Archaeological Evaluation Report for

# PROPOSED STUDENT VILLAGE CHESTER

For University of Chester

Claire Statter BA AIfA

L-P:ARCHÆOLOGY

Archaeological Evaluation Report for

# PROPOSED STUDENT VILLAGE CHESTER

Client:	University of Chester
Local Authority:	Cheshire West and Chester Council
NGR:	339843,367767
Site Code:	CHE/PGR 09
Author(s):	C Statter
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# L-P:ARCHÆOLOGY

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Unit S9B | Chester Enterprise Centre | Hoole Bridge | Chester, CH2 3NE | +44 [0] 1244 313100 | +44 [0] 1244 317210

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L-P:ARCHÆOLOGY

# Abstract

An archaeological evaluation was carried out by L-P: Archaeology at land off Parkgate Road on the site of the proposed student village, Chester between the  $6^{th}$  and the  $10^{th}$  of July 2009. The site lies to the north of a Conservation Area on the outskirts of Chester city. Running through the site is Finchett's Gutter, the lower section of Flookersbrook. A waterway running around the outskirts of Chester.

Historic research indicates that the site has remained agricultural throughout its history. However its surrounding area has been developed during the Post Medieval period.

The evaluation involved the machine excavation of 15 trenches. The archaeological evaluation revealed limited archaeological features on the site including a large Post Medieval pit within trench seven. This pit probably related to the levelling of the site close to Finchett's Gutter.

The evaluation also revealed a series of alluvial deposits which indicated long term dryish conditions on the floodplain with seasonal rising of the groundwater tables.

### 1. Introduction and Scope of Study

- 1.1. This archaeological evaluation report has been prepared by Claire Statter of L-P: Archaeology on behalf of the University of Chester. The fieldwork was carried out by L-P: Archaeology between the  $6^{th}$  and  $10^{th}$  July 2009. Fieldwork was undertaken by Claire Statter and Blair Poole.
- 1.2.A site code CHE/PGR 09 was allocated by Chester Archaeology.
- 1.3. The site is located off Parkgate Road, Chester, centred on National Grid Reference 339843,367767 (FIGURE 1). The Local Authority is Cheshire West and Chester Council who take archaeological advice from Chester Archaeology.
- 1.4. The site was identified by Desk Based Assessment (DBA) as a site of potential for organic deposits. Accordingly, a programme of archaeological evaluation was agreed in advance of planning permission.
- 1.5. The evaluation was carried out in accordance with a Written Scheme of Investigation (WSI) agreed in advance with Chester Archaeology (STATTER 2009A).
- 1.6. The evaluation consisted of 15 machine excavated trenches.

# 2. Site Background

#### 2.1. **GEOLOGY**

- 2.1.1. The British Geological Survey map number 109, shows the site lying in an area of pebble beds and Lower Mottled Sandstone of the Sherwood Sandstone Group.
- 2.1.2. Evaluation on the site revealed the superficial deposits to be alluvial silts and sands relating to the historical flooding of the site

#### 2.2.TOPOGRAPHY

- 2.2.1. The site covers an area of approximately 3.008 hectares (FIGURE 2). Modern ground levels slope gradually from c. 7mOD to the north down to c. 5mOD in the centre of the site around Finchett's Gutter to c. 13mOD at the south.
- 2.2.2. Finchett's Gutter flows within a steep, deeply incised channel. This channel appears to have been 'canalised' (ALLEN 2009).
- 2.2.3. The site is triangular in shape and is bound to the east be Parkgate Road and to the West by the A5480. A cycle path bounds the south of the site running along the line of a disused railway.

#### 2.3.**LAND USE**

- 2.3.1. The site contains one domestic dwelling, 'Sandiacre', student accommodation in 'Glenesk' and teaching accommodation in 'Meadow Bank'.
- 2.3.2. The remainder of the site comprises open grassland with Finchett's Gutter running northeast southwest through the centre of the site.

#### 2.4. ARCHAEOLOGICAL BACKGROUND

- 2.4.1. A desk based assessment (DBA) was carried out for the site in 2009 by L-P: Archaeology (STATTER 2009B). This report contains details of the archaeological and historical background information for the site as well as a summary of the potential impact of the development on the archaeological remains.
- 2.4.2. This section presents a short summary of the archaeological background of the

site.

- 2.4.3. The site is located to the north of the Chester-Liverpool Road Conservation Area.
- 2.4.4. The evidence for Prehistoric activity within Chester is limited. It has been suggested however that a Mesolithic camp was situated at Bache Pool, within the vicinity of the site. No further evidence for Prehistoric activity however is known in the area.
- 2.4.5. The site is located on Parkgate Road which is a know Roman Road running from Chester to the Wirral. Several coin find spots have been located along Parkgate Road and its vicinity relating to this period.
- 2.4.6. Although the site lies c. 1km to the north of the Roman city of *Deva* it is not thought that Roman settlement extended out to the north into the vicinity of the site area. If this area was used during the Roman period it is thought it would have been for agricultural purposes.
- 2.4.7. There is no evidence of any activity close to the site area during the Medieval period. As in the Roman period if this area was in use it would have been for agriculture.
- 2.4.8. During the Post Medieval period Civil War broke out in England and Chester was greatly affected. Although the City already had defensive walls and had since the Roman period, further defences were erected surrounding the City. It is thought that these defences took the form of an earthen rampart and ditch. The northern most of these Civil War defences is thought to have been located c. 500m to the southeast of the site area.
- 2.4.9. Finchestt's Gutter which runs through the centre of the site was first documented in 1663. The watercourse formed the boundary between the City Liberties and Blacon. It is unclear where the name comes from however it is possible that it relates to a local prominent family with the same name.
- 2.4.10.Much of the early cartographic evidence for the site is limited as the site lies within Chester's hinterland and is therefore disregarded from many maps. It was only when Ordnance Survey mapped the country that we have accurate

maps showing this area of Chester.

- 2.4.11.Map evidence shows the site to be within an area of little activity during the late  $19^{th}$  century, therefore it can be assumed it remained agricultural. It is only in the Early  $20^{th}$  century that the area surrounding the site begins to be developed.
- 2.4.12.Little has changed on the site since the late 19<sup>th</sup> century and the site now largely remains as an unused open field.

# 3. Methodology

- 3.1. The fieldwork was conducted in accordance with the *Written Scheme of Investigation for Proposed Student Village* (STATTER 2009A), which was agreed by Chester Archaeology.
- 3.2. The evaluation consisted of the machine excavation of 15 trenches. These were excavated using a 2m wide toothless ditching bucket. All 15 trenches were excavated to a depth of natural alluvial deposits or to the top of archaeology, whichever was highest.
- 3.3.All trenches were excavated in the same manner. An 8 tonne tracked excavator was used to remove the topsoil from the trenches then excavation was carried out in spits by the machine under the supervision of a qualified archaeologist.
- 3.4.Any archaeological features that were seen were investigated by hand using appropriate methods by a qualified archaeologist.
- 3.5.For complete details on the recording methodology employed, please see STATTER 2009A.

#### 4. Results

- 4.1.Deposits are described trench by trench in phase from the latest to the earliest. Context numbers are indicated by brackets, with round brackets indicating fills and deposits (1) and square brackets indicating cut features [2]. Masonry numbers are indicated by underlining, 3.
- 4.2.In this report levels are indicated in metres Ordnance Datum (mOD) or Below Ground Level (BGL).
- 4.3. Trench locations can be seen on FIGURE 3.

#### 4.4.TRENCH ONE

- 4.4.1. Trench one located at the southeastern end of the site and was aligned NE-SW measuring 2m x 18m and excavated to a maximum depth of 6.8mOD (FIGURE 4).
- 4.4.2. The initial context recorded within this trench was (100) a dark humic topsoil, with modern debris inclusions. This deposit measured an average depth of 0.2m. Sealed by (100) was (101) a mid brown silty loam with rubble and brick inclusions. This deposit measured a depth of 0.2m and has been interpreted as a 20th century make up layer.
- 4.4.3. Below (101) lay a loose mid brown silt deposit with pebble inclusions (102). This deposit was also interpreted as a  $20^{th}$  century make up layer and measured 0.3m thick (FIGURE 5).
- 4.4.4. Underlying (102) was (103) a lens of dark brown clay. This deposit was only seen at the western end of the trench and measured a maximum depth of 0.15m. (103) had rubble and pebble inclusions and therefore has also been interpreted as a 20<sup>th</sup> century deposit possible relating to a dump of construction waste relating to either the road construction or the adjacent domestic properties.
- 4.4.5. Below (103) lay (104) a further mixed mid brown clay deposit. This deposit measured 0.2m thick and is interpreted as another discrete  $20^{th}$  century construction dump of material.

- 4.4.6. Underlying (104) was (105) a blue natural clay spread. This spread is thought to be evidence of overland flow of rainwater, for example rainwater running down the valley side into the floodplain (ALLEN 2009).
- 4.4.7. Context (106) the natural clay, covered the base of the trench.



Plate 1 - Northwest facing section of trench one. Showing (105) & (106). Scale 1m.

#### 4.5.TRENCH TWO

- 4.5.1. Trench two was aligned N-W measuring 2m x 18m and excavated to a maximum depth of 5.5mOD (FIGURE 6).
- 4.5.2. As with trench one the uppermost deposit recorded was (200) a dark humic topsoil, which measured 0.25m deep. Below (200) lay (201) a mid brown clay silt with 20<sup>th</sup> century debris inclusions. This deposit is thought to be a 20<sup>th</sup> century make up deposit measuring 0.25m thick.
- 4.5.3. Several features were seen within this trench and shall be discussed below (FIGURE 7). Cut from (201) was [204] which was filled by (203). Fill (203) was a dark brown red silt clay loam. [204] was a linear V shaped cut measuring as seen, 0.3m wide by 2.2m long and 0.4m deep. This cut is thought to be for a small drainage ditch.
- 4.5.4. A field drain [206], 0.02m wide, ran across the trench.

4.5.5. A larger feature was also cut into (201) this was given context number [209]. [209] contained two fills the uppermost being (202), a loose red sand with charcoal inclusions, measuring 0.15m thick. This deposit was seen as a capping layer for this feature. Below which lay (207) a loose brown red silt loam measuring 0.35m deep and 2.6m wide. This deposit was seen as the primary fill of an unknown feature.



Plate 2 - Feature [209] looking north. Scale 1m.

- 4.5.6. It was initially thought that cut [209] was a large ditch of an unknown date due to the absence of any dating evidence. Two further trenches were opened to the east and west of trench two in order to assess whether or not the ditch continued across the site. Trenches 14 and 15 were excavated either side of trench two but revealed no evidence for the continuation of the proposed ditch. It is therefore thought that the feature is a large pit, potentially a dew pit for collecting rainwater for animals to drink from. The clay base would hold water and the shallow nature would make it safer than using Finchett's Gutter as a water source.
- 4.5.7. Directly below [209] was (208) the natural blue grey clay.

#### 4.6.TRENCH THREE

4.6.1. Trench three measured 2m x 20m and was excavated to a maximum depth of 5.2mOD. The trench was aligned NW-SE. The first context recorded within

- this trench was (300) a dark humic loam topsoil measuring 0.15m thick.
- 4.6.2. Below (300) was (301) a friable mid brown clay which has been interpreted as subsoil and measured 0.2m thick. Below which was the natural firm blue orange clay (302). (302) extended below the base of the trench at 0.5m BGL.
- 4.6.3. No features were present within this trench and no finds were recovered.

#### 4.7.**TRENCH FOUR**

- 4.7.1. Trench four was aligned NE-SW measuring 2m x 20m and excavated to a maximum depth of 4.9mOD.
- 4.7.2. Topsoil was also present in this trench and was given context number (400), the deposit measured a maximum 0.2m thick.
- 4.7.3. Below (400) was (401) a friable yellow brown clay loam which measured 0.4m deep. This was seen as the natural subsoil in the area. Sealed by (401) was (402) a firm orange natural clay which extended beyond the base of the trench at 0.9mOD.
- 4.7.4. No features were present within this trench and no finds were recovered.

#### 4.8.**TRENCH FIVE**

- 4.8.1. Trench five was aligned NW-SE and measured  $2m \times 20m$  and was excavated to a maximum depth of 5.4mOD.
- 4.8.2. As with the above trenches the initial deposit recorded was (500) a dark humic loam topsoil measuring 0.15m deep. Below (500) was (501) a mid brown clay silt subsoil measuring 0.2m thick in this trench.
- 4.8.3. Sealed by (501) was (502) a firm blue grey natural silt clay extending beyond the base of the trench at 0.7mOD.
- 4.8.4. No features were seen within this trench and no finds were recovered.



Plate 3 - Trench five facing northwest. Scale 1m.

#### 4.9.TRENCH SIX

- 4.9.1. Trench six was located along the southwestern border of the site and was aligned NW-SE. It measured  $2m \times 20m$  and was excavated to a maximum depth of 5.3 mOD.
- 4.9.2. A dark humic topsoil (600) was the first context recorded within this trench and measured 0.3m deep. Below (600) was (601) the subsoil as seen in the above trenches, in trench six it measured 0.2m thick.
- 4.9.3. Below (601) was (602) firm blue orange natural clay which extended beyond the base of the trench at 0.6mOD.
- 4.9.4. Within (602) a straight cut linear trench could be seen. This comprised a straight, probably machine cut, trench with a large orange clay drain pipe within it. The trench was then backfilled with grey gravel. This drain was

interpreted as a large land drain as seen across the site however it was the only one seen that had been filled with gravel.



Plate 4 - Trench six showing large land drain. Scale 1m.

4.9.5. No archaeological features were recorded within this trench and no finds were recovered.

#### 4.10.TRENCH SEVEN

- 4.10.1.Trench seven was located directly to south of Finchett's Gutter running parallel to it. It was aligned NE-SW, measured 2m x 20m and was excavated to a maximum depth of 5.2mOD.
- 4.10.2.The initial context recorded within this trench was (700) the dark humic topsoil as seen across site, here it measured 0.25m deep. Below which lay (701) a friable mid brown clay with 20<sup>th</sup> century debris inclusions. This deposit measured a maximum 0.6m thick and was interpreted as a 20<sup>th</sup> century levelling deposit (FIGURE 8).
- 4.10.3.Cut from (701) was [703] a rectilinear cut measuring  $2.5 \,\mathrm{m} \times 1.6 \,\mathrm{m} \times 0.25 \,\mathrm{m}$  and was located at the southwestern end of the trench. [703] was filled by (702) a loose black silt ash deposit with charcoal inclusions. This deposit had the same dimensions as [703]. This pit was interpreted as a domestic waste pit probably dating to the  $20^{\mathrm{th}}$  century.

- 4.10.4. Also cut into (701) was [714] a vertical linear cut for a land drain measuring 0.2m wide by 0.65m deep. Deposit (713) was the fill of this cut and comprised a yellow silt and orange ceramic land drain.
- 4.10.5.Below (701) a further series of 20<sup>th</sup> century deposits within a large pit could be seen. Cut [709] is cut from (701) and measures 0.8m deep, its full extent could not be determined as it extended beyond the limits of the trench.
- 4.10.6. The uppermost fill of [709] is (704) a friable yellow brown silt clay with rubble metal and plastic inclusions, measuring 0.2m deep. Within (704) a red sandstone rubble deposit (715) was seen measuring 2.4m x 1.0m, as seen in plan.
- 4.10.7.Below (704) was (705) an earlier  $20^{th}$  century deposit comprising a light brown red silty clay with charcoal, ash and sandstone inclusions.
- 4.10.8.It is thought that prior to (705) being deposited within this pit (706), the underlying deposit, was left exposed for an undetermined period of time. This is due to the black discolouration defining the top of context (706), this indicates a surface that has been left exposed to the elements for a period of time. (706) was a light brown clay silt deposit measuring a maximum thickness of 0.2m.



Plate 5 - Showing [709] to the left. Note discolouration at top of (706), and the alluvial make up to the right. Scale 1m.

- 4.10.9.Both [714] and [709] cut through a series of natural deposits. The uppermost of these being (710) which was also sealed by (701). (710) comprised a loose yellow alluvial sandy silt, measuring 0.3m thick. Below (710) was (711) a similar alluvial deposit measuring 0.15m thick. In turn this overlay (712) a further yellow brown alluvial silt measuring 0.08m thick.
- 4.10.10.Below (712) lay (707) and below that (708). Each a further yellow brown alluvial silt, (707) and (708) both extended beyond the base of the trench at a maximum of 1.4m BGL.
- 4.10.11. No finds were recovered from any of the contexts within this trench.

#### 4.11.TRENCH EIGHT

- 4.11.1.Trench eight was located directly to south of Finchett's Gutter running parallel to it. This trench was excavated in an L shape in order to investigate the deposits closer to the water course. It measured 2m wide with a total length of 24m and was excavated to a maximum depth of 5.1mOD.
- 4.11.2. The toposil (800) was the first deposit recorded within this trench and was made up of a dark humic loam measuring 0.15m deep. Sealed by (800) was (801) a loose mid brown silt loam subsoil measuring 0.15m thick (FIGURE 9).
- 4.11.3.Below the subsoil lay a series of alluvial deposits, the uppermost being (802) a 0.2m thick deposit of light brown clay sand. Below which lay (803) a light frown orange sand with a thickness of 0.17m.
- 4.11.4.Sealed by (803) was (804) the natural firm blue orange clay which extended beyond the base of the trench at 0.8m BGL.
- 4.11.5. No features were recorded within this trench and no finds were recovered.

#### 4.12.TRENCH NINE

- 4.12.1.Trench nine was aligned NW-SE, measured 2m x 19m and was excavated to a maximum depth of 5.0mOD.
- 4.12.2.As with each trench topsoil was the first context encountered (900) measured

- 0.1m deep. Below (900) was (901) a loose mid brown silty sand with  $20^{th}$  century metal inclusions which measured 0.15m thick. This deposit was interpreted as a  $20^{th}$  century make up layer.
- 4.12.3.Sealed by (901) was (902) friable red brown clay silt mix deposit with a thickness of 0.2m. This deposit was also seen as a  $20^{th}$  century make up layer and is thought to be the same as (701) as described above.
- 4.12.4.Below (902) was (903) a friable yellow red silt natural alluvial deposit which extended beyond the base of the trench at 0.6m BGL.
- 4.12.5.No features were recorded within this trench and no finds were recovered.

#### 4.13.**TRENCH TEN**

- 4.13.1.Trench ten was located within the northern most end of the site and was aligned NE-SW. The trench measured  $2m \times 20m$  and was excavated to a maximum depth of 5.6mOD.
- 4.13.2.As with each of the trenches described above the first context recorded was the humic topsoil (1001) which measured 0.1m deep. Below the topsoil lay (1002) a loose mixed rubble with tile, brick, stone and mortar measuring 0.55m thick. This deposit is thought to be a spread of construction waste relating to the construction of the adjacent domestic properties, constructed in the mid 20th century.



Plate 6 - Southeast facing section of trench ten. Scale 1m.

- 4.13.3.Below (1002) lay a further 20<sup>th</sup> century make up deposit comprising a firm mid brown silty clay, this deposit extended beyond the base of the trench at 0.85m BGL. Within (1002) at the western terminus of the trench was a spread of firm grey clay (1005) with a distinctive odour of hydrocarbons. As (1005) was seen within (1002) it was seen as being part of the 20<sup>th</sup> century make up of this end of the site.
- 4.13.4.At the eastern end of the trench below (1002) was (1004) the natural yellow brown sandy clay which extended beyond the base of the trench at 0.85m BGL.
- 4.13.5.No features were recorded within this trench and no finds were recovered.

#### 4.14.TRENCH ELEVEN

- 4.14.1.Trench eleven was aligned NW-SE and measured 2m x 20m and was excavated to a maximum depth of 4.7mOD.
- 4.14.2.Humic topsoil (1100) covered the trench measuring 0.15m deep. Below (1100) was a mid brown clay loam subsoil (1101) with a thickness of 0.13m.
- 4.14.3.Underlying (1101) was (1102) a 0.2m thick deposit of friable light brown silty alluvial sand. Below (1102) lay a further alluvial deposit (1103) a light brown sand extending beyond the base of the trench at 0.7m BGL.
- 4.14.4.No features were recorded within this trench and no finds were recovered.

#### 4.15.TRENCH TWELVE

- 4.15.1.Trench twelve was aligned N-S and measured 2m x 19m and was excavated to a maximum depth of 5.6mOD.
- 4.15.2.The humic topsoil (1200) measured a depth of 0.25m, below which lay (1201). (1201) was a firm red brown silt loam subsoil with a thickness of 0.38m.
- 4.15.3.Sealed by (1201) was (1202) the natural loose yellow silt which extended beyond the base of the trench at 0.9m BGL.

4.15.4.No features were recorded within this trench and no finds were recovered.



Plate 7 - Trench 12 facing north. Scale 1m.

#### 4.16.TRENCH THIRTEEN

- 4.16.1.Trench thirteen was aligned NE-SW and measured 2m x 19m and was excavated to a maximum depth of 5.5mOD.
- 4.16.2.Th deposits within this trench matched those within trench twelve. With toposil (1300) being the initial context recorded measuring 0.1m deep.
- 4.16.3.Below (1300) lay a silty subsoil (1301) measuring 0.15m thick. Sealed by (1301) was (1302) a yellow alluvial silt which extended below the base of the trench at 0.4m BGL.
- 4.16.4.No features were recorded within this trench and no finds were recovered.

#### 4.17.TRENCHES FOURTEEN AND FIFTEEN

4.17.1. These trenches were excavated to determine the extent of the feature in trench two. The feature was shown not to extend 3m to either the east and west of trench two. Both trenches fourteen and fifteen showed the same stratigraphic sequence as trench thirteen, topsoil, subsoil and silt.

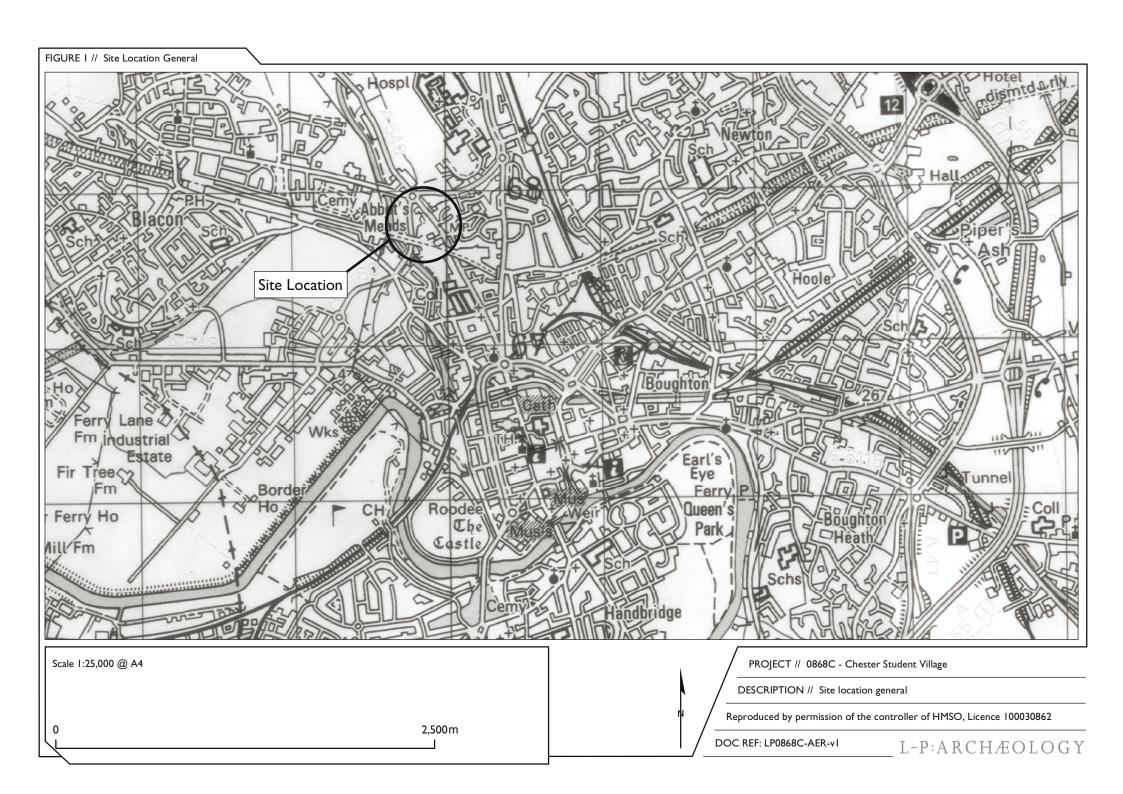
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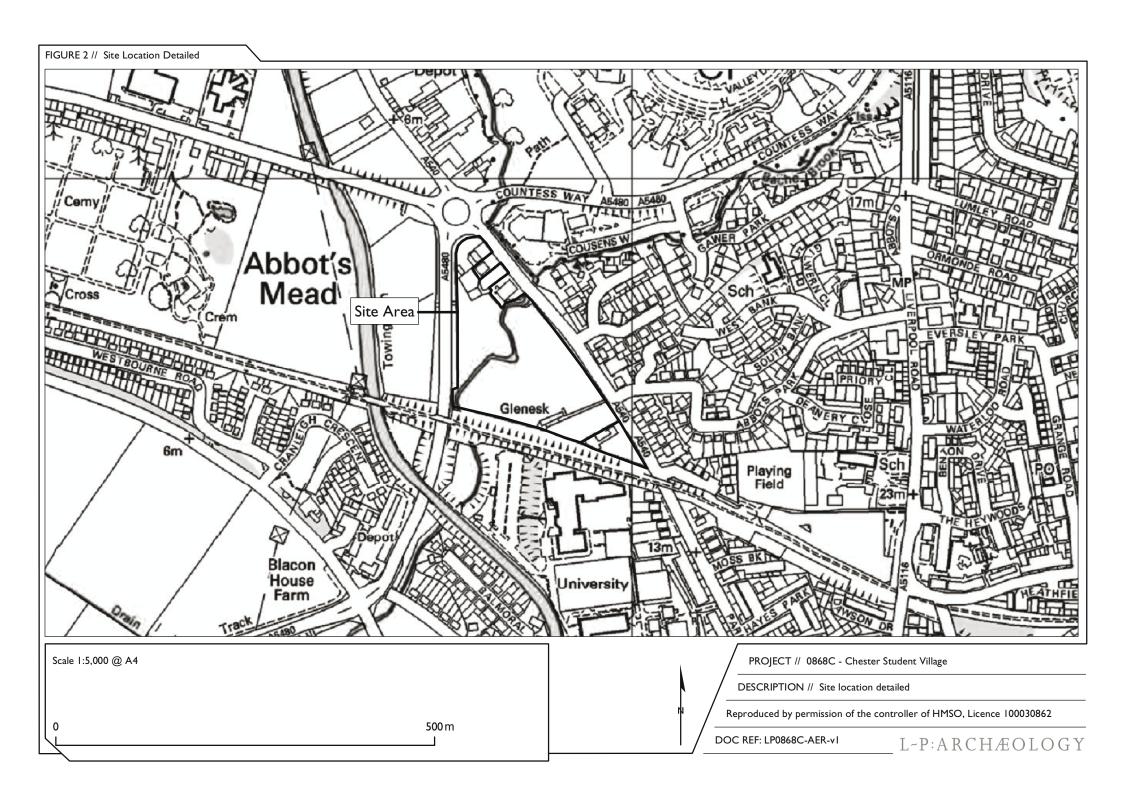
### 5. Summary and Conclusions

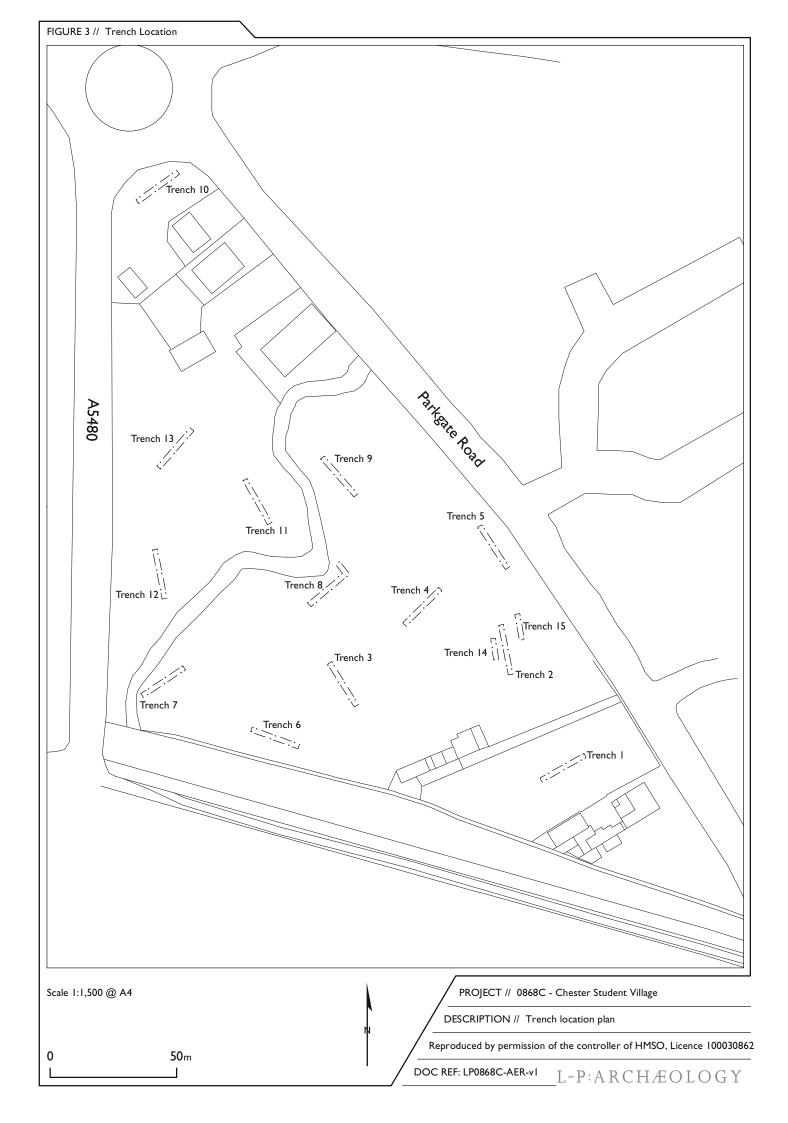
- 5.1. The Archaeological Evaluation was carried out at the proposed student village site, Chester (339843,367767). This comprised the excavation of 15 trenches across the site.
- 5.2. The specific aims of the evaluation were to:
  - 5.2.1. Characterise and record any archaeological deposits or features present on the site.
  - 5.2.2. Identify the levels at which archaeological remains survive on site.
  - 5.2.3. Determine the date, character and nature and significance of the archaeology present on the site.
- 5.3. Fieldwork was carried out by Claire Statter and Blair Poole of L-P: Archaeology between the  $6^{th}$  and  $10^{th}$  July 2009 on behalf of the University of Chester.
- 5.4.A desk based assessment had previously been carried out for the site and placed it within an area of Post Medieval activity. The site was outside the main city of Chester and was therefore thought to have been used for agriculture before this period.
- 5.5.The archaeological evaluation revealed several archaeological features on the site such a large dew pond within trench two at 5.3mOD, and large pit within trench seven at 5.2mOD.
- 5.6.Investigation also showed the large pit within trench seven probably dated to the late  $19^{th}$  to early  $20^{th}$  century levelling of the site close to Finchett's Gutter.
- 5.7.No features relating to Finchett's Gutter, the Liberty boundary or the Civil War defences were found.
- 5.8. The evaluation also revealed a series of alluvial deposits which indicated long term dryish conditions on the floodplain with seasonal rising of the groundwater tables (ALLEN 2009).
- 5.9.no finds were recovered and no environmental samples were taken.

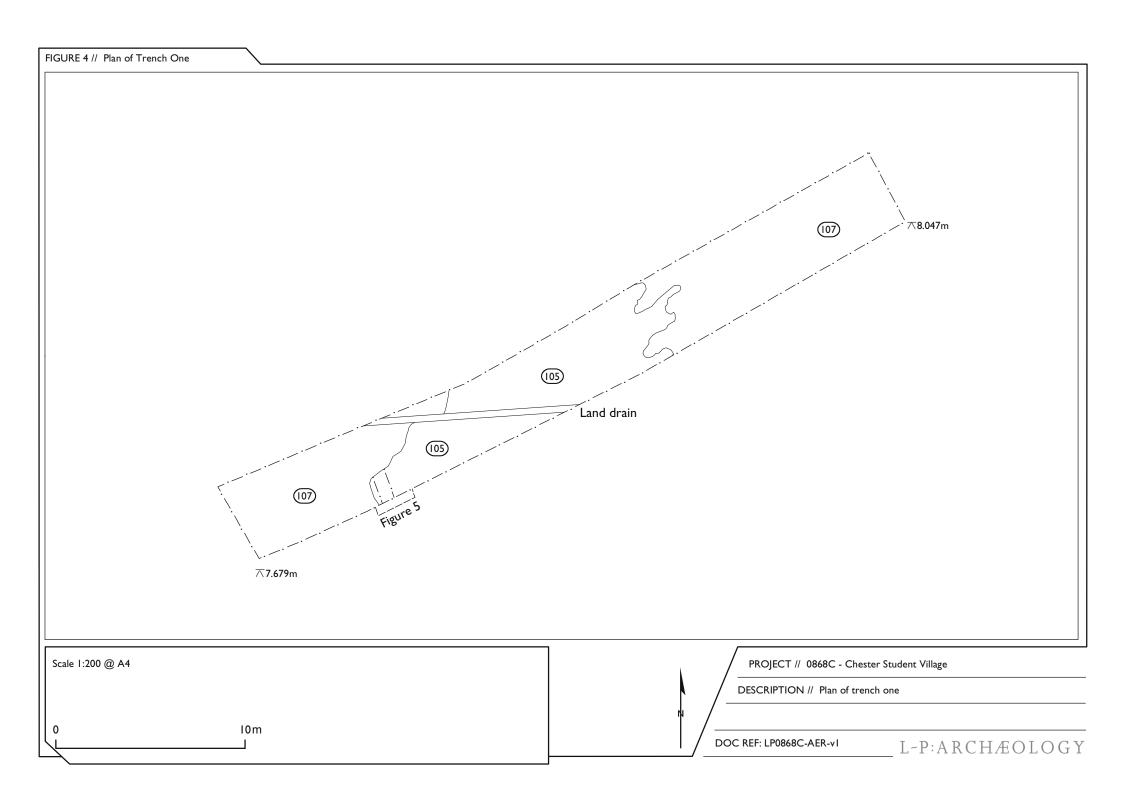
# **FIGURES**

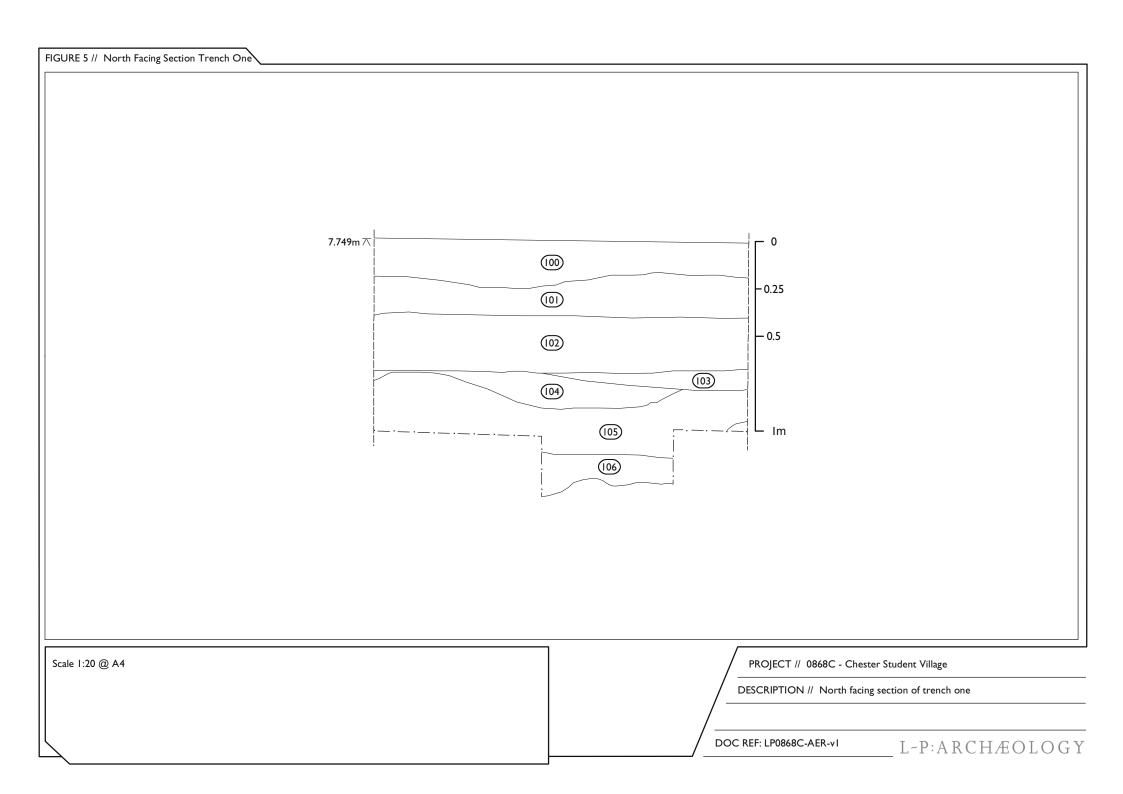
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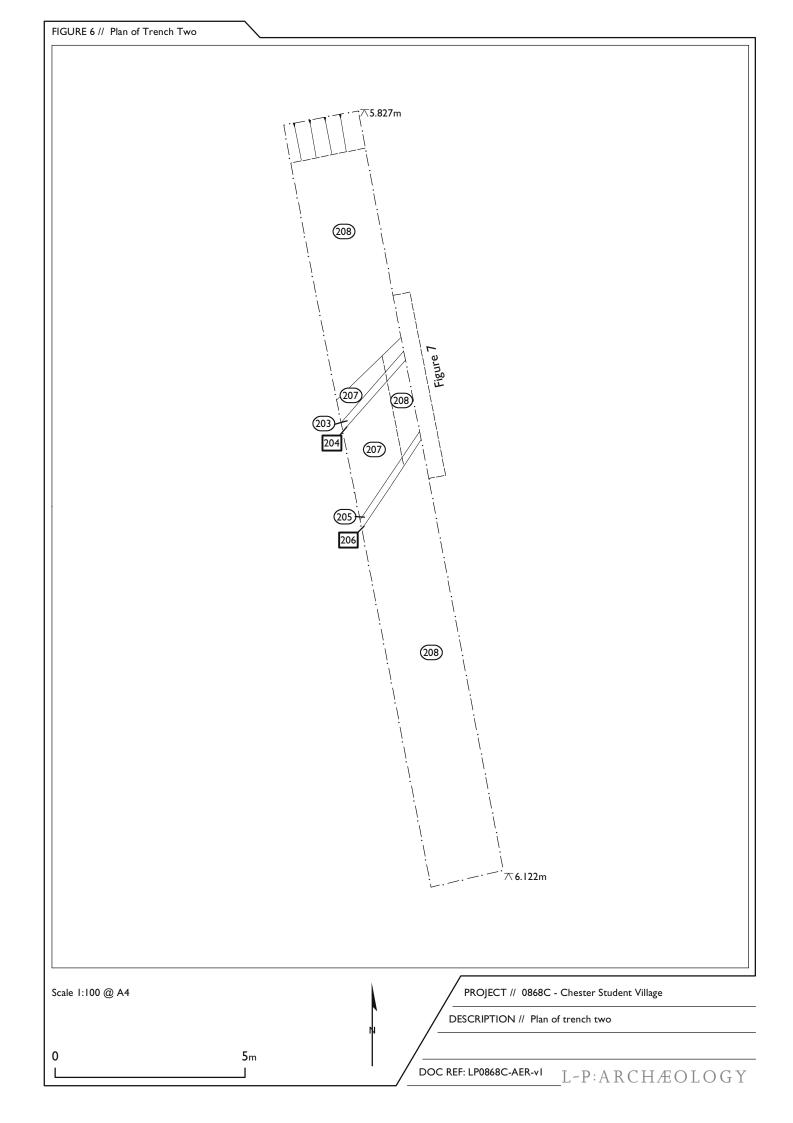


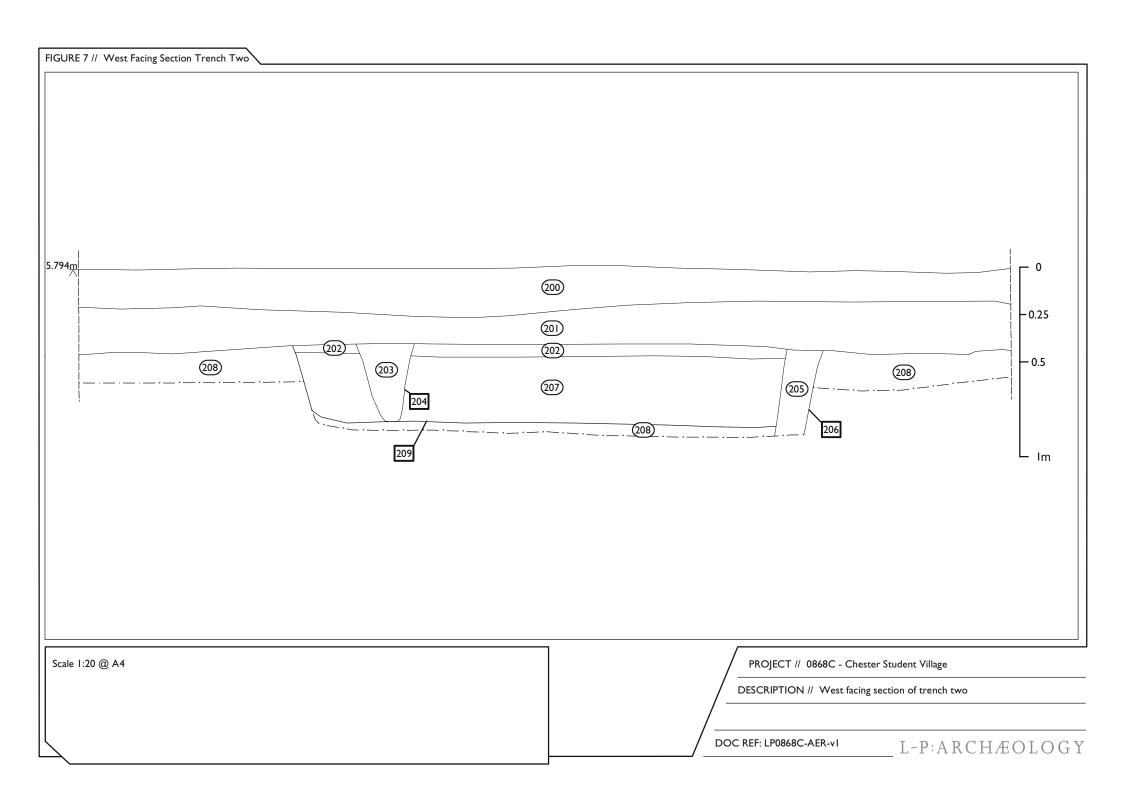


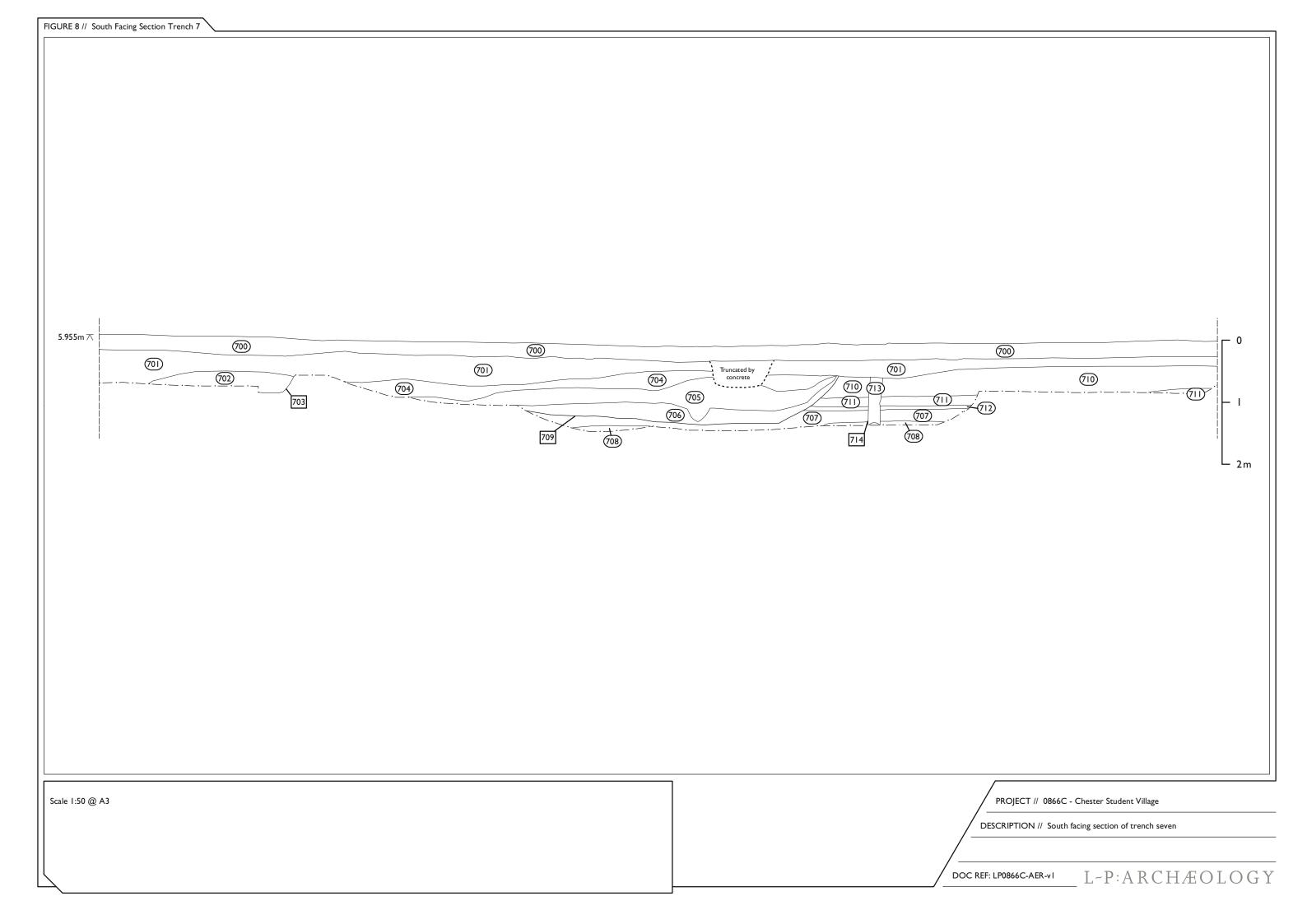


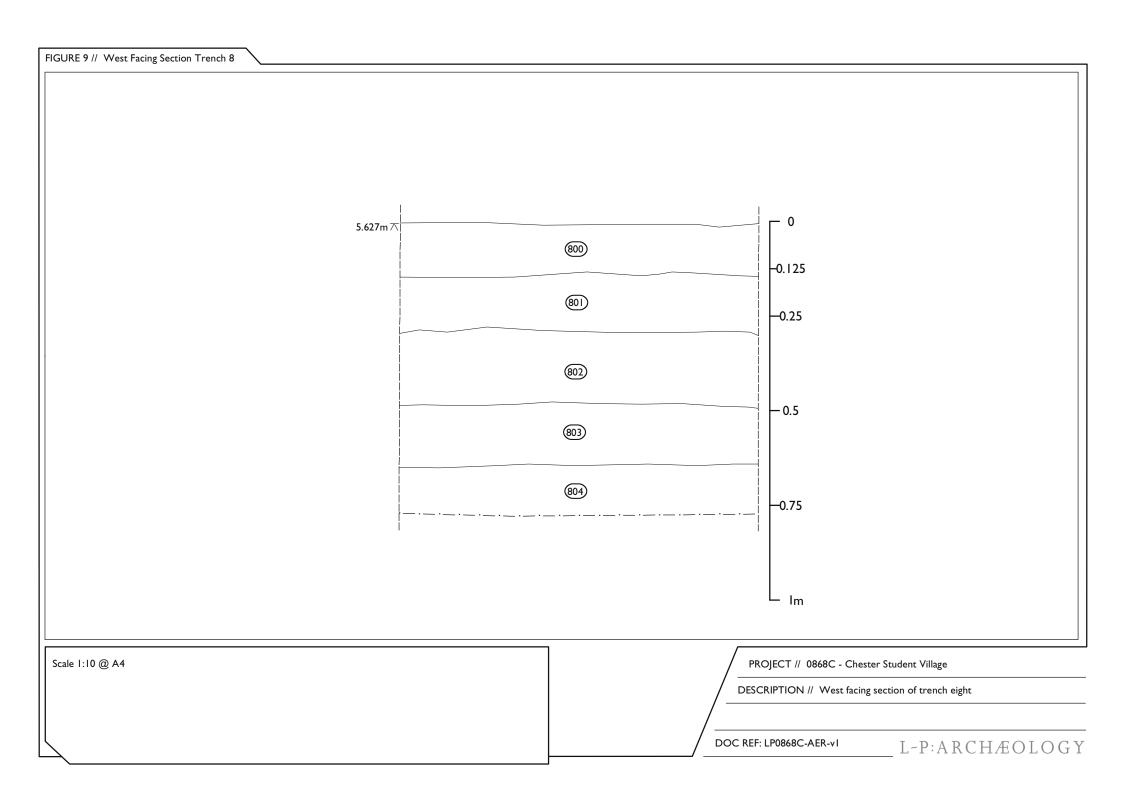












# SOURCES CONSULTED

APPENDIX I

# **BIBLIOGRAPHIC**

- ALLEN, M. 2009. Chester Student Village; Geoarchaeology. Unpublished archive report for AEA: Allen Environmental Archaeology
- STATTER, C. 2009A. Written Scheme of Investigation for Proposed Student Village Chester. Unpublished archive report for L-P: Archaeology
- STATTER, C. 2009B. Desk Based Assessment of Proposed Student Village Chester. Unpublished archive report for L-P: Archaeology

# **OASIS FORM**

APPENDIX 2

## **OASIS DATA COLLECTION FORM: England**

List of Projects | Search Projects | New project | Change your details | HER coverage | Change country | Log out

#### Printable version

OASIS ID: Iparchae1-62916

#### **Project details**

Project name Proposed Student Village, Chester

the project

Short description of An archaeological evaluation on land off Parkgate Road Chester at the site of the proposed student village. The evaulation revealed a post medieval spread of waste and a series of alluvial deposits showing the build up of the

Project dates Start: 06-07-2009 End: 10-07-2009

Previous/future

work

Yes / Not known

Any associated project reference

codes

CHE/PGR 09 - Sitecode

Any associated project reference

codes

CHEGM 2009.136 - Museum accession ID

Type of project Field evaluation

Site status

Current Land use Vacant Land 2 - Vacant land not previously developed

#### **Project location**

Country

Site location CHESHIRE CHESTER CHESTER Proposed Student Village

Postcode CH1 4AQ

Study area 3.01 Hectares

SJ 39843 67767 53.2032825424 -2.900722104050 53 12 11 N 002 54 02 W Site coordinates

Point

Min: 5.00m Max: 13.00m Height OD / Depth

#### **Project creators**

Name of Organisation L - P: Archaeology

Project brief originator

Local Authority Archaeologist and/or Planning Authority/advisory body

Project design

originator

L - P : Archaeology

Project

Claire Statter

Blair Poole

Developer

director/manager

Project supervisor Type of

sponsor/funding

body

Name of

sponsor/funding

body

University of Chester

#### **Project archives**

Paper Archive recipient

Grosvenor Museum

Paper Archive ID Paper Contents

CHEGM 2009.136 'Stratigraphic','Survey'

Paper Media available

'Context sheet', 'Drawing', 'Photograph', 'Plan', 'Report', 'Section'

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## **OASIS:**

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# SPECIALIST REPORT

APPENDIX 3

### Chester student village;

#### Geoarchaeology

by Michael J. Allen, PhD, MIFA, FLS, FSA

version AEA 077.1.01 5<sup>th</sup> August 2009

for:-

L-P Archaeology, Chester

## AEA: Allen Environmental Archaeology



Redroof, Green Road, Codford St. Peter, WARMINSTER, Wiltshire, BA12 0NW (Tel: 07828 103454)

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## AEA: Allen Environmental Archaeology

Redroof, Green Road, Codford St. Peter, WARMINSTER, Wiltshire, BA12 0NW (Tel: 07828 103454)



**AEA 077** 

#### Chester student village; Geoarchaeology

Michael J. Allen

The site was visited on 9<sup>th</sup> July 2009 with Claire Statter and Blair Poole (L-P Archaeology) and Mike Morris (Chester Council). This report outlines and summarises the main geoarchaeological character and both archaeological and palaeo-environmental potential for the floodplain area under investigation.

The excavated evaluation trenches were examined and notes made on the profiles. Selected representative profiles were cleaned, examined in detail and full geoarchaeological records were made from five key sequences (trenches 1, 2, 7, 8 and 11) and summary information recorded from a sixth trench (Trench 9). In each case full sedimentary descriptions follow terminology outlined by Hodgson (1976)

Geoarchaeological records were made on site (Appendix 1) to provide a comprehension of the sediment profiles. In particular immediate aims were to : -

- define the possibility of waterlogged deposits and provide an adequate sampling strategy
- identify former channels / palaeo-channels and record and sample as appropriate
- define the alluvial geoarchaeology and potential

## The geoarchaeological, palaeo-environmental and archaeological potential of rivers and river valleys

Valley geographies

River valleys provide transport corridors through regions facilitating access upon the water itself or on the dryer land on terraces and floodplain margins within the valley. Valleys may also be routes of migrating herds of herbivores in earlier prehistoric times, and provide corridors along which animals may be herded on droveways in later prehistoric and historic times. The valley and river themselves may provide important resources. These include the wildlife visiting the river to drink and birds and fowl living and nesting in and on its banks. Apart from water to drink and use by human populations, other resources may include the rushes and reed beds (*Phragmites australis*) along river edges and within floodplains which could be exploited for thatching, basketry and matting. Alluvial clays may be suitable for construction, flooring, walling, lining and potting, and exposures of gravels may include important stone and flint resources. As such river valleys and water channel margins attract

human activity, and seasonal, if not permanent settlement (see Gardiner *et al.* 2002; Ellis *et al.* 2003).

The potential of preservation by waterlogging (see below) provides the possibility of recovery of organic artefacts and palaeo-environmental records not preserved elsewhere in the local landscaped. Importantly this can also include riverine-specific structures such as wharfs, jetties and pontoons, as well as other items inadvertently dropped, or deliberately disposed of, in the water course.

#### Sediments; geoarchaeology and palaeo-environments

River and stream systems contain two distinct sediment forms; that directly associated with palaeo-channels, the sediments of which relate in part to their use but largely to their demise, and overbank flood deposits accumulating across with width of the floodplain and potentially infilling, or even sealing, former palaeo-channels.

Channel deposits can often contain waterlogged deposits with preservation of organic material in the form of both wooden artefacts, but more commonly good palaeoenvironmental assemblages of waterlogged plant remains and insects. Such deposits contain good potential for radiocarbon assays if suitable (rather than just datable) material is selected. Even inorganic deposits may contain *sequences* of proxy palaeo-environmental indicators such as snails, pollen, ostracods or foraminerfera etc. Moreover, these channel sequences are potentially spatially and chronologically limited. In archaeological terms palaeochannels ranging in size from large rivers to small brooks may be the location of wharfs, quays and pontoons.

The floodplain deposits may mask and obscure islands with the floodplain which are often the centre of local temporary activity; often gravel island within large valleys support prehistoric and early historic temporary activities. The floodplain deposits, resulting from overbank flooding of the water courses, often seasonally, may accumulate over extensive areas and in some cases to appreciable depths. Even shallow but expansive veneers of alluvium may cover much of the broad flat valley floors, and have the potential to seal, bury and contain archaeological evidence including past settlement activity. The deposits themselves contain important palaeo-environmental data which provide the potential to examine changing landuse and define the nature of the river in the past (cf. Evans *et al.* 1993). Even shallow sequences can cover long and significant periods of time, and be of great antiquity.

Alluvial sequences provide off-site evidence often with time depth lacking from evidence gained from occupation or settlement sites. The nature of the evidence (pollen, snails, sediments etc.) has the potential to provide wider landscape and longer time sequences than that from convectional archaeological sites. As such they can provide key palaeoenvironmental sequences. Finally the geoarchaeology of the sediments themselves allow interpretation of the riverine and floodplain fluvial environments, in which stasis, stabilisation

and buried soil horizons may be present, to be evaluated and defend (see Needham & Macklin 1992). The recognition and characterise the sediment architecture and sediment packets (*sensu* Needham & Macklin in Needham & Macklin 1992) provide key basis of interpreting the past fluvial environments of the floodplain and help define its suitability for a range of past human activities.

#### Geoarchaeology of the Finchett's Gutter/Flookersbrook floodplain

Setting and Topography

The site lies on 'boulder clay' *sensu lato* in the valley floor of the Finchett's Gutter, an extension of the Flookersbrook. The area is currently under long rough grass that has been cut and managed in the past. The Finchett's Gutter currently flows in a steep and deeply incised channel (Figure 1) which has clearly been modified and 'canalised'. It is cut to the natural 'boulder clay' and does not contain alluvial deposits within the channel.

The area was generally low lying and flat but subtle and significant topographical variation is present. The valley floor ends towards the southern edge of the Site where the land rises gently, and the sediment record accord with this (Trench 1). Minor rises ('islands' within in the valley floodplain indicate small isolated islands of higher ground with shallower alluviation than the surrounding land. The valley is typically asymmetrical (Figure 1) with the northern slope forming a 150m slip-off slope and floodplain running from 5.00 to 5.8+ m OD. The floodplain to the south of the Finchett's Gutter lies between 5.4 and c. 6.0m OD before meeting the floodplain / terrace edge at c. 6.0m + OD.

#### Palaeochannels

No former channels of the Finchett's Gutter/ Flookersbrook were obvious on the ground or preliminary aerial images. No palaeo-channels were recorded in the observed trenches.

#### Geoarchaeology / alluvial Sediments

The sediments profiles (see Appendix 1) combined with the topographic profile of the valley enable the characterisation of the geoarchaeological and alluvial architecture (Figure 1), and definition of any alluvial packets (*sensu* Needham & Macklin 1992), within the valley system. By defining sediment units across the valley profile (Figure 1) clear indications the depositional environments can be outlined, and the of location of any areas of potential significance of high archaeological and palaeo-environmental potential can be indicated.

The alluvial sedimentation on this site is relatively simple. Overall deeply weathered sandy alluvial brown earths brown have developed over the floodplain which are enhanced and their depth accentuated by the incorporation of limited amounts of silty and sandy overbank floodplain alluvium. No waterlogging was present in any of the trenches inspected, indicating fluctuating ground watertables. No organic deposits (peat, gyttja) or organic artefacts / ecofacts were present or likely. No fine-grained (silty / clay) alluvial deposits were present.

This indicates gentle, seasonal overbank flooding, and the gradual accumulation of sediment carried down the Finchett's Gutter/ Flookersbrook fluvial system.

The northern slip-off floodplain: the floodplain floor deposits north of the Finchett's Gutter (e.g. Trench 11) are characterised by sandy loam brown earths with less evidence of alluviation and groundwater gleying (mottling) that those to the south. This indicates generally dryer floodplain conditions than on the southern floodplain.

The southern floodplain: the floodplain floor deposits south of Finchett's Gutter (e.g. Trenches 2, 7, 8 and 9) are characterised by sandy and coarse silty loam alluvial brown earth soils with evidence of groundwater gleying; evidenced by extensive distinct, but diffuse mottling (see Appendix 1; Trench 8).

Interfluves: the southern valley side the terrace edge / interfluve contained evidence of gully erosion and overland flow (rainwater) water flowing and flushing from the interfluves (higher drier ground) into the floodplain (e.g. Trench 1).

#### Ditches and gullys

One undated ditch was recorded in trench 2; this ditch contains a predominantly water-sorted, though not necessary waterlain, deposit. This feature is located on the floodplain margin. In contrast on the interfluves s(valley side) a ditch feature was present (Trench 1), and this is probably an erosion gully, rather than an archaeological feature, developing on the steeper slopes as a result of rainwater runoff.

#### Localised sediment records

One area of modern disturbance was recorded on the western margin (Trench 7) were modern disturbance had occurred burying a 'recent' (i.e. post medieval-recent) soil; the contact boundary of which had been enhanced by post-deposition mobilisation and re-precipitation of manganese (see Appendix 1).

#### Palaeo-environmental records

The lack of waterlogging, and organic deposits prevented the preservation of peats, waterlogged plant remains, insects etc which can be recovered in floodplain and palaeochannel contexts. Although there is a possibility of pollen preservation, the lack of artefacts and other datable evidence does not allow any of the sedimentary sequences to be dated with any confidence or precision, and tends to indicate a very low-level of human activity.

#### **Potential**

Geoarchaeological Potential

The potential for further geoarchaeological analysis is low. Nevertheless, the record provided by the evaluation clearly characterises the deposits and a valley profile can be constructed from which the geoarchaeological character and potential has been clearly defined.

#### Palaeo-environmental Potential

The palaeo-environmental potential is low. No waterlogging is present in the observed deposits. Although there is possibility that pollen may be preserved, the lack of nay dating evidence to provide any chronological markers tends to render this information of low significance. It is possible that pollen preservation here is moderate to low due to the free-draining deposits and evidence of post-depositional mobilisation of manganese minerals.

#### Archaeology

Despite the shallow nature of the alluvium this is an alluviated landscape and does, in geoarchaeological terms, contain the potential to seal, bury or contain evidence of former human activity. However, the demonstrable lack of archaeological artefacts of any period at the base of the overbank floodplain alluvium, or from within it, tend to suggest a long-term low level of human activity at this particular location.

The likelihood that the alluvial soils recorded here to bury contain and seal archaeology seems low in view of the lack of stases (buried stabilisation horizons) within the profiles, and the almost total absence of archaeological artefacts.

#### Geoarchaeological and palaeo-environmental conclusions

Shallow, but extensive developed alluvial brown earths in the floodplain testify to some overbank flooding of the floodplain and limited sedimentation of the floodplain alluvial sequence. The floodplain deposits are general silty and sandy; and no waterlogging is present. These suggest long term dryish conditions with mottling indicating seasonal rising groundwater tables. The number of typical of riverine resources may have been limited here due to the relatively dry conditions, making this area less attractive for human activity. Today it providers idea season rough grazing, and may have been suited to this low-level of exploitation for centuries, if not millennia. The present watercourse does not reveal any significant obviously exploitable resources

#### Recommendations and final comments

No further work is considered necessary on the Geoarchaeological and palaeo-environmental aspects.

The potential for important and significant palaeo-environmental sequences is considered low

The potential for preservation by waterlogging is considered low.

The potential for dating the alluvial sequences is low and the likelihood of obtaining suitable material for radiocarbon dating in appropriate stratigraphic locations is considered remote.

The potential for archaeological activity to be buried and sealed by, or contained within, the overbank floodplain alluvium exists, but is considered low.

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Michael J. Allen



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### Appendix 1: selected profile descriptions

Key alluvial profiles

*Trench 11*: Northern floodplain

c. 5.0 - 5.5 m OD

c. 5.8m OD

context	Depth*	Unit	description
	(cm)		
	0-29		Dark grey – dark greyish brown (10YR 4/1-2) apedal stone-free humic sandy loam, common fine fleshy and many medium fleshy roots, clear boundary
	29-80	A1-A2	Light yellowish brown (2.5Y 6/3) firm to loose <u>sandy</u> loam, some fine and medium distinct but diffuse strong brown (7.5YR 5/6) mottles, rare vertical macropores (Ø6mm) filled with A horizon material (dark grey to greyish brown), clear boundary Charcoal @ 42cm (4mm) @ 45cm (2mm) @ 65cm (1mm)
	80-85	R 'natural'	Yellowish brown (10YR 5/4) loose sand to sandy silt

**Comment**: Typical sandy brown earth, little evidence of alluviation

Trench 8 'master floodplain terrace sequence'

(trench 9 = similar sequence but shallower, at back of lower floodplain)

context	Depth*	Unit	Description
	(cm)		
	0-8	Ah	Dark grey (10YR 4/1) apedal stone-free humic sandy loam, common
			fine fleshy and many medium fleshy roots, clear boundary
	8-28	A	Greyish brown (10YR 5/2) massive humic sand loam, few fine roots,
			fine charcoal pieces 10 18cn, fine cbm flecks and ? coke fragments –
			clear boundary
			palaeo-alluvial pasture soil, formerly tilled
	28-71	A2	Light olive yellow (2.5Y 5/3) sandy loam, common to abundant fine
			and medium distinct but diffuse strong brown (7.5YR 5/6) mottles,
			rare vertical macropores (Ø6mm) filed with A horizon material (dark
			grey to greyish brown), no laminations of depositionary structures,
			clear boundary
	71-86+	R 'natural'	Light grey (5Y 7/1) massive silty clay loam to silty loam, weathered
			parent material ( a sandy facies of the 'boulder clay'

<u>Comment</u>: The alluvial floodplain profile is a typical – gley brown earth enhanced with sandy silty alluvium derived from the parent material

#### Specific deposits and features

Trench 7: Manganese and humic boundary at base of infill

context	Depth*	Unit	description
	(cm)		
		A1	Dark greyish brown fine silty (clay)
		Feature	Dark brown (10YR 3/3) massive stone-free silty clay loam – has an
		infill	alluvial water-sorted and waterlain component but not alluvial –
			standing water and floodwater settling and mixed by limited
			pedogenic (soil forming) activity, sharp / abrupt boundary
		Humic and	Dark grey (10YR 3/1) humic stone-free silty sand loam apedal –
		Mn	looks like compacted A horizon material – with fine sharply defined
			Mn nodules and staining, especially at boundary. This layer is 4-8cm
			thick but elsewhere more clearly defined with 2-3cm at base of cut.
			Recent deformed buried topsoil
			Grey (10YR 4/1) slightly less humic stone-free silty sand loam
			apedal – clear fine Mn mottling throughout but also flecks of
			charcoal and cbm
			Recent, deformed, buried soil

<u>Comment</u>: Dark horizon is a combination of buried 'recent' turf and topsoil horizon (probably relating to road, bridge or railway construction), and post-burial changes and manganese mobilisation and mottling, which have picked out, and migrated from, the clearly defined buried contact horizon

Trench 2: undated ditch fill beneath shallow over bank alluvium on the edge of the floodplain

context	Depth*	Unit	description
	(cm)		
			Greyish brown (10YR 5/2) stone-free silty clay loam, with many coarse moderate brown-dark brown (7.5YR 4/4-3/4) mottles, large blocky to prismatic structure, no sedimentary structure (laminations ect) recognised, becoming grey (5Y 5/1) gleyed sandy clay loam with depth

<u>Comment</u>: The fill shows no evidence of being purely alluvial *per* se (that is not fluvial), but does seem to be water sorted.

*Trench 1*: – run-off gully

context	Depth*	Unit	description
	(cm)		
	0-22		Dark grey (10YR) humic sandy loam, weak small-medium crumb
			structure, common fine and medium fleshy roots, clear boundary
			A horizon
	22-72	Dump	Admixture of redeposited A horizon material etc
			<u>Dumped / redeposited</u>
	72-98	В	Dark brown (7.5YR 3/3) to very dark greyish brown (10YR 3/2)
			massive mottled sandy loam with many fine distinct strong brown
			(7.5YR 5/6) sandy mottles, clear boundary
			Gleyed typical brown earth
	98-145	Run off	Dark brown (10YR 3/3) massive sorted stone-free sandy loam, no
		gully	deposition structure, but fluvially sorted in a broad (several metres)
			shallow (c 0.4m) flat bottomed gully.
			Run off gully fill
	145+	R 'natural'	

<u>Comment</u>: The wide gully is a typical runoff feature of overland flow water flushing down the interfluves into the valley

Michael J. Allen

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