 1.0 summarises the results of the Heritage Gateway and Greater London HER searches of a 500m radial from the site. The table includes a description, period of history and national grid reference (NGR).

The searches indicate no archaeological interventions or heritage assets on the site itself and its immediate environs.

⁷ <https://www.british-history.ac.uk/vch/essex/vol7/pp138-142>

Table 1.0 Archaeological sites, heritage assets and find spots within a 500m radial of the site postcode

Type / data source	Description	Historical period ⁸ / find	Reference Number / NGR
Grade II listed building	South Hall Farmhouse	Post Medieval	1358528 TQ5321281588
Historic England Research Record	Manor House at South Hall, mentioned in Domesday	Post Medieval	965481 TQ5320081500
Excavation Index	Horndon-Barking gas pipeline Rainham Marshes. Watching brief	Prehistoric – ditch Roman - ditch	1038156 TQ5261181534 / TQ5243681685
Excavation Index	South Hall Farm. Evaluation including a geophysical survey ahead of quarrying	Mesolithic – lithic implement Bronze Age – lithic implement	1231154 TQ5350081800
Excavation Index	Land to rear 128-152 Wennington Road, Rainham Evaluation trenches in advance of proposed development	Early Medieval – single sherd Medieval – sherd	1469031 TQ5265081900
Excavation Index	Lil's Diner, New Road Evaluation in advance of proposed development – no archaeological remains recorded		1469033 / TQ5320082300
Excavation Index	Winifred Whittington House, Brookway. Evaluation - two trenches in advance of proposed development	Medieval – water channel / pottery Post Medieval – water channel	1059754 TQ5271081830
Excavation Index	Lambs Lane North / New Road Evaluation trenching in advance of proposed residential development	Post Medieval – field boundary	1578019 TQ5342082330

⁸ <https://historicengland.org.uk/listing/the-list/historic-periods/>

Type / data source	Description	Historical period ⁸ / find	Reference Number / NGR
Excavation Index	South Hall Farm. Evaluation – deposits above natural gravels and below topsoil	Pre historic - flint scatter Iron Age – linear feature and pit	1332031 TQ5350081800
Excavation Index	South Hall Farm Quarry. Watching brief, monitoring of top soil and sub soil stripping for Phase 7 and 8 extraction	Middle Bronze Age – boundary ditch Late Bronze Age – post built structure, hut circle, pit, gully Bronze Age – Drove Road Iron Age – field system, pit cluster Roman - boundary ditch Post medieval – boundary ditch	1398446 TQ5350081800
Excavation Index	South Hall Farm Watching brief, monitoring ongoing gravel extraction phase 5-6	Late Bronze Age – ring ditch Bronze Age - ditch, pit, loom weights, boundary ditch Uncertain - feature	1439448 TQ5350081800
Excavation Index	South Hall Farm	Neolithic – lithic implement Iron Age – ditch Roman ditch / pit Medieval – ditch Post Medieval - ditch	TQ5300081700
Excavation Index	Horndon to Barking Natural Gas Pipeline – geophysical, auger and fieldworking surveys	Prehistoric - pottery, lithic implement, burnt flint, vessel Roman – vessel Medieval - pottery and vessel	TQ6520083800 / TQ5390081000 / TQ6600083000 / TQ5500083000 / TQ5400083000 / TQ5300082000
Greater London HER	Wennington Road, Rainham	Medieval - bridge	96627 TQ5323481415
Greater London HER	South Hall Farm	Uncertain – ditch	144710 TQ5360481905

Type / data source	Description	Historical period ⁸ / find	Reference Number / NGR
Greater London HER	South Hall Farm	Late Mesolithic – scatters of lithic material	103100 TQ5354981850
Greater London HER	South Hall Farm	Late Iron Age – possible ring ditch	109845 TQ5354981850
Greater London HER	South Hall Farm	Post Medieval - circular or near circular ditches	147484 TQ5356981770
Greater London HER	South Hall Farm. Watching brief, initial soil stripping prior to gravel extraction	Late Iron Age - linear features, pits, pottery	119433 TQ5354981850
Greater London HER	South Hall Farm Watching brief	Post Medieval - land use, pottery	118261 TQ5354981850
Greater London HER	Rainham	Paleolithic - flint, hand axes	126614 TQ5280582005

As evidenced by the number of archaeological records and findspots, the gravels on which the site sits have been proven to have good preservation of archaeological materials. Whilst finds are scattered both geographically and across the historic periods there is a significant grouping of archaeological activity within South Hall Farm located 350m to the east of the proposal site, suggesting occupation over a long period of time.

(i) Prehistoric

The 500m radial search provides evidence of occupation dating back to the palaeolithic era (1,000,000 BC to 150,000 BC). A ditch, thought to be prehistoric, is recorded approximately 450m south east of the site. A number of prehistoric tools, axes and flints have been recorded approximately 300m west.

Geophysical, auger, field working and watching brief during construction of the Horndon to Barking Natural Gas Transmission Pipeline found Neolithic (4,000 BC to 2,200 BC) pottery and flints.

The significant archaeological monitoring at South Hall Farm uncovered evidence of Bronze Age (2,600 BC to 700 BC) activity including a drove road, ditches, post built structure, hut circle, pit, gully, lithic implements and loom weights. There is also evidence at this same location of Iron Age (800 BC – 43 AD) activity with linear features, field systems, ditches, pits and pottery sherds.

(ii) Roman

There is a small amount of roman (AD 43 to AD 410) archaeology within the assessment area, a vessel is recorded during monitoring at South Hall Farm and a Roman ditch during the construction of the Horndon to Barking Natural Gas Transmission Pipeline.

(iii) Medieval

Evidence of medieval (AD 410 to 1540) activity has been found during archaeological monitoring and investigations at South Hall Farm, Winifred Whittington House and construction of the Hornton to Barking Natural Gas Pipeline. These include pottery and vessels, water channels and ditches. A medieval bridge is located on Wennington Road, approx. 200m west of the site.

(iv) Post Medieval

There are a number of post medieval (1540 – 1901) records evidencing agricultural activity in the area. The designated Grade II listed South Hall Farmhouse dates to the post medieval period.

Constraints

The historic environment record search indicates a single designated heritage asset – the Grade II listed South Hall Farmhouse. This is located south east of HAR. The location of the proposals is not visible from, nor does it share a boundary with South Hall Farmhouse. The proposals are deemed to have no effect on the significance and setting of the designated heritage.

The proposed development is within an APZ, these are defined in Havering Council's Heritage Supplementary Planning Document, adopted in April 2011, as:

..wider areas of archaeological landscape which may contain specific individual hotspots and are likely to contain other yet unknown sites waiting future identification.

The Supplementary Planning Document also provides guidance on the information required to support an application for planning permission and how the council will consider and determine the application, including the referral to GLAAS for comment by the planning authority.

Assessment of Impact

There is no visual impact on the designated heritage asset.

Past impacts are limited to:

- (i) Historic agricultural land use.
- (ii) Construction activities associated with the school itself in the 1970's.
- (iii) Subsequent alterations and additions to the school

The proposed Energy Centre will require limited excavation with potential to encounter archaeology.

Assessment of Potential and Significance

The desk based assessment has provided an evidence base of the known archaeological and heritage resources within a 500m radial of the school's postcode. The assessment also enables a hypothesis to be drawn with regards to the potential for archaeology during construction activities.

Whilst there has been no archaeology recorded on the site to date; it sits on gravel beds known to preserve archaeological deposits. There is moderate potential for archaeology to be present, mirroring the finds pattern known in the area this suggests potential from pre-history through to the roman period, with low potential for Saxon finds.

The footprint of the energy centre proposals have only moderate potential for archaeological remains to be present given the extent of previous construction activities including laying of services. An archaeological watching brief of groundworks is deemed to be sufficient. The applicant would be prepared to review a suggested condition.