

Liverpool Road Housing Development, Moston, Chester.
July 2013

Archaeological Assessment

Project Code: A0020

Report no. 0017





Liverpool Road Housing Development, Moston, Chester. July 2013

Report no. 0017 v2.0

Archaeological Desk-Based Assessment Aeon Archaeology 17 Cecil Street Chester CH3 5DP

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Client: Ainscough Strategic Land

Written by: Richard Cooke BA MA MIfA richard.cooke@aeonarchaeology.co.uk

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1.0 Non Technical Summary

LIVERPOOL ROAD, MOSTON, CHESTER, CHESHIRE DESK-BASED ASSESSMENT (A0020)

1.0 NON-TECHNICAL SUMMARY

Aeon Archaeology was commissioned by Ainscough Strategic Land to undertake an archaeological desk-based assessment of the proposed construction of a new housing development located c.15ha of land towards the north of Chester, partly within the township of Moston and partly within the township of Upton-by-Chester

It is expected that the proposed development will impact physically upon three sites of local archaeological significance (features 2, 4 and 6), all of which are historic field boundaries. The direct impact will be limited to breaching the boundaries in order to construct the proposed main street and as such these boundaries will for the majority be retained. Therefore no further assessment or mitigatory recommendations have been made for these features.

In addition the former Hillcrest farm (feature 10) lies within part of the proposed development and as such will require removal. This feature however has been identified through documentary evidence and there are no upstanding structural remains. There is however the potential for buried remains at foundation level and thus a watching brief has been recommended during groundworks in this area.

Due to the proximity of a range of archaeological sites of all periods, but in particular the close proximity of the scheduled and non-scheduled Roman practice camps to the east and southeast, the potential for unknown buried archaeological remains to be present on the site is considered to be medium. Due to the disappointing results of the geophysical survey carried out at the nearby Chester Zoo by Archaeological Services WYAS in 2013, it is recommended that further investigation of the site is carried out through an archaeologically supervised metal detector survey. This would help to identify any archaeological hotspots that could then be targeted by archaeological trial trench.

In addition, due to the close proximity of the grade II Listed Building of the *footpath guidepost in north west corner of the garden of longlands* (PrefRef: 1130660) it is recommended the local planning authority be consulted regarding the development prior to any works taking place.



2.0 Introduction, Aims and Project Design

2.0 INTRODUCTION, AIMS AND PROJECT DESIGN

Aeon Archaeology was commissioned by Ainscough Strategic Land to undertake an archaeological desk-based assessment of the proposed construction of a new housing development located c.15ha of land towards the north of Chester, partly within the township of Moston and partly within the township of Upton-by-Chester (centred on NGR **SJ 40520 69980**) (figure 1).

This archaeological desk-based assessment is for the proposed development area, which includes a triangle shaped parcel of land covering five large enclosed grazing fields to the south and the area in proximity to a small farm in the north.

As part of the archaeological desk-based assessment a 1.0km search area centred on the proposed development site was utilised for a search of the Cheshire Historic Environment Record (CHER). This provided a background historical narrative of the area and included source material from the Chester Archives and Record Office. Information on Scheduled Ancient Monuments and Listed Buildings was obtained from English Heritage.

A mitigation brief was not prepared for this scheme by the Cheshire Archaeology Planning Advisory Service as the desk-based assessment was undertaken in advance of planning application.

The following report conforms to the guidelines specified in *Standard and Guidance for Archaeological Desk-based Assessment* (Institute of Field Archaeologists, 1994, rev. 2007).

The archaeological desk-based assessment considered the following:

- (i) The history of the site;
- (ii) The significance of any remains in their context both regionally and nationally;
- (iii) The potential impact of the proposed development on known sites of archaeological importance including their setting;

The archaeological desk-based assessment was undertaken in four stages:

- (i) Archival research
- (ii) Field visit/site walkover of all accessible areas
- (iii) Written report
- (iv) Project archive



3.0 Methods and Techniques

3.0 METHODS AND TECHNIQUES

3.1 Archival research

The archaeological desk-based assessment involved the study of the following records:

- The regional Historic Environment Register (HER, The Forum, Chester, Cheshire, CH1 2HS) was examined for information concerning the study area. This included an examination of the core HER, and secondary information held within the record which included unpublished reports, the 1:2500 County Series Ordnance Survey maps, and the National Archaeological Record index cards.
- The National Monuments Record (NMR, English Heritage Archive, The Engine House, Fire Fly Avenue, Swindon, SN2 2EH) was checked for sites additional to the HER.
- Information about Listed Buildings and Scheduled Ancient Monuments from English Heritage was examined in the regional HER, with supporting information from English Heritage. The Register of Outstanding and Special Historic Landscapes and the Register of Parks and Gardens was checked, and also the location of World Heritage Sites.
- Secondary sources were examined, including works held within the regional libraries.
 Indices to relevant journals, including county history and archaeology society journals and national society journals were checked.
- Evidence from aerial photographs was collated. Vertical and oblique collections held by the HER were examined.
- Archive maps, where relevant, were consulted in the Cheshire Archives (Cheshire Archives and Local Studies, Duke Street, Chester, Cheshire, CH1 1RL). This included the relevant estate maps and tithe maps and information from Land Tax Assessments
- Results from previous archaeological work within the area were also reviewed.

3.2 Site walkover

The site walkover was carried out on 2nd July 2013 by Richard Cooke BA MA MIfA, archaeological contractor and consultant at Aeon Archaeology. The weather conditions were ideal for the field search being both bright and clear. All archaeological sites and view points were photographed using a digital SLR (Canon 550D) set to maximum resolution. The northern part of the site (north of the Upton township boundary, feature 3) was not visited due to access restrictions and was assessed using documentary evidence alone.

3.3 Desk-based assessment report

All features identified from the archival research and site walkover were assessed and allocated to categories of international, national, regional/county, local and none/unknown importance as listed in section 6.0. These are intended to place the archaeological feature within a geographical context of importance and thus help inform the most suitable level of mitigatory response. The criteria used for allocating features to categories of importance are

based on existing statutory designations and, for non-designated assets, the Secretary of State's non-statutory criteria for Scheduling Ancient Monuments; these are set out in National Planning Policy Framework (NPPF).

3.4 Project archive

A full archive including plans, photographs and written material was prepared. All plans, photographs and written descriptions were labelled and cross-referenced using Aeon Archaeology pro-formas. A draft copy of the report was sent to the client and upon written approval from them copies of the report will be sent to the regional HER (The Forum, Chester, Cheshire, CH1 2HS) and the Cheshire Archaeology Planning Advisory Service. All notes, plans, and photographs arising from the desk-based assessment are stored at Aeon Archaeology under the project code **A0020**.



4.0 Archaeological and Topographical Background

4.0 ARCHAEOLOGICAL AND TOPOGRAPHICAL BACKGROUND

4.1 Topographic Description

The proposed development area occupies five large enclosed grazing fields to the south, as well as the area around the farm, service station, and housing development to the north, covering approximately 15 hectares. The land topography is mostly flat but does fall away to a small stream immediately to the south of the proposed development area. The fields are currently utilised for pastoral sheep grazing, although the westernmost field has been given over to hay production. The fields are generally large and enclosed by mature hedgerows.

The southern part of the site lies within the township of Upton-by-Chester, within the parish of St. Mary on the Hill/ St. Oswald's. The northern part of the site lies within the township of Moston and solely within the parish of St. Mary on the Hill.

The site bedrock comprises the Chester pebble beds formation, a sedimentary bedrock that formed approximately 242 to 248 million years ago in the Triassic Period when the local environment was dominated by rivers. Above this lies Devensian – Diamicton till, superficial deposits that formed up to 2 million years ago in the Quaternary Period when the local environment was dominated by Ice Age conditions (British Geological Survey).

4.2 Statutory and non-statutory designations

4.2.1 Non-designated monument points from the Cheshire Historic Environment Record (figure 1)

The Cheshire Historic Environment Record (CHER) maintains a register of non-designated archaeological sites represented as single point data or as polygons. These are identified through their Preferred Reference (PrefRef) number. These include sites which are of archaeological or historical interest but are not afforded statutory protection, artifact find spots, documentary evidence; and locations of past events such as archaeological projects.

There are twelve non-designated monument points within 1.0km of the boundary of the proposed development area (see appendix I) but none lie within the site boundary. The site lies in close proximity to the following:

- (i) Approximately 220.0m south of the *Medieval weight from Moston* findspot (PrefRef: 7257);
- (ii) Approximately 340.0m northwest of the *Roman coin find in Upton-by-Chester* (PrefRef: 2137);
- (iii) Approximately 400.0m northwest of the *Congregational Chapel, Upton, Chester* (PrefRef: 7118);
- (iv) Approximately 410.0m north of the *Post Medieval ring from Upton by Chester* findspot (PrefRef: 7262);
- (v) Approximately 410.0m north of the *Post medieval button from Upton by Chester* findspot (PrefRef: 7261);
- (vi) Approximately 410.0m north of the *Lead weight from Upton by Chester* findspot (PrefRef: 7260);

- (vii) Approximately 410.0m north of the *18th century Jews Harp from Upton by Chester* findspot (PrefRef: 7259);
- (viii) Approximately 410.0m north of the *17th century Jews Harp from Upton by Chester* findspot (PrefRef: 7258);

4.2.2 Listed Buildings (figure 2)

The Secretary of State for Culture, Media and Sport holds a List of Buildings of Special Architectural or Historic Interest, considered to be of national importance. Compiled under the Planning (Listed Buildings and Conservation Areas) Act 1990, the List includes structures from boundary walls and telephone boxes to cathedrals. Listing gives statutory protection and restrictions apply. Consent may be required for works to, or that affect the setting of, a Listed Building and the LPA conservation officer should be consulted if in doubt.

There are six Listed Buildings within 1.0km of the boundary of the proposed development area (see appendix I) but none lie within the site boundary. The site lies in close proximity to the following:

- (i) Approximately 51.0m north of the grade II Listed Building of *footpath* guidepost in north west corner of the garden of longlands (PrefRef: 1130660);
- (ii) Approximately 230.0m southwest of the grade II Listed Building of *parish* boundary stone in the grounds of Chester Zoo (PrefRef: 1279119);
- (iii) Approximately 230.0m northeast of the grade II Listed Building of *Rose Cottage* (PrefRef: 1229987);

4.2.3 Scheduled Ancient Monuments (figure 2)

Scheduled monuments are those considered to be monuments of national importance. The Ancient Monuments and Archaeological Areas Act 1979 supports a formal system of Scheduled Monument Consent (SMC) for any work to a designated monument. Any works within a Scheduled area will require SMC; this includes non-invasive techniques such as geophysics or field-walking.

There are six Scheduled Ancient Monuments within 3.0km of the boundary of the proposed development area (see appendix I) but none lie within the site boundary. The site lies in close proximity to the following:

- (i) Approximately 790.0m northwest of the Scheduled Ancient Monument of *Roman Camp at Upton Heath, beside the water tower north of Long Lane* (PrefRef: 1014374);
- (ii) Approximately 915.0m west of the Scheduled Ancient Monument of *Roman Camp at Upton*, 350m northeast of the water tower north of Long Lane (PrefRef: 1014375);
- (iii) Approximately 1.13km west of the Scheduled Ancient Monument of *Roman Camp at Upton, 400m east of the water tower north of Long Lane* (PrefRef: 1015608);
- (iv) Approximately 1.15km northwest of the Scheduled Ancient Monument of *Roman Camp 300m west of Upton Grange Farm* (PrefRef: 1014376);

- (v) Approximately 1.5km southwest of the Scheduled Ancient Monument of *Roman Camp on Fox Covert Lane 650m northwest of Picton Gorse* (PrefRef: 1015130);
- (vi) Approximately 2.7km northwest of the Scheduled Ancient Monument of *Part of a Roman Camp at Hoole 200m south of Hoole Hall* (PrefRef: 1015129).

4.2.4 Conservation Areas

A Conservation Area is an area considered worthy of preservation or enhancement because of its special architectural or historic interest, "the character or appearance of which it is desirable to preserve or enhance," as required by the Planning (Listed Buildings and Conservation Areas) Act 1990 (Section 69 and 70). There are additional planning controls over certain works carried out within the Conservation Area. The designation does not preclude development from taking place, but does require that developments preserve or enhance the historic character of the area, for example by ensuring that newly constructed buildings are of a high quality design. Conservation Area status also removes some permitted development rights that apply in undesignated areas.

There are no conservation areas within the site boundary or within 1.0km of the proposed development area.

4.2.5 Historic Parks and Gardens

English Heritage holds a Register of Historic Parks and Gardens of Special Historic Interest. These Registered landscapes are graded I, II* or II, and include private gardens, public parks and other green spaces. They are valued for their design, diversity and historical importance. Inclusion on the Register brings no additional statutory controls, but there is a presumption in favour of conservation of the designated site. Local authorities are required to consult English Heritage on applications affecting sites Registered as grade I or II* and the Garden History Society on sites of all grades.

There are no historic parks and gardens within the site boundary or within 1.0km of the proposed development area.

4.2.6 Historic Landscapes (figure 3)

The Cheshire Historic Landscape Characterisation Project (HLC) aims to improve the understanding of the County's landscape, and provide a context for its archaeological sites and monuments. Historic landscape characterisation provides a framework for informed landscape management strategies, spatial planning, development control and conservation issues at a local, regional and national level. HLC underpins historic environment advice given to planners, district councils and other environment or conservation agencies, enabling future changes within the historic environment to be monitored. HLC promotes a framework, a background understanding and a better informed starting point from which to consider issues and proposals. It provides information, not judgements, and does not identify the "best" areas, rather allowing appropriate decisions to be made in the light of proposed change. HLC seeks to identify surviving time-depth - the legibility and past within the present landscape; thus, facilitating the sustainable management of the historic components and setting of the contemporary landscape.

The proposed development area lies within the following HLCs:

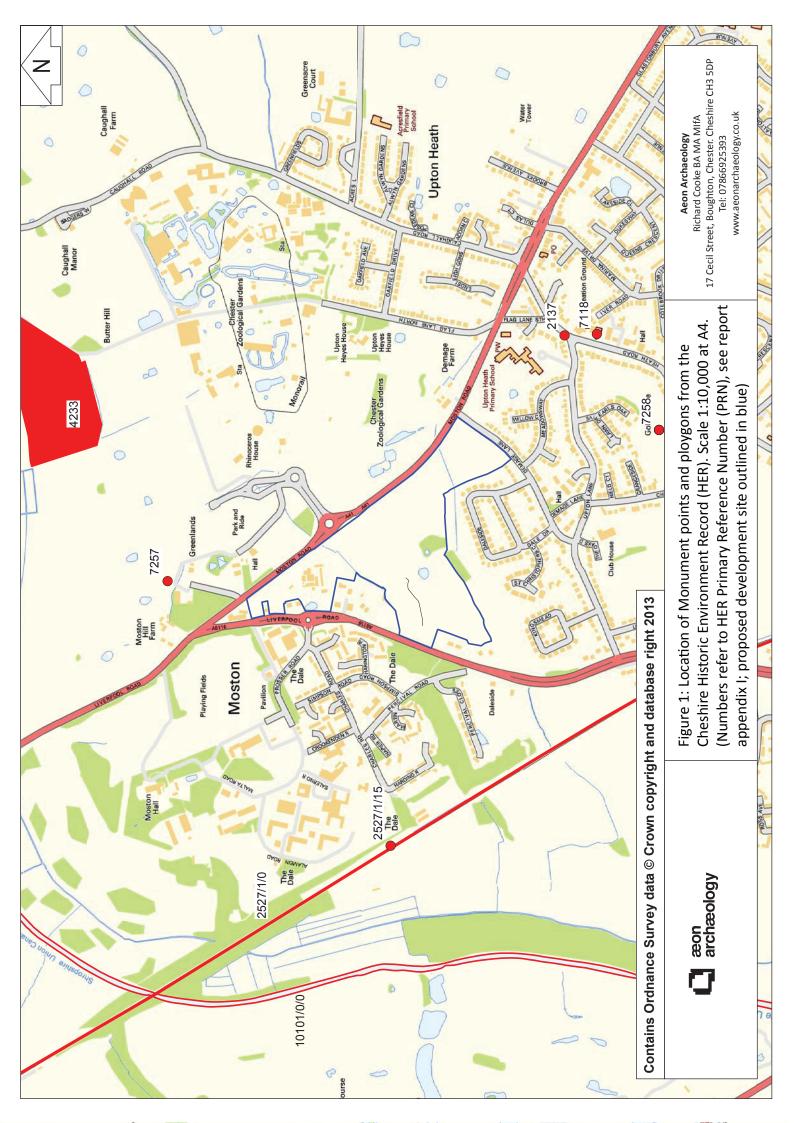
(i) Partly within the 20th century fieldscapes Historic Landscape Character Area (HCH3413);

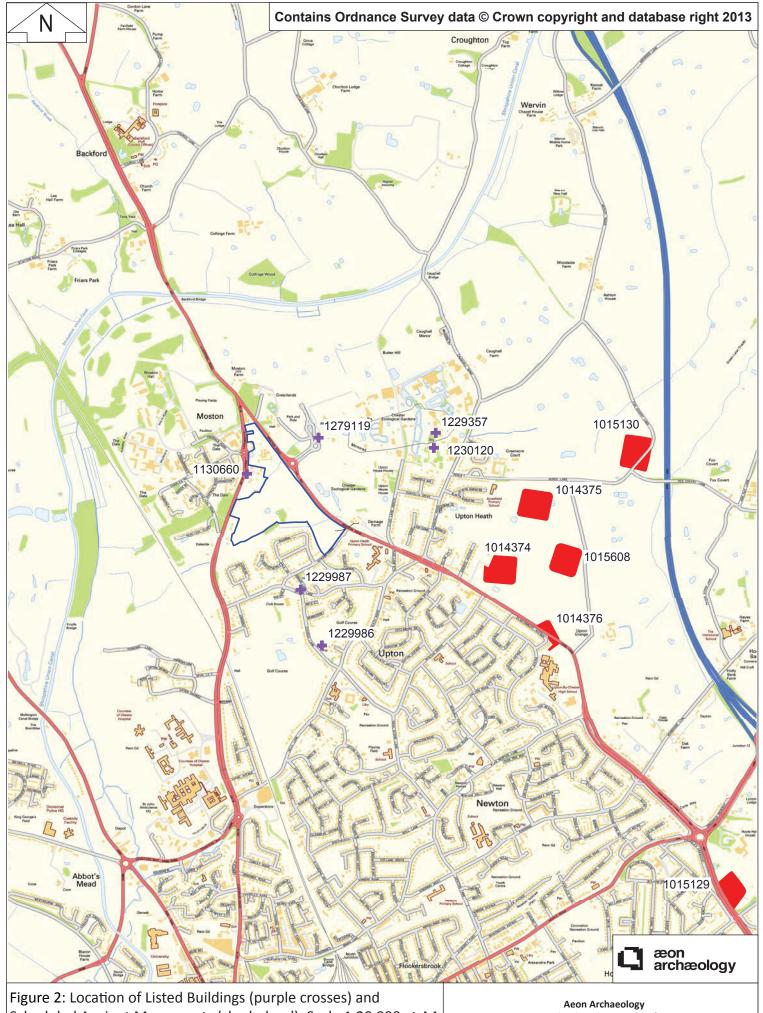
(ii) Party within the 20th century settlement Historic Landscape Character Area (HCH15028);

4.2.7 Events (figure 4)

There has not been any past project work undertaken by Aeon Archaeology or any other archaeological contractor within the proposed development site. However, to the immediate east of the site an archaeological desk-based assessment was undertaken by AECOM Ltd in 2009 (Report R2928; PrefRef: 898) as part of an expansion of Chester Zoo. This identified 52 archaeological sites from all time periods but predominantly of post-medieval date. It also ascertained that the overall potential of the site to produce unknown buried archaeological remains was *medium*.

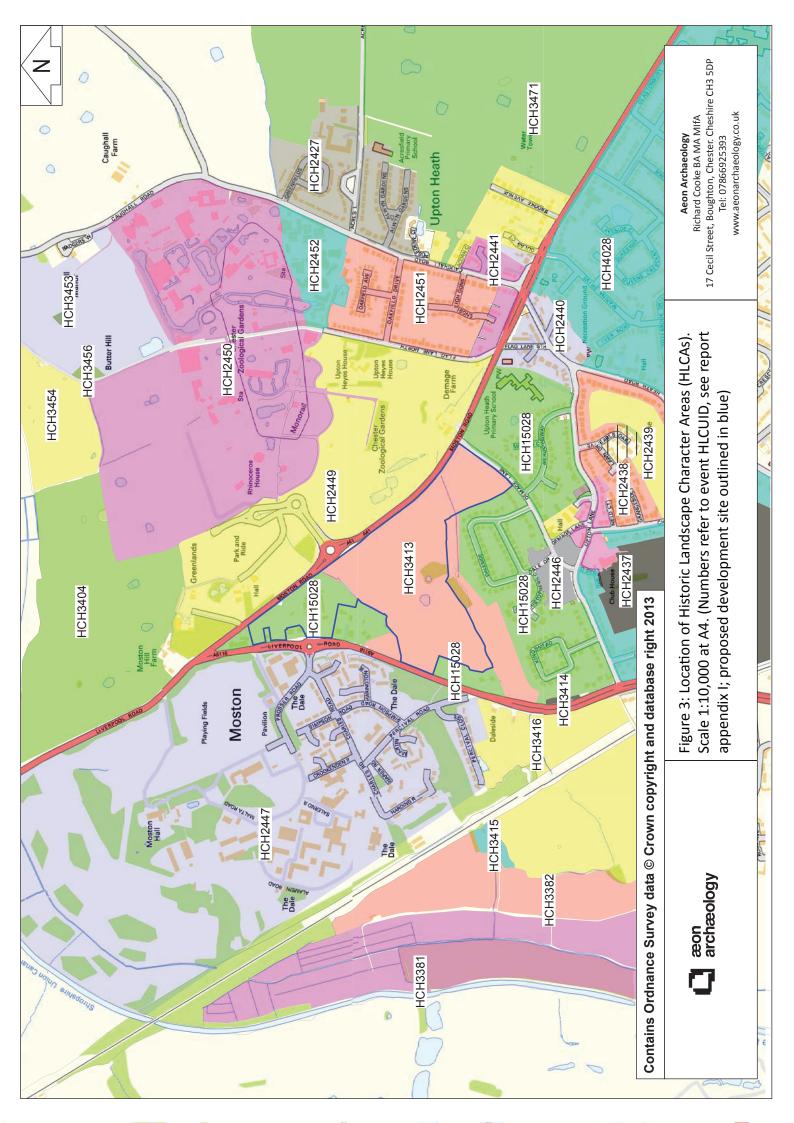
In response to the AECOM Ltd report a geophysical survey (Report R3434; PrefRef: 2796) was commissioned of the southern part of the Chester Zoo site by Archaeological Services WYAS. This produced disappointing results with the entire survey producing no archaeological features due to magnetic disturbance from modern dumping of materials.

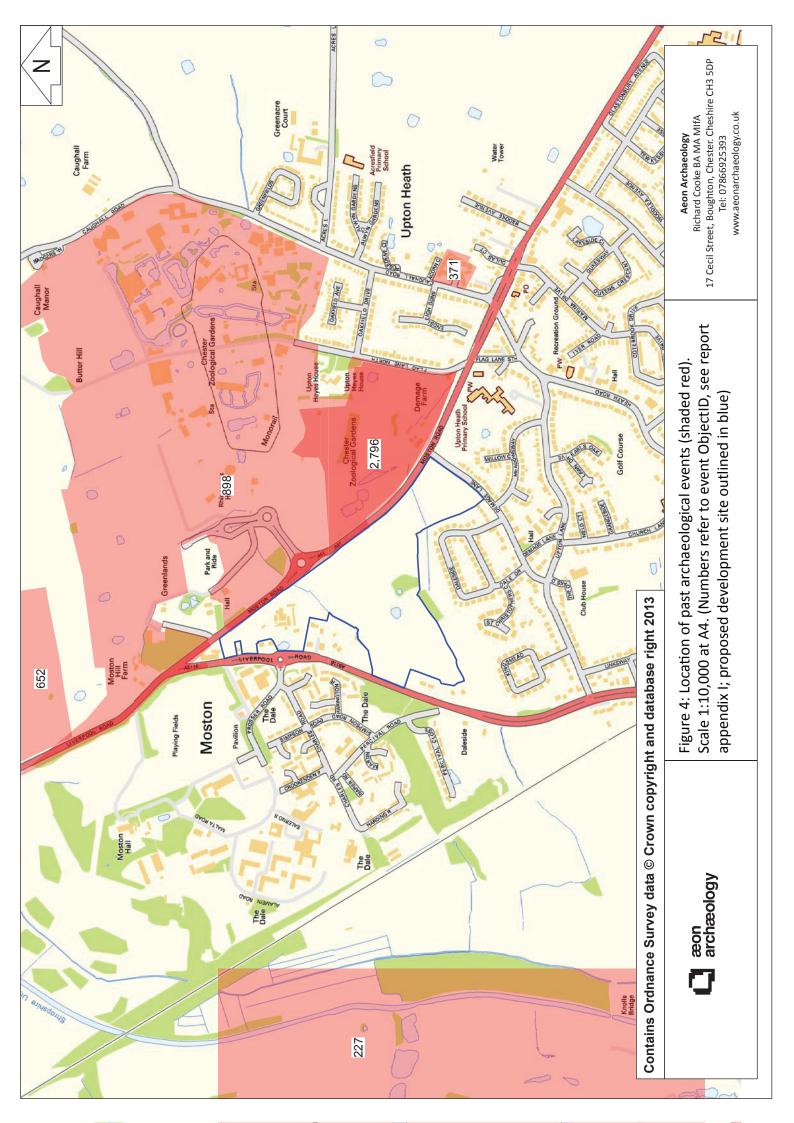




Scheduled Ancient Monuments (shaded red). Scale 1:20,000 at A4. (Numbers refer to Preferred Reference number, see report appendix I; proposed development site outlined in blue)

Richard Cooke BA MA MIfA 17 Cecil Street, Boughton, Chester. Cheshire CH3 5DP Tel: 01244 460070/ 07866925393 www.aeonarchaeology.co.uk







5.0 The Historical Context

5.0 THE HISTORICAL CONTEXT

The following sections describe the known archaeological record within the general area of the proposed development. Sites are identified by their Preferred Reference Number (PrefRef) which is the number by which they are identified in the Cheshire Historic Environment Record (HER), or by their Scheduled Ancient Monument reference, or Listed Building reference numbers if applicable. The intention of this section is to provide a historic and archaeological context to the site. This aids in establishing the relative importance of an archaeological feature within its landscape, as well as assessing the potential for unknown buried archaeological remains on the proposed development site.

The beginning and end of certain periods is a contentious issue. In the Cheshire Historic Environment Record (CHER) the following dates are used. This is a standard convention across all HERs.

Table 1. Historic periods

Table 1. Historic perious				
Palaeolithic (prehistoric)	500,000 BC – 10,001 BC			
Mesolithic (prehistoric)	10,000 BC – 4,001 BC			
Neolithic (prehistoric)	4,000 BC – 2,351 BC			
Bronze Age (prehistoric)	2,350 BC – 801 BC			
Iron Age (prehistoric)	800 BC – 42 AD			
Romano-British	43 AD – 409 AD			
Post-Roman (Early Medieval)	410 AD – 1065 AD			
Medieval	1066 AD – 1539 AD			
Post-Medieval	1540 AD – 1900 AD			
Modern	1901 AD – 2050 AD			

5.1 Prehistoric and Roman Period

The prehistoric period is poorly represented within this part of Cheshire, and there are no known prehistoric archaeological sites within 1.0km of the proposed development site.

The Roman period however is particularly well represented with six Scheduled Ancient Monument Roman practice camps (PrefRefs: 1014374, 1014375, 1015608, 1014376, 1015130, and 1015129) located between 790.0m and 2.7km to the east and southeast of the proposed development area. A further unscheduled Roman practice camp (PrefRef: 1970/11) is located approximately 4.4km to the southeast. Roman camps are rectangular or sub rectangular enclosures which were constructed and used by Roman soldiers either when out on campaign or as practice camps; most campaign camps were only temporary overnight bases and few were used for longer periods. They were bounded by a single earthen rampart and outer ditch and in plan are always straight-sided with rounded corners. Normally they have between one and four entrances, although as many as eleven have been recorded. Such entrances were usually centrally placed in the sides of the camp and were often protected by additional defensive outworks. Roman camps are found throughout much of England, although most known examples lie in the midlands and north. Around 140 examples have been identified and, as one of the various types of defensive enclosure built by the Roman Army, particularly in hostile upland and frontier areas, they provide an important insight into Roman military strategy and organisation. All well-preserved examples are identified as being of national importance. The Roman camps beside the water tower at Upton are a group of practice camps connected with the military occupation of the fortress at Chester.

Further evidence of the Roman period can be seen approximately 340.0m southeast of the proposed development area where a silver denarius of Caius Pollicius Malleolus, date c.89 BC, was found by a workman while digging in a field at Upton in 1901 (PrefRef: 2137).

5.2 Early Medieval, Medieval and Post-Medieval Periods

The name Upton derives from Saxon origins and means 'high settlement' and refers to the topographical position of Upton above most of Chester at approximately 38m Ordnance Datum (Hebblethwaite, S.M.). The township of Upton-by-Chester is first referred to in the Domesday Book of 1066 as *Optone* which was held by Earl Edwin but by 1086 was in the hands of Herbert the Jerkin Maker and Hamon de Macey (Massey) under Earl Hugh Lupus. The tithes of Upton are recorded as having been given to Chester Abbey by Earl Hugh Lupus in the great charter of 1093, and the manor was later also given to the Abbey by Randle Gernons on the death of Earl Lupus (Ormerod, G.). The township boundary of Upton runs across the middle of the proposed development site from east to west, marked by a shallow bank and hedgerow and is of probable Early Medieval origin (feature 3).

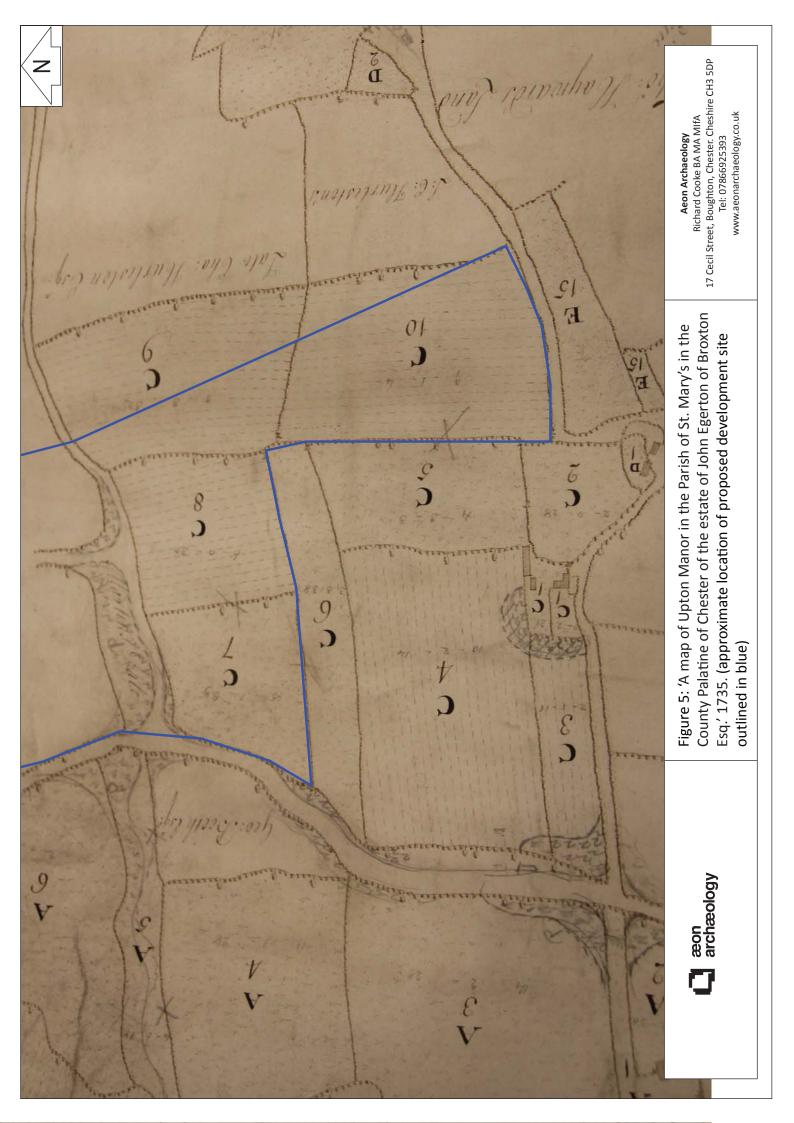
There is no recorded evidence of monuments or artefacts having been found within the nearby landscape from the Early Medieval period, however lead weights dating to the Medieval period have been found approximately 220.0m to the north (PrefRef: 7257) and 410.0m to the south (PrefRef: 7260) of the proposed development site. Evidence of the later Post-Medieval period has been found approximately 410.0m to the south of the development area where a finger ring (PrefRef: 7262), a button (PrefRef: 7261), and two cast copper alloy Jews Harps from the 17th and 18th centuries (PrefRefs: 7259 and 7258) were found by a metal detectorist in 2008.

The proposed development area is partially depicted on the 1735 estate map of Upton Manor, where the southernmost five fields lying within the township of Upton are shown (figure 5). The map shows the fields much as they exist today, with the exception that the south-eastern field had not been divided in two and is shown as one large field. Also at this point in time the A41 Moston Road had not been constructed and the land to the immediate south had not been encroached upon by the Upton urban sprawl. Also of note on the 1735 map is the depiction of the Upton township boundary (feature 3) as a trackway running east from Liverpool Road across the fields. The map depicts the landowner as John Egerton of Broxton Esq. and details the land tenant as John Ithel (see table 2).

Table 2. Apportionment to the 1735 map of Upton Manor

Field	Field Name	Landowner	Occupier
Number			
7	Hill Field	John Egerton of Broxton Esq.	John Ithel
8	Wall Hill	John Egerton of Broxton Esq.	John Ithel
9	Bofsome	John Egerton of Broxton Esq.	John Ithel
10	Rake Hay	John Egerton of Broxton Esq.	John Ithel

The landowner, Sir John Egerton, was educated at King's School, Chester and Tarvin School. In 1814, he succeeded to the Egerton baronetcy on the death of Thomas Egerton, Viscount Grey de Wilton and Earl of Wilton, a distant relative, and took the surname Grey Egerton 8th Baronet. His family seat was at Oulton Park and he served as Member of Parliament for Chester from 1807 to 1818. He became a successful racehorse owner and served as Grand Master of the Cheshire Freemasons. He died in London aged 59, a few days after a carriage accident on 19 May 1825 at Epsom Races. His funeral at Little Budworth on 8 June 1825 was purportedly attended by 10,000–12,000 people, with 17 of the 19 Cheshire Freemason Lodges being present (Latham, F.A.).



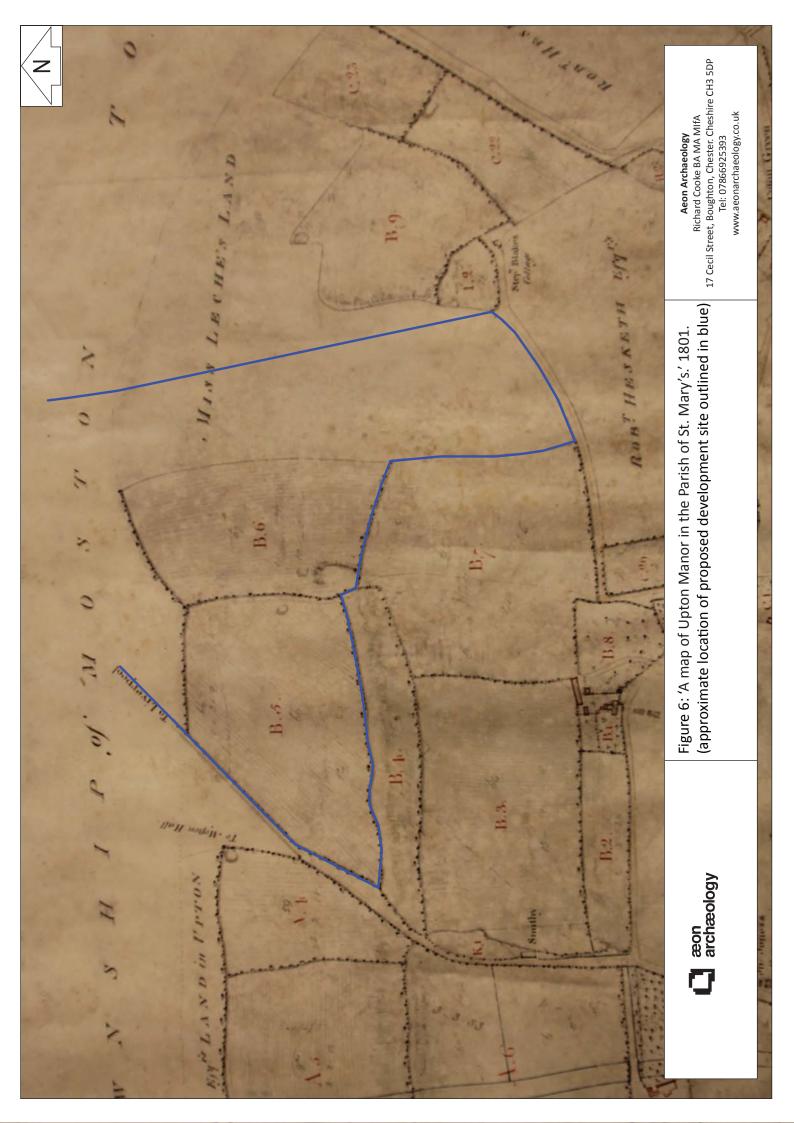
The field names recorded on the 1735 map apportionment are all associated with agricultural practice. The most interesting is *Wall Hill* which means *hill by a spring* and *bofsome* which is later shown as *bosoms* on the parish tithe map apportionment of 1839. This is believed to have reference to the Old English word *bosom* meaning *cow stall* (Dodgson, J.).

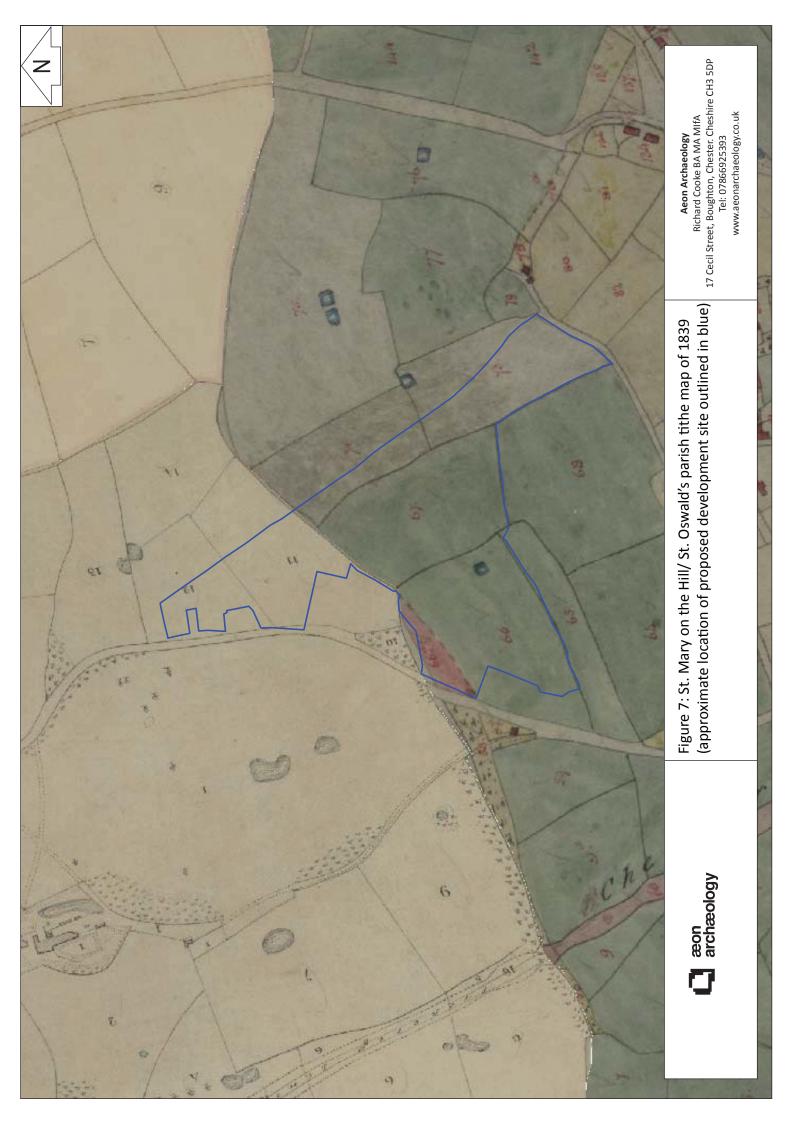
The southern part of the proposed development site is again depicted on the 1801 map of Upton Manor (figure 6) but by this time the Grey Egerton family were no longer the landowners for the three fields to the southeast. This area is omitted from the map and is entitled *Miss Leche's Land*. The two large grazing fields to the southwest are shown but there are no additional features of note.

The site is again depicted on the St. Mary on the Hill/ St. Oswald's parish tithe map of 1839 (figure 7) but this time is shown in its entirety. The field layout is very similar to how it exists today, although as with the 1735 estate map, the south-eastern most field had not been divided in two by this point. The Upton township boundary (feature 3) is depicted again as a trackway running eastward from Liverpool Road across the fields. The surrounding area is depicted as rather different to how it exists today with no urban sprawl from Moston in the west or from Upton in the south, and the A41 Moston Road had not been constructed at this point in time. The tithe map does not depict any structures within or near to the proposed development area.

Table 3. Tithe apportionment of 1839.

Field	Field Name	Landowner	Occupier	A/R/P
Number				
11	Corner Field	Thomas Amery	Thomas Ithell	10/3/1
12	Middle Field	Thomas Amery	Thomas Ithell	7/0/7
66	Wall Hills	Baronet Sir Philip de Malpas	Thomas Ithell	12/1/20
		Grey Egerton		
66A	Wall Hills from	Baronet Sir Philip de Malpas	Thomas Ithell	0/3/0
	the row of Trees	Grey Egerton		
67	The Boosoms	Baronet Sir Philip de Malpas	Thomas Ithell	10/0/8
		Grey Egerton		
73	Rake Hay	Thomas Amery	Thomas Ithell	11/1/39
74	Thistley Field	Thomas Amery	Thomas Ithell	8/2/24





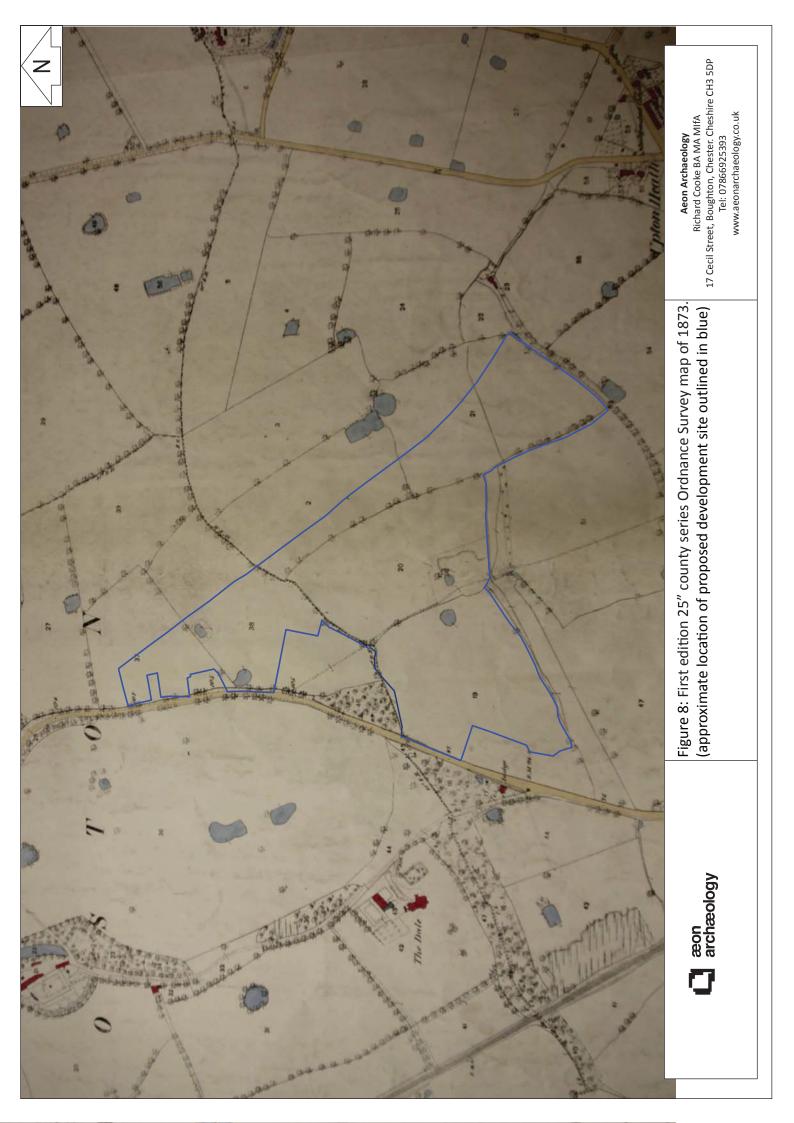
The accompanying tithe apportionment (table 3) for the parish tithe map shows that the proposed development area was split up into seven enclosed fields. The northern and southeastern part of the site (fields 11, 12, 73, and 74) were owned by Thomas Amery, a prominent landowner who resided at Pool Hall. The south-western part of the site (fields 66, 66A, and 67) was owned by Sir Philip Grey Egerton 10th Baronet and grandson of Sir John Egerton of the 1735 estate map.

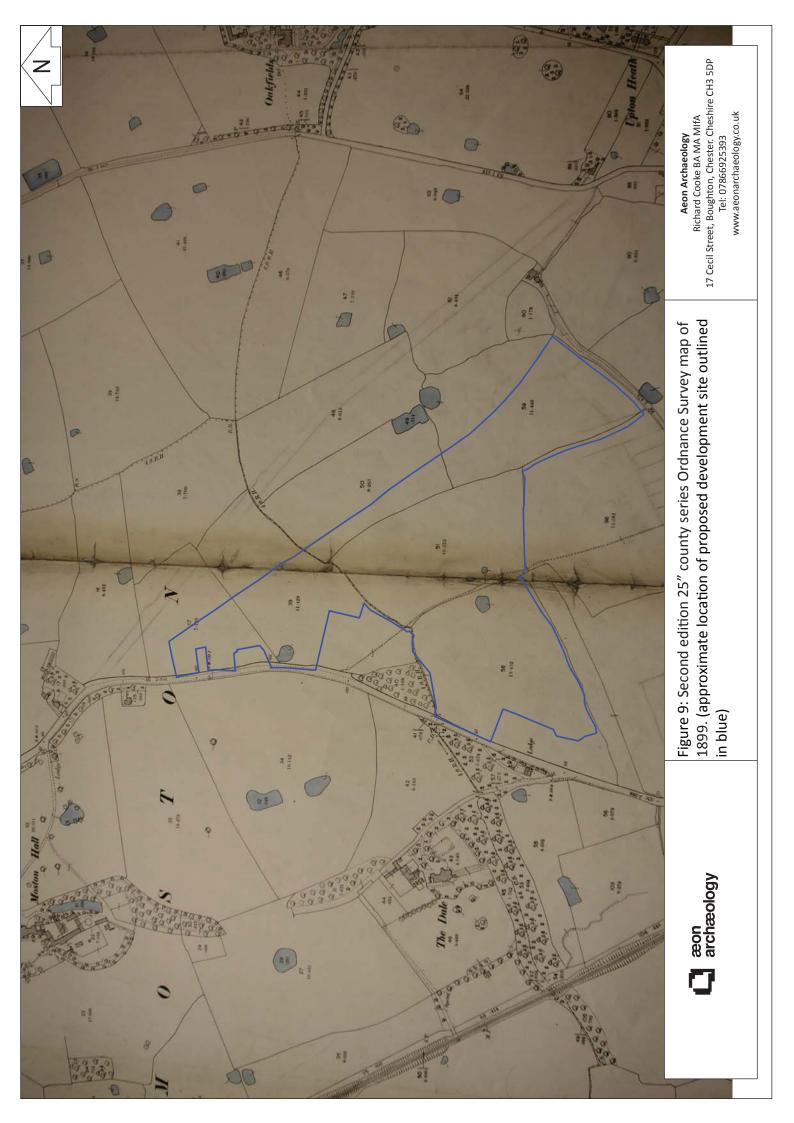
Sir Philip Grey Egerton 10th Baronet was educated at Eton and Christ Church, Oxford, where he graduated with a Bachelors degree in 1828. While at college his interest in geology was aroused by the lectures of William Buckland, and by his acquaintance with William D. Conybeare. He inherited the baronetcy on the death of his father in 1829. He was elected Fellow of the Royal Society in 1831, and was a trustee of the British Museum.

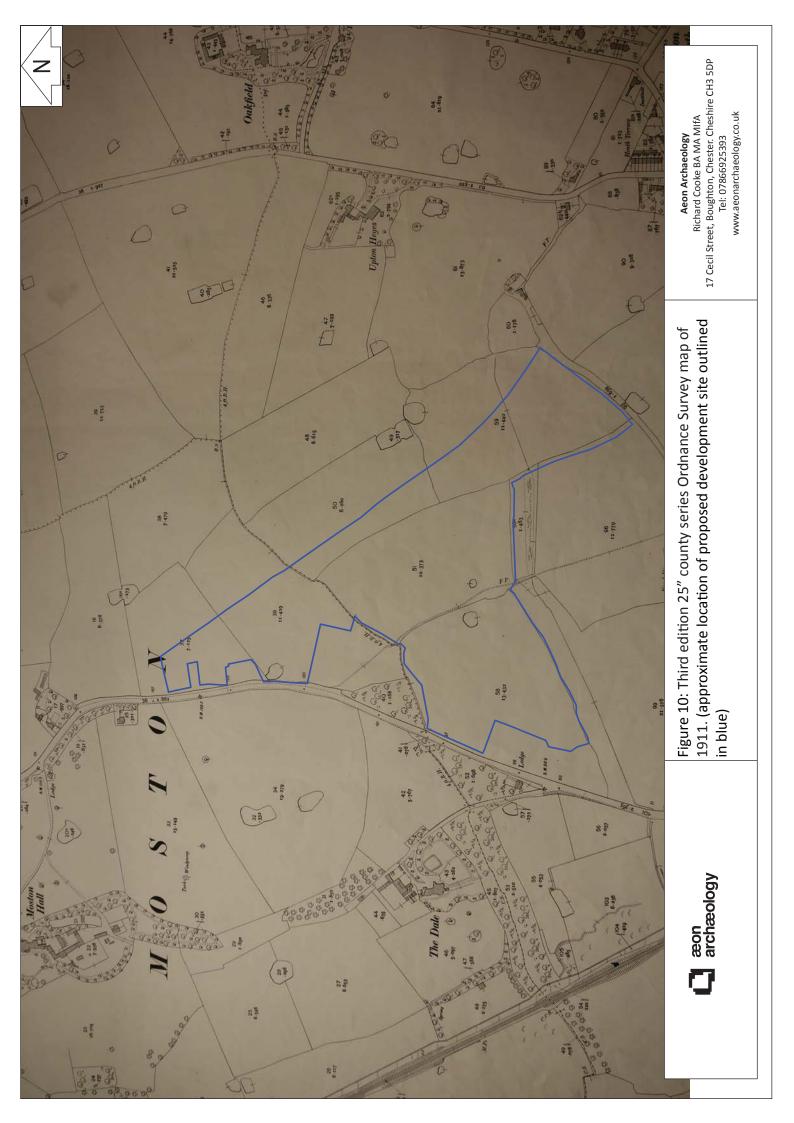
While travelling in Switzerland with Lord Cole (later to be 3rd earl of Enniskillen) they were introduced to Prof. L Agassiz at Neufchâtel, and determined to make a special study of fossil fish. During the course of fifty years they gradually gathered together two of the largest and finest of private collections—that of Sir Philip Grey Egerton being at Oulton Park, Tarporley, Cheshire. Egerton described the structure and affinities of numerous species in the publications of the Geological Society of London, the *Geological Magazine* and the *Decades of the Geological Survey*; and in recognition of his services the Wollaston medal was awarded to him in 1873 by the Geological Society (Chisholm, H.)

The proposed development site is depicted in detail on the first, second and third edition county series 25" Ordnance Survey maps of 1873, 1899, and 1911 respectively (figures 8, 9, and 10). By the production of the first edition Ordnance Survey map the south-eastern area of the site had been divided up into three fields, as it exists today. Furthermore, the Upton township boundary (feature 3) is shown on all three editions as a prominent field boundary, rather than a trackway, as it is shown on the earlier tithe map and estate maps. It can therefore be surmised that this route had gone out of use sometime between the production of the tithe map of 1839 and the first edition Ordnance Survey map of 1873. All three edition Ordnance Survey maps depict a footpath (feature 5) running from south to north across the southern part of the proposed development area which presumably connected Upton with the Liverpool Road.

There are no structures or features depicted on the three edition Ordnance Survey maps as being within the proposed development area. The surrounding landscape is depicted rather differently to how it exists today, as with the earlier maps, there is no urban sprawl from Moston in the west or from Upton in the south, and the A41 Moston Road had not been constructed at this point in time.







5.3 Aerial Photographs

Aerial photographs by the Luftwaffe in 1940 and the RAF in 1947 were inspected for sites additional to the HER. The Ordnance Survey aerial photographs of 1970, 1985, 1992, 2000, 2010, and 2013 were also inspected. The 1940 Luftwaffe photograph depicts an 'L' shaped building (feature 10) in the northern part of the site and immediately to the north of the present Hillcrest farm, which had not been built by this point in time. By the 1947 RAF photograph of 1970, after which it was presumably demolished. The building is almost certainly the original Hillcrest farm which operated as a pig farm.



6.0 Assessment of Historical Assets

6.0 ASSESSMENT OF HISTORICAL ASSETS

6.1 Definitions

Definitions of importance, impact, and significance of effect as used in the gazetteer (section 6.2) are listed below. Definitions of assessment and mitigation techniques as used in the gazetteer are listed in appendix II.

1. Definition of Categories of importance

The following categories were used to define the importance of the archaeological resource.

Significance	Description
International (Very High)	Archaeological sites or monuments of international importance, including World Heritage Sites. Structures and buildings inscribed as of universal importance as World Heritage Sites. Other buildings or structures of recognised international importance.
National (High)	Ancient monuments scheduled under the Ancient Monuments and Archaeological Areas Act 1979, or archaeological sites and remains of comparable quality, assessed with reference to the Secretary of State's non-statutory criteria. Listed Buildings. Undesignated structures of national importance.
Regional/ County (Medium)	Conservation Areas Archaeological sites and remains which, while not of national importance, score well against most of the Secretary of State's criteria.
Local (Low)	Archaeological sites that score less well against the Secretary of State's criteria. Historic buildings on a 'local list'.
None	Areas in which investigative techniques have produced no or only minimal evidence for archaeological remains, or where previous large-scale disturbance or removal of deposits can be demonstrated.

2. Definition of Impact

The direct impact of the proposed development on each site was estimated. The impact is defined as follows:

Magnitude	Direct Impacts	Indirect Impacts
High Adverse	Complete removal of an	Radical transformation of the setting of
	archaeological site.	an archaeological monument. A
	Complete destruction of a	fundamental change in the setting of a
	designated building or structure.	building.
Medium Adverse	Removal of a major part of an	Partial transformation of the setting of an
	archaeological site and loss of	archaeological site (e.g. the introduction
	research potential.	of significant noise or vibration levels to
		an archaeological monument leading to

Magnitude	Direct Impacts	Indirect Impacts
	Extensive alteration (but not demolition) of a historic building or feature, resulting in an appreciable adverse change.	changes to amenity use, accessibility or appreciation of an archaeological site). Partial adverse transformation of the setting of a designated building.
Low Adverse	Removal of an archaeological site where a minor part of its total area is removed but the site retains a significant future research potential. Change to a historic building or feature resulting in a small change in the resource and its historical context and setting.	Minor change to the setting of an archaeological monument or historic building.
Negligible/ Neutral	No impact from changes in use, amenity or access. No change in the ability to understand and appreciate the resource and its historical context and setting.	No perceptible change in the setting of a building or feature.
Low Beneficial	Land use change resulting in improved conditions for the protection of archaeological remains or understanding/ appreciation of a historic building or place	Decrease in visual or noise intrusion on the setting of a building, archaeological site or monument. Improvement of the wider landscape setting of a building, archaeological site or monument.
Medium Beneficial	Land use change resulting in improved conditions for the protection of archaeological remains, or understanding/ appreciation of a historic building or place, including through interpretation measures (heritage trails, etc). Removal of harmful alterations to better reveal the significance of a building or structure, with no loss of significant fabric.	Significant reduction or removal of visual or noise intrusion on the setting of a building, archaeological site or monument; and Improvement of the wider landscape setting of a building, archaeological site or monument Improvement of the cultural heritage amenity, access or use of a building, archaeological site or monument.
High Beneficial	Arrest of physical damage or decay to a building or structure;	Exceptional enhancement of a building or archaeological site, its cultural heritage amenity and access or use

3. The significance of effect

The significance of effect is derived from the importance of the resource and the magnitude of the impact upon it.

Very large - A serious impact on a site of international or national importance with little or no scope for mitigation. These effects represent key factors in the decision making process. **Large** - Lesser impacts on sites of national importance and serious impacts on sites of regional importance, with some scope for mitigation. These factors should be seen as being very important considerations in the decision making process.

Moderate - Moderate or minor impacts on sites of regional importance and minor to major impacts on sites of local or minor importance. A range of mitigatory measures should be available.

Slight - Negligible impacts on sites of regional, local or minor importance and minor and moderate impacts on minor or damaged sites. A range of basic mitigatory measures should be available.

Neutral - No perceptible effect or change to sites of all categories.

The significance of effect will be determined using the table below, a basic matrix combining archaeological value and magnitude of impact.

Determination of Significance of Effect

Determ	ination of Signif				1
	International	Slight	Moderate or Large	Large or Very Large	Very Large
	National	Slight	Moderate or Slight	Moderate or Large	Large or Very Large
Value	Regional	Neutral or Slight	Slight	Moderate	Moderate or Large
logical	Local	Neutral or Slight	Neutral or Slight	Slight	Moderate or Slight
Archaeological Value	Negligible	Neutral	Neutral or Slight	Neutral or Slight	Slight
_ 7	1	None	Low	Medium	High
	Magnitude of impact				



7.0 Site Gazetteer

7.0 SITE GAZETTEER

The field walkover discovered eleven sites of archaeological and historic interest within, or in close proximity to the proposed development corridor, as listed below.

In accordance with Paragraph 128 of the National Planning Policy Framework each heritage asset has been assigned a level of importance ranked from International through to National, Regional/County, Local, and None. If it is not possible to assess the importance of the site from the visible remains, then it is ranked Unknown with the suspected importance level placed in brackets if possible. Identified sites were also assigned a level of impact ranked from High through to Medium, and Low. Levels of impact can be considered as both adverse or beneficial, and can be direct (physically impacting upon a site) or indirect (visually or indirectly physically impacting upon a site). The significance of effect is determined from the importance level of the resource and the magnitude of the impact upon it. Where it is expected that a site will be impacted upon by the proposed works then mitigation/assessment recommendations are provided. All archaeological/historical sites identified are depicted on figure.11 along with the location and direction of photographs.

1. Hedgerow field boundary	
PrefRef: Unassigned	
Figure: 11	Plate: 1
NGR: SJ 40729 69769 – SJ 40263 69609	Period: Post-Medieval

A hedgerow field boundary runs from east to west and marks the southern limit of the proposed development area. It measures approximately 4.0m in height and is made up many species types including mature trees. The field boundary is first depicted on the 1735 estate map (figure 5) and although the actual age of the hedge is unknown, under The Hedgerow Regulations 1997 a hedgerow is considered 'important' if it is greater than 30 years old and is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Enclosure Acts. This feature will be retained as part of the proposed development and as such will not be impacted upon.

Category of importance: Local

Level of impact: None

Significance of effect: Neutral

Recommendations for further assessment: None

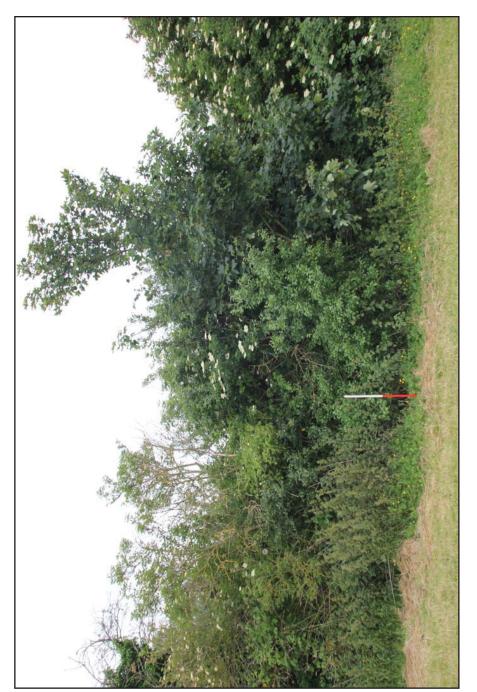


Plate 01: Field bounary hedgerow (feature 1), from the north. Scale 1.0m.

2. Hedgerow field boundary PrefRef: Unassigned	
Figure: 11	Plate: 2
NGR: SJ 40582 70052 – SJ 40822 69590	Period: Post-Medieval

A hedgerow field boundary runs from north to south and marks the division between a large grazing field in the west and three smaller grazing fields in the east. According to the tithe apportionment of 1839 this boundary also marked a division in land ownership between Baronet Sir Philip de Malpas Grey Egerton in the west and Thomas Amery in the east. It measures approximately 4.0m in height and is made up many species types including very large and mature trees. The field boundary is first depicted on the 1735 estate map (figure 5) and although the actual age of the hedge is unknown, under The Hedgerow Regulations 1997 a hedgerow is considered 'important' if it is greater than 30 years old and is recorded in a document held at the relevant date at a Record Office as an integral part of a field system predating the Enclosure Acts. This feature will be retained as part of the proposed development however a small opening will require to be cut through the hedgerow to allow the construction of the proposed main street.

Category of importance: Local

Level of impact: Low adverse direct physical

Significance of effect: Slight adverse

Recommendations for further assessment: None

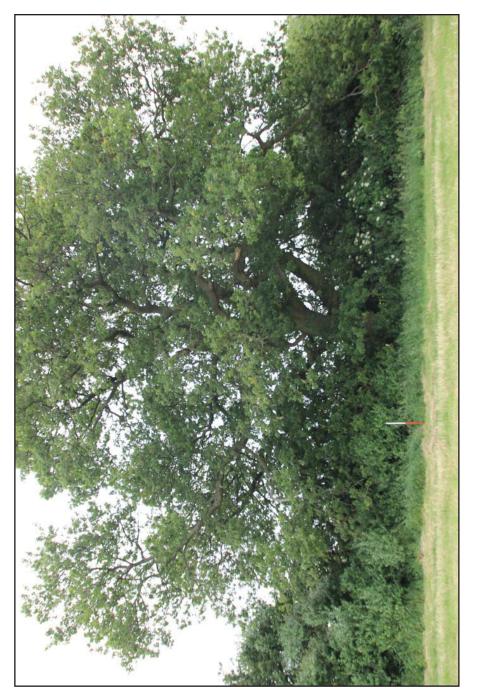


Plate 02: Field boundary hedgerow (feature 2), from the west. Scale 1.0m.

3. Upton township boundary PrefRef: Unassigned	
Figure: 11	Plate: 3
NGR: SJ 40357 69884 – SJ 40597 70092	Period: Early Medieval

Townships, often the precursor to the modern parish, were the building blocks of social and ecclesiastical organisation in the countryside and can date from the Anglo-Saxon period. They are often marked by banks, ditches, stones and species rich hedgerows and may be associated with sub-surface archaeological remains.

The Upton township boundary exists today as a mature species-rich hedgerow measuring approximately 4.0m in height and interspersed with mature deciduous trees. The hedgerow occupies a shallow bank approximately 3.0m in width in places and is depicted on the 1735 estate map (figure 5) as a trackway linking Liverpool Road in the west with the farms in the east. The trackway is shown again on the estate map of 1801 (figure 6) and the tithe map of 1839 (figure 7) but appears to have gone out of use as a trackway by the production of the first edition Ordnance Survey map of 1873 (figure 8).

The township boundary is quite possibly Early Medieval in date and was most likely established around the same time as the village of Upton. It is considered to be of regional importance and should be retained as part of the proposed development. Early indications suggest that this feature will be retained as part of the development and will thus not be impacted upon.

Category of importance: Regional

Level of impact: None

Significance of effect: Neutral

Recommendations for further assessment: None



Plate 03: Upton-Moston township boundary (feature 3), from the south. Scale 1.0m.

4. Hedgerow field boundary PrefRef: Unassigned	
Figure: 11	Plate: 4
NGR: SJ 40567 69767 – SJ 40482 69930	Period: Post-Medieval

A hedgerow field boundary runs from north to south and marks the division between a large grazing field in the east and a similar sized field in the west. It measures approximately 4.0m in height and is made up many species types including very large and mature trees. The field boundary is first depicted on the 1735 estate map (figure 5) and although the actual age of the hedge is unknown, under The Hedgerow Regulations 1997 a hedgerow is considered 'important' if it is greater than 30 years old and is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Enclosure Acts. This feature will be retained as part of the proposed development however a small opening will require to be cut through the hedgerow to allow the construction of the proposed main street.

Category of importance: Local

Level of impact: Low adverse direct physical

Significance of effect: Slight adverse

Recommendations for further assessment: None

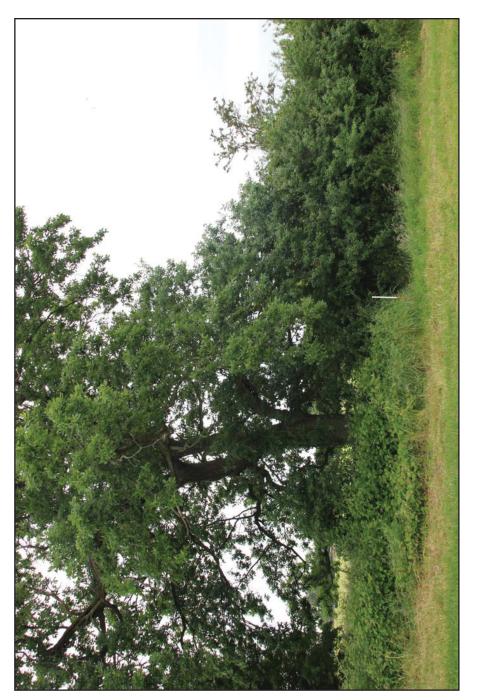


Plate 04: Field boundary hedgerow (feature 4), from the east. Scale 1.0m.

5. Trackway	
PrefRef: Unassigned	
Figure: 11	Plate: 5

A trackway measuring approximately 1.0m in width runs from the housing estate in the south through the proposed development area to join up with Liverpool Road in the north. The trackway is first depicted on the first edition 25" Ordnance Survey map of 1873 (figure 8) and is considered to be of local importance. The trackway is an existing public right of way and will be retained as part of the development.

Period: Post-Medieval

Category of importance: Local

NGR: SJ 40591 69731 – SJ 40483 69932

Level of impact: None

Significance of effect: Neutral

Recommendations for further assessment: None



Plate 05: Trackway (feature 5), from the north. Scale 1.0m.

6. Hedgerow field boundary PrefRef: Unassigned	
Figure: 11	Plate: 6
NGR: SJ 40321 69802 – SJ 40356 69885	Period: Post-Medieval

A hedgerow field boundary runs from northeast to southwest and marks the western boundary of the proposed development area. It measures approximately 1.5m in height and is made up primarily of hawthorn. The field boundary is first depicted on the 1735 estate map (figure 5) and although the actual age of the hedge is unknown, under The Hedgerow Regulations 1997 a hedgerow is considered 'important' if it is greater than 30 years old and is recorded in a document held at the relevant date at a Record Office as an integral part of a field system predating the Enclosure Acts. This feature will be retained as part of the proposed development however a small opening will require to be cut through the hedgerow to allow the construction of the proposed main street.

Category of importance: Local

Level of impact: Low adverse direct physical

Significance of effect: Slight adverse

Recommendations for further assessment: None



Plate 06: Field boundary hedgerow (feature 6), from the east. Scale 1.0m.

7. Hedgerow field boundary	
PrefRef: Unassigned	
Figure: 11	Plate: 7
NGR: SJ 40933 69732 – SJ 40821 69591	Period: Post-Medieval

A hedgerow field boundary runs from northeast to southwest and marks the south-eastern boundary of the proposed development area. It measures approximately 2.5m in height and is made up primarily of hawthorn. The field boundary is first depicted on the 1735 estate map (figure 5) and although the actual age of the hedge is unknown, under The Hedgerow Regulations 1997 a hedgerow is considered 'important' if it is greater than 30 years old and is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Enclosure Acts. This feature will be retained as part of the proposed development and therefore will not be impacted upon.

Category of importance: Local

Level of impact: None

Significance of effect: Neutral

Recommendations for further assessment: None



Plate 07: Field boundary hedgerow (feature 7), from the northwest. Scale 1.0m.

8. Field boundary ditch	
PrefRef: Unassigned	
Figure: 11	Plate: 8
NGR: SJ 40853 69784 – SJ 40746 69739	Period: Post-Medieval

A field boundary ditch runs from northeast to southwest and divides two grazing. The ditch measures approximately 1.0m in width and is reinforced with a wooden post and wire fence. The field boundary is first depicted on the first edition 25" Ordnance Survey map of 1873 (figure 8). This feature will be retained as part of the proposed development and therefore will not be impacted upon.

Category of importance: Local

Level of impact: None

Significance of effect: Neutral

Recommendations for further assessment: None



Plate 8: Field boundary ditch (feature 8), from the south. Scale 1.0m.

9. Hedgerow field boundary	
PrefRef: Unassigned	
Figure: 11	Plate: 9
NGR: SJ 40749 69892 – SJ 40692 69874	Period: Post-Medieval

A hedgerow field boundary runs from northeast to southwest and marks the division between two grazing fields. It measures approximately 2.0m in height and is made up primarily of hawthorn interspersed with fairly mature trees. The field boundary is first depicted on the 1735 estate map (figure 5) and although the actual age of the hedge is unknown, under The Hedgerow Regulations 1997 a hedgerow is considered 'important' if it is greater than 30 years old and is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Enclosure Acts. This feature will be retained as part of the proposed development and therefore will not be impacted upon.

Category of importance: Local

Level of impact: None

Significance of effect: Neutral

Recommendations for further assessment: None

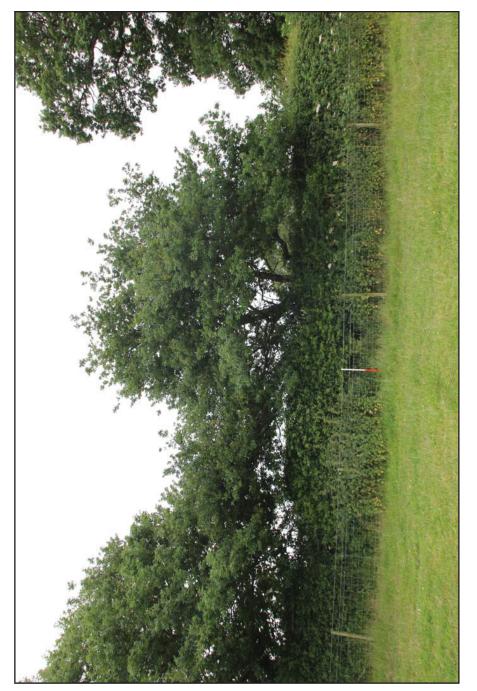


Plate 9: Field boundary hedgerow (feature 9), from the north. Scale 1.0m.

10. Former Hillcrest Farm

PrefRef: Unassigned

Figure: 11

NGR: SJ 40484 70179 Period: Post-Medieval

Description

The 1940 Luftwaffe photograph depicts an 'L' shaped building in the northern part of the site and immediately to the north of the present Hillcrest farm, which had not been built by this point in time. By the 1947 RAF photograph the farm is depicted as well as this building, which is shown up to the OS photograph of 1970, after which it was presumably demolished. The building is almost certainly the original Hillcrest farm which purportedly operated as a pig farm.

There are no structural remains of this building but it may exist at foundation level. It is proposed that this part of the site will be developed and as such any buried structural remains will be destroyed by the proposed works. It is therefore recommended that a watching brief be maintained in this area during groundworks so that any surviving remains are preserved via record.

Category of importance: Unknown (local)

Level of impact: High adverse direct physical

Significance of effect: Unknown (slight adverse)

Recommendations for further assessment: None

Recommendations for further mitigatory measures: Watching brief during groundworks in this area

11. Field boundary

PrefRef: Unassigned

Figure: 11

NGR: SJ 40419 70134 – SJ 40520 70198 **Period:** Post-Medieval

Description

A hedgerow field boundary runs from northeast to southwest and marks the northern boundary of Hillcrest farm. This area was not inspected for archaeological remains due to access restrictions and as such this feature has been identified through documentary evidence. The field boundary is first depicted on the 1839 tithe map (figure 5). This feature will be retained as part of the proposed development and as such will not be impacted upon.

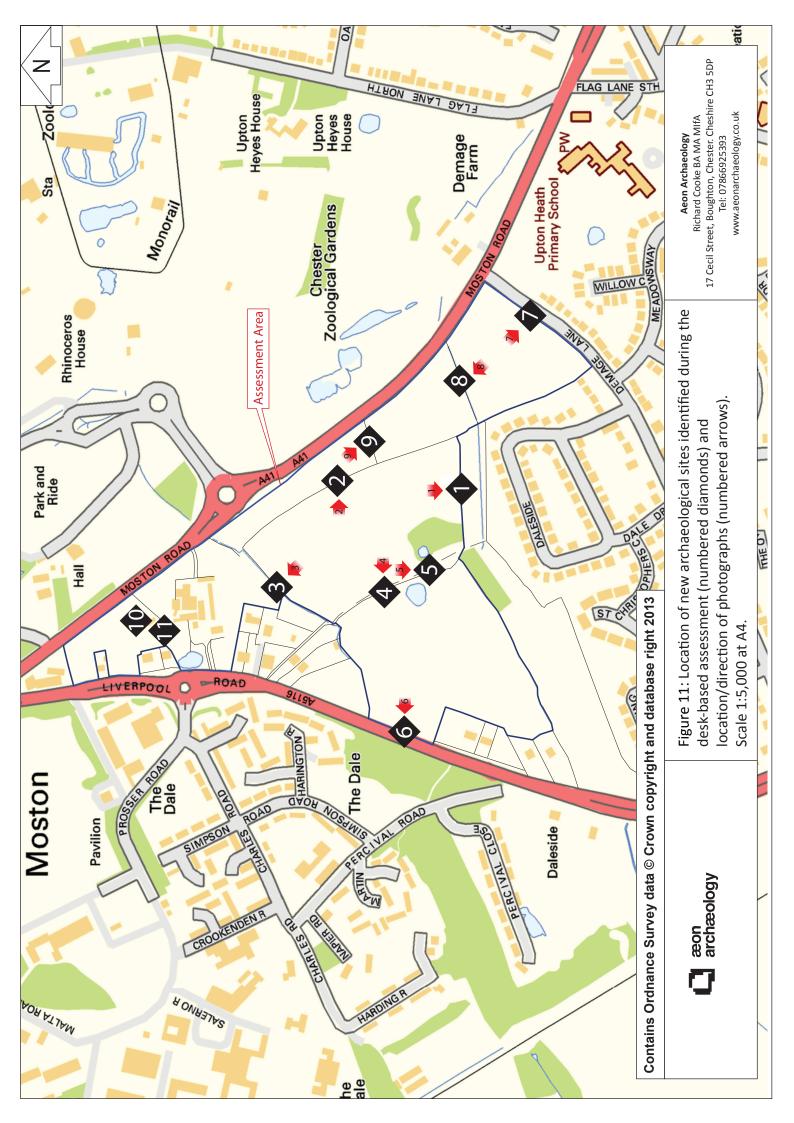
Category of importance: Local

Level of impact: None

Significance of effect: Neutral

Recommendations for further assessment: None

	Table 4: Summary of archaeological features	chaeological fea	ıtures			
Number	Name	Importance	Impact	Significance of	Further	Mitigation
				effect	Assessment	Recommendations
1	Hedgerow field boundary	Local	None	Neutral	None	Retain in-situ
2	Hedgerow field boundary	Local	Low adverse direct physical	Slight adverse	None	Retain in-situ
3	Upton township boundary	Regional	None	Neutral	None	Retain in-situ
4	Hedgerow field boundary	Local	Low adverse direct physical	Slight adverse	None	Retain in-situ
5	Trackway	Local	None	Neutral	None	Retain in-situ
9	Hedgerow field boundary	Local	Low adverse direct physical	Slight adverse	None	Retain in-situ
7	Hedgerow field boundary	Local	None	Neutral	None	Retain in-situ
8	Field boundary ditch	Local	None	Neutral	None	Retain in-situ
6	Hedgerow field boundary	Local	None	Neutral	None	Retain in-situ
10	Former Hillcrest Farm	Unknown (Local)	High adverse direct physical	Unknown (slight adverse)	None	Watching brief during groundworks in this area
11	Field boundary	Local	None	Neutral	None	Retain in-situ





8.0 Impact and Recommendations

8.0 IMPACT AND RECOMMENDATIONS

8.1 Direct physical impact (see table 4)

Construction phase

The proposed development scheme is expected to have a *low adverse direct physical* impact upon three sites (features 2, 4 and 6) of archaeological significance, all of which are hedgerow field boundaries considered to be of *local* importance. Furthermore the proposed development is expected to have a *high adverse direct physical* upon one site (feature 10), the former Hillcrest farm which is also considered to be of *local* importance.

Completion phase

The proposed development scheme is not expected to have any further direct physical impact upon any archaeological features upon completion.

8.2 Indirect physical and non-physical (visual) impact

Construction phase

The proposed development scheme is not expected to have any indirect physical and non-physical impacts upon any archaeological features during the construction phase.

Completion phase

The proposed development scheme is not expected to have any indirect physical and non-physical impacts upon any archaeological features upon completion.

8.3 Historic Landscapes

The proposed development site lies partially within the 20^{th} century settlement Historic Landscape Character Area (HCH15028) in the north and the 20^{th} century fieldscapes Historic Landscape Character Area (HCH3413) in the south. If the proposed development is permitted then the southern part of the site will cease being part of the 20^{th} century fieldscapes HLCA and will form an extension of the 20^{th} century settlement HLCA.

8.4 Site Specific Recommendations

It is expected that the proposed development will impact physically upon three sites of local archaeological significance (features 2, 4 and 6), all of which are historic field boundaries. The direct impact will be limited to breaching the boundaries in order to construct the proposed main street and as such these boundaries will for the majority be retained. Therefore no further assessment or mitigatory recommendations have been made for these features.

In addition the former Hillcrest farm (feature 10) lies within part of the proposed development and as such will require removal. This feature however has been identified through documentary evidence and there are no upstanding structural remains. There is however the potential for buried remains at foundation level and thus a watching brief has been recommended during groundworks in this area.

8.5 General recommendations

Due to the proximity of a range of archaeological sites of all periods, but in particular the close proximity of the scheduled and non-scheduled Roman practice camps to the east and

southeast, the potential for unknown buried archaeological remains to be present on the site is considered to be medium. Due to the disappointing results of the geophysical survey carried out at the nearby Chester Zoo by Archaeological Services WYAS in 2013, it is recommended that further investigation of the site is carried out through an archaeologically supervised metal detector survey. This would help to identify any archaeological hotspots that could then be targeted by archaeological trial trench.

In addition, due to the close proximity of the grade II Listed Building of the *footpath guidepost in north west corner of the garden of longlands* (PrefRef: 1130660) it is recommended the local planning authority be consulted regarding the development prior to any works taking place.



9.0 Sources

9.0 SOURCES

OS Maps

1st edition 25 inch Ordnance Survey Map of 1873.

2nd edition 25 inch Ordnance Survey Map of 1899.

3rd edition 25 inch Ordnance Survey Map of 1911.

OS 1:10 000 Series sheet SJ 36NE, 36SE, 36SW, 36NW, 37NE, 37SE, 37SW, 37NW, 46NE, 46 SE, 46SW, 46NW, 47NE, 47SE, 47SW, 47NW.

Aerial Photographs

Luftwaffe 1940

RAF 1947

OS Aerial Photographs 1970, 1985, 1992, 2000, 2010, 2013.

Primary Sources

1840s census of England

DEO/1/7. A Map of Upton Manor in the Parish of St. Mary's in the County Palatine of Chester of the estate of John Egerton of Broxton Esq. 1735.

DEO/1/18. Map of Upton Manor, 1801.

Tithe Map and Apportionment of the Parish of St. Mary on the Hill/ St. Oswald's

Secondary sources

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Chisholm, H. 1911. Encyclopaedia Britannica

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Hebblethwaite, S.M. 1989. Upton-by-Chester

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Appendix I: Scheduled and Non-Scheduled Sites within 1km

APPENDIX 1: SCHEDULED AND NON-SCHEDULED SITES WITHIN 1.0KM

Undesignated monument points within 1km of the proposed development area as listed on the Cheshire HER

PrefRef	MonUID	ObjectID Name	Name	Type
2137	2137 MCH1654	681	681 Roman Coin Find in Upton-by-Chester	Findspot
7118	7118 MCH20813	18883	18883 Congregational Chapel, Upton, Chester	Congregational chapel
7257	7257 MCH14248	11042	Medieval weight from Moston	Findspot
7258	7258 MCH14652	11432	11432 17th century Jews Harp from Upton by Chester	Findspot
7259	7259 MCH14653	11433	11433 18th century Jews Harp from Upton by Chester	Findspot
7260	7260 MCH14654	11434	11434 Lead weight from Upton by Chester	Findspot
7261	7261 MCH14655	11435	11435 Post medieval button from Upton by Chester	Findspot
7262	7262 MCH14656	11436	11436 Post Medieval ring from Upton by Chester	Findspot
15/01/2527 MCH1550	MCH1550	695	569 Cutting NE of Mollington Grange	Railway cutting, railway transport site

Listed Buildings within 1km of the proposed development area.

PrefRef	PrefRef DesigUID ObjectID		Name	Grade
1130660	1130660 DCH5776	22095	22095 Footpath guidepost in north west corner of the garden of longlands	II
1229357	1229357 DCH6018	17634	17634 West range of former stables at oakfield, chester zoo	II
1229986	1229986 DCH6071	17826	17826 Church of the holy ascension	II
1229987	1229987 DCH6072	17825	17825 Rose cottage	II
1230120	1230120 DCH6076	17828	17828 Oakfield (headquarters of chester zoo)	II
1279119	1279119 DCH6204	17670	17670 Parish boundary stone in the grounds of chester zoo	II

Scheduled Ancient Monuments within 1km of the proposed development area

PrefRef	PrefRef DesigUID	ObjectID Name	Name
1014374	1014374 DCH446	6	9 Roman Camp At Upton Heath, Beside The Water Tower North Of Long Lane
1014375	1014375 DCH448	11	11 Roman Camp at Upton, 350m North East of The Water Tower North of Long Lane
1014376	1014376 DCH449	252	252 Roman Camp 300m West of Upton Grange Farm
1015129	1015129 DCH458	65	65 Part of a Roman Camp at Hoole 200m South of Hoole Hall
1015130	1015130 DCH459	251	251 Roman Camp on Fox Covert Lane 650m North West of Picton Gorse
1015608	1015608 DCH447	10	10 Roman Camp at Upton, 400m East of the Water Tower North of Long Lane

Historic Landscape Character Areas (HLCAs) within 1km of the proposed development area

HLCA	ObjectID	HLC Type	HLC Group
HCH2427	9062	C20th Settlement	Settlement
HCH2431	5388	C20th Settlement	Settlement
HCH2437	8923	Golf Course	Recreation
HCH2438	1584	C20th Settlement	Settlement
HCH2439	1585	Golf Course	Recreation
HCH2440	1586	Post Medieval Settlement	Settlement
HCH2441	1587	Post Medieval Settlement	Settlement
HCH2443	3904	C20th Settlement	Settlement
HCH2446	10318	C20th Settlement	Settlement
HCH2447	10319	C20th Military	Military
HCH2448	4832	C20th Settlement	Settlement
HCH2449	13765	C20th Recreation	Recreation
HCH2450	7961	C20th Recreation	Recreation
HCH2451	7962	C20th Settlement	Settlement
HCH2452	7963	C20th Recreation	Recreation
HCH2466	8303	Post Medieval Communications	Communications
HCH2470	2580	Post Medieval Communications	Communications
HCH2475	9328	C20th Communications	Communications
HCH3381	9745	C20th Agricultural Improvement	C20th Fieldscapes
HCH3382	9746	Post Medieval Field Systems	Post Medieval Fieldscapes
HCH3404	2842	Medieval Townfields	Ancient Fieldscapes
HCH3413	7120	C20th Agricultural Improvement	C20th Fieldscapes
HCH3414	12134		Woodland
HCH3415	14348	Post Medieval Plantation	Woodland
HCH3416	11830	Ancient Field Systems	Ancient Fieldscapes
HCH3422	5157	Ancient Field Systems	Ancient Fieldscapes
HCH3423	5109	Post Medieval Plantation	Woodland
HCH3453	8571	Ancient Field Systems	Ancient Fieldscapes

HCH3454	8572	S72 C20th Military	Military
HCH3455	11978	978 Late Post Medieval Agricultural Improvement Post Medieval Fieldscapes	Post Medieval Fieldscapes
HCH3456	14458	4458 Post Medieval Plantation	Woodland
HCH3471	8640	8640 Post Medieval Field Systems	Post Medieval Fieldscapes
HCH4028	12859	2859 C20th Settlement	Settlement
HCH15026	15099	5099 C20th Settlement	Settlement
HCH15028	8331	8331 C20th Settlement	Settlement

Events within 1km of the proposed development area

ObjectID EvUID		Report Name	Name
227	227 ECH3603	R2093	Mollington Grange Golf Course
371	371 ECH3905	R2419	10-12 Caughall road, Upton, Chester
652	652 ECH4197	R2573	Land at Collinge Farm, Backford, Chester; Archaeological Impact Assessment
868	898 ECH4565	R2928	Natural Vision Chester Zoo, Archaeological Desk-Based Assessment



Appendix II:

Definitions of further assessment and mitigatory measures

APPENDIX 2: DEFINITIONS OF FURTHER ASSESSMENT AND MITIGATORY MEASURES

1. Definition of field evaluation techniques

Field evaluation is sometimes necessary when the importance of an identified archaeological feature cannot be ascertained via an archaeological desk based assessment alone. There are several different techniques but the three most common are geophysical survey, trial trenching, and supervised metal detector survey:

Geophysical survey

This technique is a non-intrusive form of archaeological field evaluation. It utilises a magnetometer which detects differences within the earth's magnetic field caused by the presence of iron in the soil. This iron often takes the form of magnetised iron oxides in the topsoil which have been re-deposited into lower archaeological features through cutting and backfill. A magnetometer can also detect iron artefacts within the soil and the presence of burnt stone material such as on hearths, kilns, and burnt mounds.

Trial trenching

Where a site is suspected to contain more subtle archaeological features such as pits, a geophysical survey may not be appropriate due to its lack on sensitivity in detecting these features. Indeed, trial trenching can also be utilised when anomalies have been identified during the geophysical survey and clarification is required in order to identify them. Trial trenches usually measure 20m by 2m although can vary ion size if targeting geophysical anomalies. Trenches are excavated using a mechanical tracked excavator and supervised by an archaeologist. The topsoil and subsoil are removed onto buried features or if absent, on to the natural glacial substrata. Any archaeological remains found are usually evaluated and recorded prior to backfilling of the trench, so that further site specific mitigatory recommendations can be made.

Supervised Metal Detector Survey

Some types of underlying substrata and bedrock can mask the results of investigation techniques such as geophysical survey. In such instances an archaeologically supervised metal detector survey can be undertaken. This involves the supervision of metal detectorists by a suitably qualified archaeologist and the spatial mapping of artefacts as they are discovered. This technique can give a geographical spread of metal finds and thus be indicative of 'hotspot' areas which may require further investigation by trial trenching for example.

2. Definition of Mitigatory Recommendations

None:

No further action is required.

Detailed recording:

A photographic and concise descriptive record is required, along with a digital survey.

Basic recording:

A photographic and basic descriptive record is required.

Watching brief:

Monitoring is required by a suitably qualified archaeologist during the proposed development. An archaeological watching brief is divided in to four categories according the IFA. 2001. *Institute for Archaeologists 2001 Standard and Guidance for an archaeological watching brief:*

- comprehensive (present during all ground disturbance)
- intensive (present during sensitive ground disturbance)
- intermittent (viewing the trenches after machining)
- partial (as and when seems appropriate).

Avoidance:

These features should be avoided by the proposed development and any ancillary works including the establishment of compound and material lay-down areas. It may be necessary to surround the feature with a barrier and/or signage to avoid accidental damage.

Reinstatement:

These features should be reinstated to their original location and condition. Supervision by an archaeologist is required.

